Know Your APCs: Data Analysis Made Simple

by Melinda Stegman, MBA, CCS

You've adapted processes to the APC system, but do you really understand the financial impact of APCs on your organization? The author shows you how to analyze your billing data to assess the impact of APCs on your facility's bottom line.

Since the implementation of the Medicare Hospital Outpatient Prospective Payment System (OPPS) in August 2000, HIM professionals and others have struggled with the question of measuring financial success under the new system. To measure APC financial success, a combination of high-level aggregate information and detailed analysis is required-along with a grasp of code selection and processes. In this article, we'll look at the tools you need to help assess the impact of APCs on your organization's financial health.

Pieces of the APC Puzzle

Universally, historical outpatient data has not been considered completely accurate. And given the myriad methods the Health Care Financing Administration (HCFA) has used to pay for outpatient care (fee schedules, ratio of cost to charges, per diem, etc.), using case-to-case "before and after" scenarios has been difficult.

In addition, because many of the previous payment systems were not dependent upon the accuracy of CPT codes for the services provided, a shift in focus from charges to codes was inevitable. To further complicate matters, OPPS introduced a larger number of new HCPCS codes, new requirements for modifier usage, and other changes in coding guidelines. So how can we really measure financial success?

Under APCs, financial success needs to be measured in several different ways. The most obvious course of action-comparing the total number of reimbursement dollars to pre-OPPS revenue-is really unfair for a number of reasons. Hospital outpatient volume and case mix change over time, and these changes, which are largely outside the hospital's control, can substantially affect the bottom line.

Furthermore, from a management perspective, there are actually two separate questions. One is how revenues today compare to the dollars that would have been received in the absence of OPPS. The other question is how management interventions designed to address the new incentives and requirements of OPPS have affected net revenues.

This second question helps to focus the discussion on factors that are under the control of management and illustrates why it is essential to look at both costs and revenues under OPPS. If the billing staff is required to spend a major portion of time correcting and resubmitting denied or otherwise rejected claims, the loss in productivity can be significant. Conversely, many facilities may have wisely invested in hiring additional coding staff or in educational activities for their current coding staff.

These costs may be more than offset by increased reimbursement or avoidance of claim rejection or denials. So while it is important to understand the overall program dollars in reimbursement under APCs compared to outpatient revenue before APCs, HIM managers particularly should look at all pieces of the APC reimbursement puzzle.

Know Your Services

Obviously, accurate and complete CPT coding is the cornerstone of a successful APC program. But looking at all CPT codes generated throughout an organization can be a daunting task. Should an APC coordinator review codes by department or all codes in the aggregate? The simple answer is, "Yes, both."

To effectively review, develop baseline figures for the average number of each service provided, corresponding APCs, and reimbursement figures for each service area, keeping in mind that some services that are discounted may only be reimbursed at the 50 percent level, not the full 100 percent APC rate. In addition, track the facility's total figures, including rejected line items and edited claims, on a monthly basis.

For the typical HIM manager, outpatient services typically coded in the department include ambulatory surgery, emergency department, gastrointestinal endoscopy, and perhaps some other invasive procedures, such as interventional radiology. The data generated by the coding of these services is a potential gold mine. Because the APCs for invasive procedures include the highest-weighted groups, the number of visits may only comprise 20 to 30 percent of the total outpatient visits, but the reimbursement may reach 70 to 80 percent of total outpatient revenue.

For this reason, it's imperative to be keenly aware of the types of services provided at the facility and understand the average volumes in each area. For example, what types of invasive procedures are performed in the emergency department? Do they consist primarily of simple laceration repair and minor fracture and dislocation treatment? Or is the facility considered a regional referral center, which treats many critically ill patients before transferring them to a larger facility?

If many critical care patients are treated in the emergency department, are the associated services, such as cardiopulmonary resuscitation or intubation, also coded appropriately? Knowing the answers to these questions and the volumes associated with each type of service provided can help determine APC financial success. Targeting high-volume services and ensuring that processes are in place for appropriate code selection will help drive APC financial success.

Using Your Data to See the Big Picture

But what about the big picture? An aggregate picture of all outpatient services provided, along with edits generated and any outliers, should help determine not only which service areas will be successful under an OPPS system, but which need special attention.

For instance, "Examples of Exclusions," illustrates how to go about analyzing outpatient billing data. It is helpful to separate claims into service areas typically differentiated by the revenue codes on the claim. Cases that don't pass various Medicare Outpatient Code Editor (OCE) edits can be extracted for further analysis.

For this particular facility, a large proportion of edit failures (1,636 line items) are due to a CPT or HCPCS code that is invalid for the date of service. When this edit category is further investigated (see "Investigating Edits"), it shows that CPT code 80049 (Basic Metabolic Lab Panel) is the offending code for 1,009 of the 1,636 line items. The facility's lab charge description should immediately be revised, and code 80049 should be deleted.

Each of the failed edits and corresponding CPT or HCPCS level II codes should be investigated to determine their source and how to prevent further occurrences. This may require charge description master (CDM) revisions or focused education for the HIM coding staff. However, the most important point is to use your own data to identify potential problems and to establish priorities. This approach helps management focus on issues with real practical importance to the facility. It also establishes a baseline against which you can measure the success of efforts to change coding and billing practices.

The Modifier Problem

CPT and HCPCS Level II modifiers continue to cause problems for many facilities. Whether assigned by HIM coding staff or submitted via the facility's CDM, appropriate transfer to the UB-92 claim is problematic.

Some HIM abstracting systems are still not updated with the capability to accept and transfer modifiers to the billing file. This requires manual intervention by billing staff, inviting human error and omission. Appropriately assigning modifiers for service areas whose CPT and HCPCS code submission is done via the CDM is even more problematic.

By its very definition, a modifier defies the type of automated solution typical of a CDM file because it implies that a code has been altered by some specific circumstance but not changed in its definition or code, according to the CPT manual. (Refer to

the CPT manual introduction for a full description of the purpose of modifiers.) For these reasons, it's imperative to closely monitor modifier usage, along with cases with CCI edits indicating that a modifier assignment would override the edit.

For both accuracy and compliance reasons, only staff with access to the documentation of the services provided should assign modifiers, which is why the responsibility for modifier assignment should almost never rest with the billing or patient accounts area.

The Impact of APCs

Some edit failures, such as claim-level denials, make it impossible to determine outpatient reimbursement in an OPPS environment. Once claims containing such errors are excluded from the database, the remaining claims can be analyzed to examine direct costs of care and expected reimbursement. Because of changes in Medicare policy that coincided with the implementation of OPPS, it is helpful to distinguish patient co-payment amounts from the monies received from Medicare through the fiscal intermediary.

In "Sample Cost Report Analysis," an analysis of the latest cost report suggests that the overall ratio of Medicare payments to charges under the previous, cost-based reimbursement system was about 0.424. Multiplying total charges covered by OPPS ($4,131,498) by this "outpatient charge converter" results in an estimate of $1,751,755 in reimbursement under the previous system.

The CPT/HCPCS codes in the database are then processed via an APC grouper and the results are compared to the reimbursement under the previous payment system. In this case, there is $868,050 less reimbursement under APCs, a 49.6 percent decrease overall. This is the overall loss that the facility might expect (ignoring temporary "transitional corridor" payments designed to cushion the shock of OPPS in its first few years of operation) if it did nothing to prepare for APCs.

It's important to notice that each area is not affected equally under OPPS. For instance, the chemotherapy and radiation therapy service area will receive 36 percent of covered charges, while the treatment room, GI services, and ED may only receive 16-18 percent of covered charges. Each service area should be aware of the financial implications that apply to it and ensure that code selection and submission is complete and accurate.

To determine where potential lost reimbursement may be, we can look more closely at several areas in the data. One edit category also included in "Investigating Edits," ("Codes Indicate Mutually Exclusive Services") indicates that several CPT codes were reported together that are typically not reported together, based on the typical assignment of the services represented by those codes.

For instance, CPT code 33213 (Insertion or replacement of pacemaker pulse generator only; dual chamber) is typically not reported with code 33207 (Insertion or replacement of permanent pacemaker with transvenous electrodes[s]; ventricular). Insertion/replacement of a pacemaker only should not be reported on the same episode of care as an insertion/replacement procedure of both a pacemaker and electrode. However, if the procedure was actually a replacement of a dual chamber device, CPT code 33233 (Removal of permanent pacemaker pulse generator) should be assigned to represent the additional level of service required to remove an existing device.

Under current APC reimbursement methodology, the addition of this one CPT code generates APC 105 (discounted at 50 percent) with corresponding reimbursement of approximately $378. Similarly, if there is a problem in the HIM-to-billing interface for emergency department cases and only one line item with 450 revenue code is allowed on the bill, the presence of an invasive CPT procedure may interfere with the appropriate inclusion of the evaluation and management (E/M) code on the same account for the facility fee level of service. The result is that the facility loses the reimbursement for ED medical visits that they are entitled to whenever an invasive procedure is performed and coded.

Similarly, if all CPT codes submitted by HIM for a particular case do not appear on the UB-92 billing form, substantial reimbursement will be lost. Many facilities lose significant revenue due to missing CPT codes that this type of analysis can uncover; ensuring that CDM files contain all appropriate codes and that interfaces are working properly is essential for successful APC assignment and reimbursement.

Another area of increased scrutiny is the "inpatient only" CPT code list. These are procedures designated by HCFA that may only be performed on Medicare patients admitted to an inpatient setting. No reimbursement will be realized for any outpatient service provided on the same day as one or more of the CPT codes with the APC status indicator "C."

For the facility that we are reviewing, there are several significant operating room (OR) procedures in the inpatient PPS system, such as modified radical mastectomy and open reduction, internal fixation of patellar fracture. If we group these cases as inpatient cases and ensure that procedures are in place to prevent them from being seen as outpatients, additional revenue may be realized.

On an inpatient basis, the modified radical mastectomy may group to either DRG 258 or 257, depending on the presence of a complication/comorbidity (CC) condition. The reimbursement may range from approximately $3,500 to more than $4,600. The knee procedure (open reduction and internal fixation [ORIF] of patellar fracture) will group to DRG 219, with resultant reimbursement of approximately $5,200. Including figures like these in discussions with physicians and staff in ambulatory surgery service areas may be useful.

Calculating Your SMI

When looking at aggregate APC data, don't forget the service mix index (SMI) calculations. Service mix index is calculated similarly to case mix index, with several important differences. While the inpatient case mix index is calculated by dividing the total of all DRG weights for cases over a particular period of time by the total number of cases, APCs are not quite so straightforward, because there can be multiple APCs per outpatient case.

The outpatient service mix index divides the total of APC weights summed across all APC line items for a particular period of time by the total number of claims during that period. Remember that some of the invasive procedures (those with APC status indicator "T") may be discounted if there are multiple CPT codes and APCs on the case. So because some of the reimbursement is calculated at only 50 percent, the APC cannot be counted at 100 percent in the service mix index calculation.

Service mix index calculations that take multiple procedure discounting into consideration are referred to as "discounted service mix index" and any SMI calculations should indicate whether they're discounted or not.

"Calculating the SMI," illustrates how one case would be analyzed in calculating the discounted SMI. The facility or departmental SMI is then determined by the average value of this index across all claims.

While it is useful for the facility to calculate a facilitywide SMI, it is also helpful for the HIM department to calculate its internal SMI for the invasive procedures coded within the department. Because most facilities' proportion of ancillary visits (which are relatively lower in relative weight) is much higher than that of ambulatory surgery and emergency department visits, the facility's SMI will be a much lower number than the HIM SMI calculation.

Without this "dilution" effect, HIM managers can track the SMI of the most important (and higher-weighted) visits, along with practice trends in the ever-changing outpatient setting. HIM professionals should begin tracking SMI figures immediately (and calculate back to August 2000 if possible). Although it is too soon to see reliable SMI benchmarking figures, this calculation will be a major focus for HCFA and providers for some time to come.

Could We Do Better?

APC success can be measured in several ways other than financial. As mentioned above, closely monitor staffing and productivity issues, particularly that of billing or other staff responsible for resolution of cases with OCE edits or rejections. Put a process in place for the resolution of the issues causing the edits or rejections, not merely for "fixing" each particular bill.

Billing and patient accounts staff have many increased responsibilities due to the implementation of APCs, ranging from new billing rules related to multiple same-day encounters to new line-by-line editing protocols and adjustment bills instead of late charges. Communicate with each service area submitting CPT codes to revise or eliminate the underlying reason for the edits or rejections.

Retrospective analysis of claims data, monitoring trends in outpatient revenue, and tracking changes in your SMI both overall and by department will help you understand financial success under OPPS. On the other hand, none of these activities will help you answer the question, "How much better could we be doing?" For this purpose, facilities need to embark on periodic audits of their coding and billing activities.

Stratify cases by department or other criteria and then select a random sample of cases within each strata for further review. The sample does not need to be large; 100 to 200 cases is usually sufficient. Once the sample is selected, review the codes submitted to the fiscal intermediary against the information in the medical record. Make sure that all codes are present, that modifiers have been used correctly, and that the clinical documentation supports what was billed. Compare the revenue that the facility would have received under "best practice" coding against the money it actually did receive. This difference is generally a reasonable measure of potential improvement available to the hospital.

Hospitals that perform these types of audits often find instances of overcoding where correct coding and billing actually reduces Medicare reimbursement. It is important to recognize that the size of these reductions is one measure of the compliance risk faced by a facility. For this reason, it is actually a good idea to distinguish between and then separately track aggregate increases and reductions in outpatient revenue associated with best-practice coding and billing.

Financial success under the APC system depends on many components. Some are within the HIM professional's control and some are not. More than ever, communication between different service areas-HIM, billing and patient accounts, registration, and many other areas-is essential. Data analysis activities must include not only high-level aggregate information but also the detailed type of analysis that highlights the specific code selection and processes that contribute to inaccurate or incomplete APC assignment and reimbursement. After years of waiting for implementation of OPPS, it is finally time to meet the challenge of mastering this complex and demanding reimbursement system.

The sidebars for this example are available in PDF format by clicking here.

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