How Does Your Coding Measure Up?: Analyzing Performance Data Gives HIM a Boost in Managing Revenue

by Kurt Price, MS, and Dean Farley, PhD

As they take on greater responsibility helping manage their facilities' revenue cycles, HIM professionals benefit from incorporating coding, compliance, and reimbursement performance data into their improvement efforts.

Accurate and complete coding ensures that a hospital receives the reimbursement it deserves—full reimbursement that is fully compliant with coding and payment rules. As the payment environment grows more complex, HIM professionals are being asked to play a more active and formal role in their hospitals' revenue cycle management. Successfully assuming these new responsibilities includes employing a tool that may also be new to many HIM professionals—data analysis. Monitoring coding performance data is an important method for improving coding productivity and effectiveness and advancing the HIM role in revenue management.

Tracking HIM performance must go beyond typical operational measures that document performance in the narrow context of the hospital's own experience. To be an effective participant in revenue and compliance management, HIM professionals must have access to—and take advantage of—the information that allows them to answer the following questions:

- Does our coding appear out of compliance according to the Office of Inspector General's (OIG) upcoding measures?
- Do our complication and comorbidity (CC) coding rates appear overly aggressive compared to peer hospitals?
- Do our CC coding rates suggest a potential for improved reimbursement through more accurate and complete coding?
- Do our Ambulatory Payment Classification (APC) coding patterns suggest a compliance risk or revenue improvement opportunity?
- Do I know the financial risk and reimbursement impacts of these and other coding patterns at our hospital?

Using actual profiling results, this article illustrates how HIM professionals can incorporate coding, compliance, and reimbursement performance data into their monitoring and improvement efforts.

Evaluating Current Performance, Identifying Future Improvements

Profiling HIM performance allows hospitals to go beyond narrow operational metrics and evaluate themselves in a broad industry context, identifying areas where they appear to be out of alignment with industry averages. This focuses efforts on improving coding, compliance, and reimbursement management in areas where the hospital stands out as a compliance risk or where incomplete billing may be undermining reimbursement. By establishing a routine and replicable evaluation process, profiling can be used as a basis for evaluating current performance and future changes in performance.

Ideally then, HIM can become at least in part a data-driven process. Typical steps in this process should enable the HIM department to:

- Establish quantitative baseline performance levels for the hospital overall, as well as for specific clinical areas (e.g., CC coding rates for selected DRGs)
- Conduct qualitative documentation, coding, and billing audits to identify deficiencies and vulnerabilities
- Identify and implement remedial strategies
- Assess progress in quantitative terms
- Calculate financial implications of deficiencies and improvements

These steps can be repeated and expanded as necessary to provide an effective ongoing monitoring and improvement program.

The federal government's emphasis on compliance underscores the importance of profiling documentation and coding performance. Medicare compliance programs and directives of the Centers for Medicare and Medicaid Services (CMS) and OIG directly influence compliance monitoring in hospitals. OIG identifies benchmarking, longitudinal studies, and regular reporting as key elements of an effective compliance program.[1,2] CMS has incorporated these perspectives in its Medicare review programs managed by quality improvement organizations (QIOs), in particular, the Hospital Payment Monitoring Program (HPMP) implemented in 2003. [*Editor's note:* For more on HPMP and its studies on error-prone codes, see "The Codes to Watch" (*Journal of AHIMA*, July-Aug 2005).]

Both internal and external data are important for performance evaluation. External data, such as Medicare inpatient and outpatient claims data, ground the evaluation in measurable industry norms and force hospitals to evaluate performance beyond "local experience." These data establish what is typical and how much variation there is around normal performance. Further, external data encourages hospitals to assess how they differ from the norm and how those differences might affect performance.

Internal data provide other advantages and can add significant depth to a performance profiling program. Using a hospital's own historical data enables consistent comparison of performance measures over time and injects local factors into the evaluation process. It also gets around the typical limitations of external data: timeliness, uncertain data collection processes, and privacy considerations. In contrast with external data, using internal data encourages evaluators to ask and assess where the organization is now, how far it has come, and what else has changed that might affect results.

Profiling in Action

The following examples illustrate the process of performance profiling in the HIM professional's role of managing revenue and compliance. The process is one of discovery, investigation, and action: discovery of risk and opportunity areas through profiling are investigated using focused reviews, and appropriate corrective strategies can be developed and implemented. Industry coding guidelines and expertise (*Coding Clinic for ICD-9-CM*, for example) support this process.

Numerous documentation and coding areas, both inpatient and outpatient, should be incorporated in a performance profiling program, including:

- Key OIG and QIO/HPMP target areas
- CC coding rates (DRGs)
- Medicare casemix index (DRGs)
- Outpatient Code Editor failure rates
- Outpatient coding into APC levels
- Medicare Discounted Service Index (APCs)
- DRG and APC outlier payment rates

The examples provided here come from the first two areas comparing rates and historical trends and estimating the financial implications.

The performance results in these examples are derived from a commercially available profiling tool using publicly available data for all hospitals in the US. These analyses are for illustration purposes, and alternative profiling approaches or benchmark datasets are available or could be developed to serve this purpose.

The profiling examples present the actual findings for a large teaching hospital (fictitiously named Metro Medical Center [MMC] for purposes of this article), with its performance compared against the benchmark performance for all large teaching hospitals in the US. MMC's story for each example, however, is for illustration purposes only.

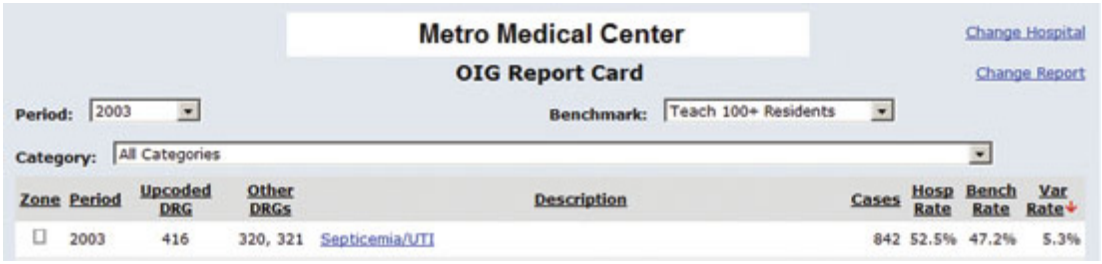
DRG 416

OIG has identified DRG 416 as one of the DRGs at high risk for upcoding, and CMS has included DRG 416 as one of its HPMP target areas. The compliance review method employed by CMS tabulates the frequency with which high-risk DRGs

occur among a hospital's cases as a fraction of cases in DRGs with the potential to be grouped into the high risk category. As specified by CMS, this means the number of DRG 416 cases as a percentage of cases in DRGs 416, 320, and 321.

Distinguishing Septicemia (DRG 416) from Urinary Tract Infections (UTIs) with and without CCs (DRGs 320 and 321, respectively) has been a major issue for this hospital. The most recent profiling results (shown in figure 1) suggest that MMC codes cases into DRG 416 more frequently than benchmark hospitals: 52.5 percent of MMC cases in DRGs 416, 320, and 321 are coded into DRG 416, compared to 47.2 percent for benchmark hospitals, for a variance of 5.3 percentage points.

Figure 1. DRG 416 Snapshot: Above the Benchmark



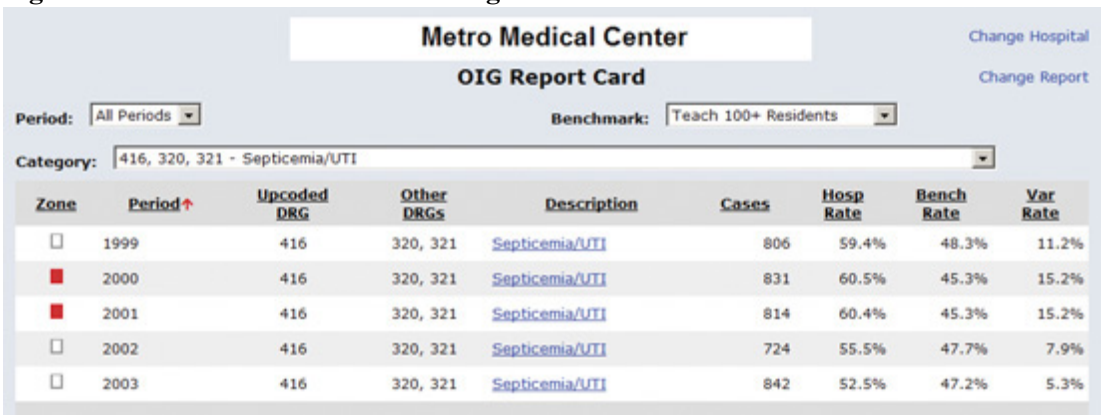
Zone	Period	Upcoded DRG	Other DRGs	Description	Cases	Hosp Rate	Bench Rate	Var Rate
☐	2003	416	320, 321	Septicemia/UTI	842	52.5%	47.2%	5.3%

Several years ago, however, the same profiling analysis uncovered an even larger variance of more than 15 points. This represented a significant compliance risk, and MMC initiated focused coding and documentation reviews of septicemia and UTI cases. These reviews revealed that, for many physicians, urosepsis refers to a urinary tract infection only. The ICD-9-CM system similarly classifies urosepsis in this way, and code 599.0 (Urinary Tract Infection, NOS) was appropriately assigned. However, there was also a substantial proportion of physicians who believe that urosepsis means sepsis (a systemic infection that involves bacteria in the bloodstream) that originated in the urinary tract.

Coding issues resulted when MMC coders assumed that all physicians meant "sepsis" when they documented "urosepsis." The clinical presentation, treatment, and severity of the patient are very different between the two conditions, and the medical record documentation must support assignment of a code for sepsis (038.X, 995.91). The MMC HIM department implemented changes, working to improve the accuracy of coding for these DRGs.

The five-year trend shown in figure 2 illustrates that MMC's compliance risk for DRG 416 has decreased dramatically. In 2000 and 2001 the hospital's rate for DRG 416 was 15.2 points higher than the benchmark, and in these years MMC's rates were among the highest 10 percent of all benchmark hospitals (as indicated by the "Zone" flagged red for those years). The rate difference has decreased in the last two years to reach 5.3 points.

Figure 2. DRG 416 Trend: Decreasing Risk



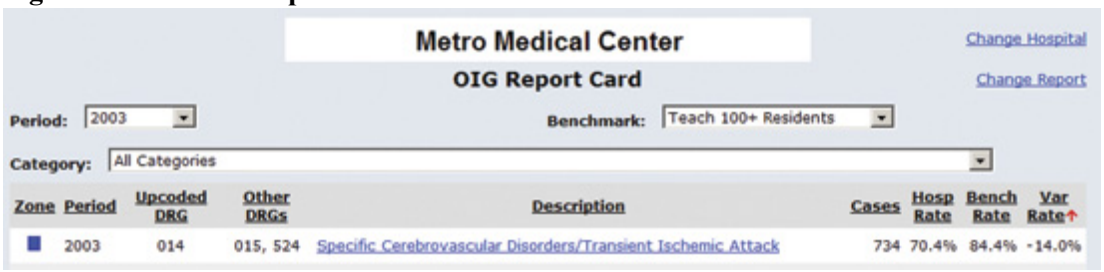
Zone	Period	Upcoded DRG	Other DRGs	Description	Cases	Hosp Rate	Bench Rate	Var Rate
☐	1999	416	320, 321	Septicemia/UTI	806	59.4%	48.3%	11.2%
■	2000	416	320, 321	Septicemia/UTI	831	60.5%	45.3%	15.2%
■	2001	416	320, 321	Septicemia/UTI	814	60.4%	45.3%	15.2%
☐	2002	416	320, 321	Septicemia/UTI	724	55.5%	47.7%	7.9%
☐	2003	416	320, 321	Septicemia/UTI	842	52.5%	47.2%	5.3%

DRG 14

DRG 14 is another DRG identified by OIG as a high risk for upcoding; it is also targeted by HPMP. The example shown in figure 3 analyzes the frequency of DRG 14 cases as a percentage of cases in DRGs 14, 15, and 524. Rather than representing a compliance risk for MMC, this error-prone DRG may actually reflect an opportunity for improved revenues. The profiling results suggest that MMC codes cases into DRG 14 much less frequently than do benchmark hospitals: 70.4 percent of MMC

cases compared to 84.4 percent for benchmark hospitals. MMC's rate for DRG 14 is among the lowest 10 percent of all benchmark hospitals, as indicated by the indicator flagged blue.

Figure 3. DRG 14 Snapshot: Lowest 10 Percent



Metro Medical Center

OIG Report Card

Change Hospital

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Period: 2003 Benchmark: Teach 100+ Residents

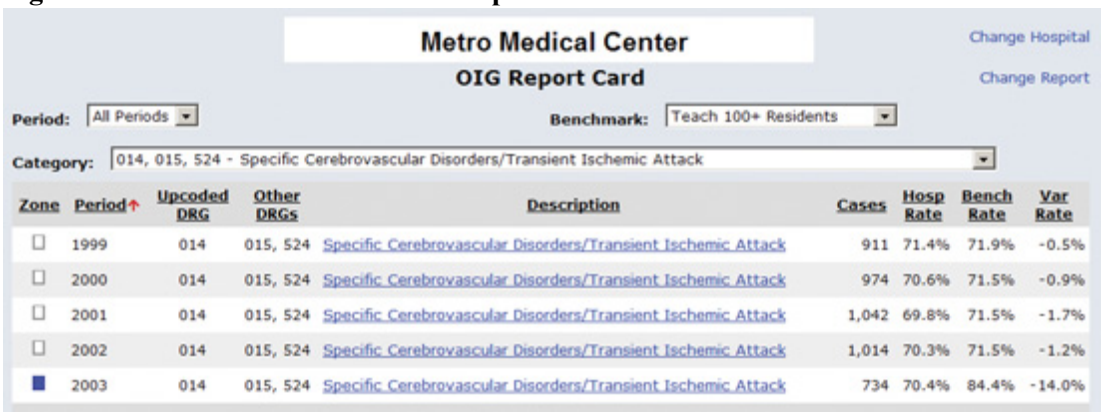
Category: All Categories

Zone	Period	Upcoded DRG	Other DRGs	Description	Cases	Hosp Rate	Bench Rate	Var Rate
■	2003	014	015, 524	Specific Cerebrovascular Disorders/Transient Ischemic Attack	734	70.4%	84.4%	-14.0%

A documentation and coding review of these cases reveals that the issue for DRG 14 involves the appropriate coding of the term "stroke" as documented in a medical record without further physician substantiation of the presence of an infarction. For many years "stroke" was indexed in ICD-9-CM to code 436 (Acute, but ill-defined, cerebrovascular disease), which was grouped to DRG 14 (Intracranial Hemorrhage or Cerebral Infarction). Effective October 2002 (FY 2003), the DRG grouping method was changed so that if "stroke" only was documented without an infarction, code 436 was then regrouped to DRG 15 (Nonspecific CVA and Precerebral Occlusion without Infarction).

The five-year trend for MMC shown in figure 4 confirms a dramatic drop in DRG 14 cases in 2003 compared to previous years. Thus MMC suspected and confirmed with profiling data that beginning in 2003 many cases were grouped to DRG 15 that should have been grouped to DRG 14 if more complete documentation and coding had occurred for these cases.

Figure 4. DRG 14 Trend: Sudden Drop



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OIG Report Card

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Period: All Periods Benchmark: Teach 100+ Residents

Category: 014, 015, 524 - Specific Cerebrovascular Disorders/Transient Ischemic Attack

Zone	Period	Upcoded DRG	Other DRGs	Description	Cases	Hosp Rate	Bench Rate	Var Rate
□	1999	014	015, 524	Specific Cerebrovascular Disorders/Transient Ischemic Attack	911	71.4%	71.9%	-0.5%
□	2000	014	015, 524	Specific Cerebrovascular Disorders/Transient Ischemic Attack	974	70.6%	71.5%	-0.9%
□	2001	014	015, 524	Specific Cerebrovascular Disorders/Transient Ischemic Attack	1,042	69.8%	71.5%	-1.7%
□	2002	014	015, 524	Specific Cerebrovascular Disorders/Transient Ischemic Attack	1,014	70.3%	71.5%	-1.2%
■	2003	014	015, 524	Specific Cerebrovascular Disorders/Transient Ischemic Attack	734	70.4%	84.4%	-14.0%

Much public comment has since indicated that in many physicians' minds (and inherent in the documentation), a stroke was considered an infarction. As of October 2004 (FY 2005), the word "stroke" is now indexed in ICD-9-CM to code 434.91 (Cerebral artery occlusion, unspecified, with infarction). The same documentation of "stroke" that grouped cases to DRG 15 for two years will now group the same cases to DRG 14. Theoretically, this could be a continuing issue for hospitals if their coders are not using the updated index carefully. If they continue to assign code 436 whenever "acute CVA" is documented, they will continue to group an inappropriately high proportion of cases into DRG 15 that should be grouped into DRG 14.

If MMC completed similar hospital profiling analyses on a real-time basis using its own data, it could have identified this issue as it was occurring, thus preventing the hospital from losing reimbursement. For many of the cases during 2003 and 2004, patients did suffer a CVA, but the documentation may not have documented the word "infarction." With timely profiling results, coding and HIM department managers could have queried physicians and requested that this more specific information be added to the medical record in order that it be coded more appropriately to the CVA DRG 14.

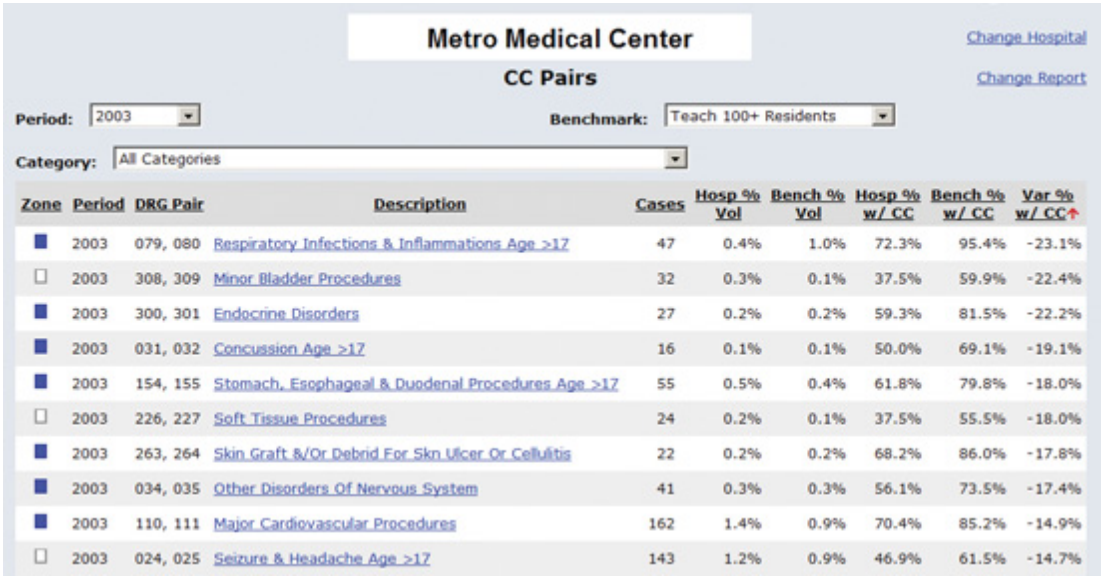
CC Coding Rates

CC coding rates are analyzed for DRG combinations (or "DRG pairs") that are distinguished solely by the presence or absence of a CC. The analyses tabulate the number of cases assigned to DRGs requiring a CC as a percentage of discharges

assigned to either DRG in the CC pair. These types of evaluations are used to identify DRGs with potential upcoding that could place the hospital at compliance risk or could suggest incomplete coding of CCs.

To analyze potential revenue opportunities in the documentation and coding of CCs, MMC focused on the top 10 DRG pairs where its CC coding rates were lower compared to benchmark hospitals (see figure 5). As shown, DRG pair 110-111 is the largest-volume pair, accounting for 1.4 percent of MMC's cases, and its CC coding rate is nearly 15 percentage points lower than benchmark hospitals—70.4 percent compared to 85.2 percent.

Figure 5. Top DRG Pairs below Benchmark



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CC Pairs

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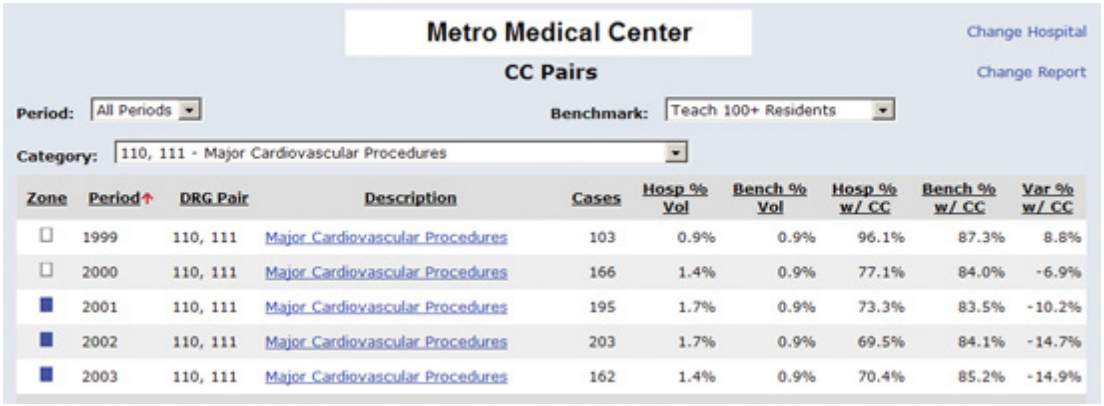
Period: 2003 Benchmark: Teach 100+ Residents

Category: All Categories

Zone	Period	DRG Pair	Description	Cases	Hosp % Vol	Bench % Vol	Hosp % w/ CC	Bench % w/ CC	Var % w/ CC
■	2003	079, 080	Respiratory Infections & Inflammations Age >17	47	0.4%	1.0%	72.3%	95.4%	-23.1%
□	2003	308, 309	Minor Bladder Procedures	32	0.3%	0.1%	37.5%	59.9%	-22.4%
■	2003	300, 301	Endocrine Disorders	27	0.2%	0.2%	59.3%	81.5%	-22.2%
■	2003	031, 032	Concussion Age >17	16	0.1%	0.1%	50.0%	69.1%	-19.1%
■	2003	154, 155	Stomach, Esophageal & Duodenal Procedures Age >17	55	0.5%	0.4%	61.8%	79.8%	-18.0%
□	2003	226, 227	Soft Tissue Procedures	24	0.2%	0.1%	37.5%	55.5%	-18.0%
■	2003	263, 264	Skin Graft &/Or Debrid For Skn Ulcer Or Cellulitis	22	0.2%	0.2%	68.2%	86.0%	-17.8%
■	2003	034, 035	Other Disorders Of Nervous System	41	0.3%	0.3%	56.1%	73.5%	-17.4%
■	2003	110, 111	Major Cardiovascular Procedures	162	1.4%	0.9%	70.4%	85.2%	-14.9%
□	2003	024, 025	Seizure & Headache Age >17	143	1.2%	0.9%	46.9%	61.5%	-14.7%

The five-year trend shown in figure 6 demonstrates that the lower CC coding rate for DRG pair 110-111 has been a consistent pattern for MMC. However, the disparity in CC rates has greatly increased over time and has remained among the lowest 10 percent of benchmark hospitals for the last three years.

Figure 6. DRG Pair 110-111 Trend: Increasing Disparity



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CC Pairs

Change Hospital

Change Report

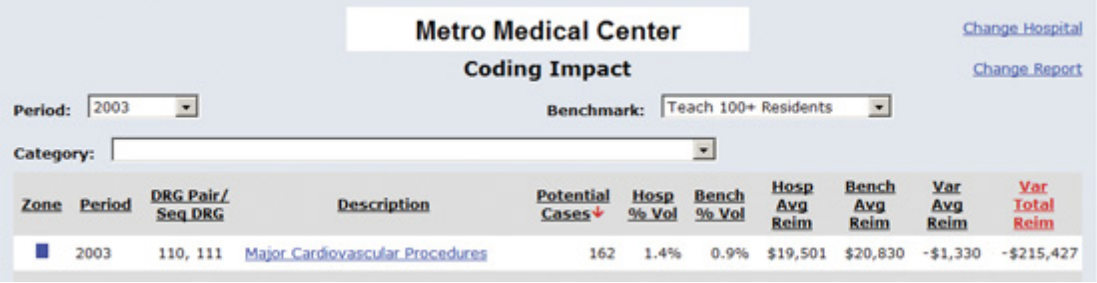
Period: All Periods Benchmark: Teach 100+ Residents

Category: 110, 111 - Major Cardiovascular Procedures

Zone	Period	DRG Pair	Description	Cases	Hosp % Vol	Bench % Vol	Hosp % w/ CC	Bench % w/ CC	Var % w/ CC
□	1999	110, 111	Major Cardiovascular Procedures	103	0.9%	0.9%	96.1%	87.3%	8.8%
□	2000	110, 111	Major Cardiovascular Procedures	166	1.4%	0.9%	77.1%	84.0%	-6.9%
■	2001	110, 111	Major Cardiovascular Procedures	195	1.7%	0.9%	73.3%	83.5%	-10.2%
■	2002	110, 111	Major Cardiovascular Procedures	203	1.7%	0.9%	69.5%	84.1%	-14.7%
■	2003	110, 111	Major Cardiovascular Procedures	162	1.4%	0.9%	70.4%	85.2%	-14.9%

Thus MMC appears to have a persistent and growing undercoding problem for DRG pair 110-111. If further review reveals that there are true documentation and coding deficiencies, MMC has been losing revenue and corrective action is necessary. The revenue opportunity may indeed be significant. Figure 7 shows that if MMC's CC coding rate for DRG pair 110-111 matched the benchmark rate, its average reimbursement would increase by more than $1,300 per case, totaling roughly $215,000 for its 162 cases. The reimbursement implications of CC coding for DRG pair 110-111 identify it as a high-priority area.

Figure 7. DRG Pair 110-111: Potential Reimbursement Implications



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Coding Impact

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Period: 2003 Benchmark: Teach 100+ Residents

Category:

Zone	Period	DRG Pair/ Seq DRG	Description	Potential Cases	Hosp % Vol	Bench % Vol	Hosp Avg Reim	Bench Avg Reim	Var Avg Reim	Var Total Reim
	2003	110, 111	Major Cardiovascular Procedures	162	1.4%	0.9%	$19,501	$20,830	-$1,330	-$215,427

While profiling results for specific DRG pairs will identify specific areas that should be considered for review, the comparison of overall CC coding rates could point to more systematic documentation and coding concerns for the HIM department. For example, a major barrier to accurate and complete documentation for coding is the requirement that cases be coded within the "bill hold" period, which is typically three to five days after discharge. The accounts receivable report deadlines and goals drive HIM department managers to push coding as quickly as possible, sometimes with negative effects on optimal coding and corresponding reimbursement. In this situation, routine monitoring of CC coding rates would detect such a systematic pattern of undercoding and help HIM department managers identify the necessary remedial action.

Making It Happen

In spite of the advantages of employing performance profiling data in HIM, there can be barriers to doing so. From an institutional perspective, there are issues of ownership and control that may limit the HIM department's ability to define the types of management reporting and operating guidelines for the hospital. Obviously, the larger the role the HIM department plays in the compliance and revenue management processes, the more opportunity there is for the HIM department to bring about more effective use of performance data.

Given the opportunity, HIM professionals should be ready and willing to lead the way in using profiling data. HIM departments that perceive quantitative profiling measures as an opportunity, and whose goals and objectives support the use of the data, will do so.

HIM operational changes can promote more effective use of data. Management objectives and rewards can establish measurable performance standards relating to clinical data quality, even tying compensation and bonuses to performance. Providing adequate resources for data analysis and proper alignment of responsibilities is crucial. It is also crucial that HIM departments develop and articulate data-driven management strategies that include clear links between performance profiling data and existing monitoring and improvement activities (e.g., record reviews and audits).

In the end, successful use of performance profiling requires a long-term commitment to improve data quality throughout the organization. Just as data can be the source of problems, it can be a big part of the solution. The benefits of performance profiling encompass both improved data quality and stable and enhanced revenues with reduced compliance risk.

Notes

1. "Compliance Program Guidance for Hospitals." *Federal Register* 63, no. 35 (1998):8987–98.
2. "Supplemental Compliance Program Guidance for Hospitals." *Federal Register* 70, no. 19 (2005): 4858–76.

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