Growing Demand for Accurate Coded Data in New Healthcare Delivery Era

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Under DRGs, coding enjoys considerable status and prestige due to its direct impact on an acute care facility's financial success. In an era of major changes in our healthcare delivery system and reimbursement methodologies, will the limelight gradually shift away from coding to something else? Will coding decline in importance as managed care and other emerging reimbursement systems overshadow DRGs? The answer is a resounding "No!" Accurate information regarding healthcare practices and utilization is becoming increasingly critical to providers' and payers' success. Without information about practice patterns, payers are unable to set rates for groups of services. Without the ability to effectively analyze delivery patterns and costs, providers cannot make sound decisions concerning proposed managed care contracts.

Shifts in our healthcare delivery system impacting the ways in which coded data are being used include:

- Development of treatment protocols
- Emphasis on disease prevention, health maintenance, and disease management
- Shift to care provided in nonacute settings
- Creation of integrated delivery systems
- Changes in reimbursement methodology
- Formation of community health information networks
- Demand for demonstration of high-quality care and efficiency in the provision of care

Data consistency and comparability are essential as healthcare organizations become part of integrated delivery systems, and data throughout the system are merged in a central database. These data are used to assess resource utilization and outcomes throughout the delivery system and to develop plans for the provision of more efficient and effective patient care. Analysis of outcomes has become a major focus because of the relationship between better outcomes, improved efficiency, and lower healthcare costs. Improving the quality of care and managing diseases in such a way that expensive complications can be avoided reduces healthcare costs.

The advent of managed care has led to a shift in focus from the retrospective claims payment process to the prospective management of the healthcare delivery system.

Complete and accurate coding is more critical than ever under managed care. Managed care plans must demonstrate that their contracted providers deliver high-quality, effective, efficient care. Providers who are able to show that they deliver the highest-quality care at the lowest cost will win the most desirable managed care contracts. Managed care plans accredited by the National Committee on Quality Assurance must present data proving that they are delivering high-quality care. Currently, many managed care contracts require reporting of quality and efficiency measures.

Excellent coding ensures a reliable database, which is used to determine the appropriate pricing of covered services and to analyze quality, efficiency, and outcomes. Payers are not able to establish fixed rates for groups of services unless they have the necessary information on practice patterns. If providers lack valid and reliable coded data, they are not in a good position to negotiate contracts with managed care plans, because they don't know what services they have been providing or what it costs to provide these services. Case-mix analysis is critical to providers' ability to wisely negotiate managed care contracts.

Increasingly, payers are using severity-adjusted data to compare healthcare facilities. Severity-adjusted data requires that all diagnoses be accurately coded in order to reflect severity level. Insufficient coding detail and specificity can lead to the loss of managed care contracts, because one facility may compare unfavorably to another that has a higher severity index due to more detailed coding.

Accurate coded data gives providers the means to measure clinical and financial results and gives payers and managed care companies the information necessary to identify organizations with the best outcomes at the best price. Providers and payers will use data to identify patients with certain conditions and predict utilization for various types of healthcare services (e.g., inpatient hospitalizations, physician office visits, or emergency room visits). Conditions with a substantial opportunity to improve care and limit utilization of healthcare services can then be targeted for disease management. Under- and overutilization of services will be analyzed by providers and health plans in order to assess organizational impact and determine any necessary modifications to care processes or services provided.

Under DRGs, the identification of one complica-tion/comorbidity may be sufficient to group a patient to a higher-weighted DRG and receive the most optimal payment. Under managed care, every diagnosis and procedure is important because it may affect costs, severity of illness, and treatment outcome. All reportable secondary diagnoses (according to official coding guidelines) must be coded because the presence of these conditions will help to explain higher costs or length of stay.

Clinical pathway development depends on accurate coded data. High-volume diagnoses will be selected for clinical pathways. Pathways are based on utilization patterns, outcomes, costs, and the treatments performed. Variations must be analyzed, and these often take the form of complications or comorbidities. The quality of patient care may be adversely impacted by inaccurate coded data, because crucial decisions concerning clinical treatment protocols will be based on faulty data.

When payers implement APGs, accurate outpatient coding will be essential for appropriate reimbursement and business planning. Data can be used to identify the services that are most successful (i.e., effective and efficient) in order to focus resources on these services rather than unsuccessful ones.

Activities that are essential to a healthcare organization's success and depend on the accuracy and integrity of health data include, but are not limited to:

- Strategic planning
- Quality of care
- Outcomes analysis
- Reimbursement
- Critical pathway development
- Wellness initiatives
- Utilization monitoring (services and resources)
- Statistical and financial analysis
- Research
- Marketing
- Case management
- Identification of duplicate or medically unnecessary tests
- Allocation of resources
- Economic credentialing
- Identification of "best practices"
- Practice pattern analysis
- Performance comparisons with other healthcare organizations
- Case-mix analysis
- Clinical decision support

HCFA's Centers of Excellence Demonstration Project

The Health Care Financing Administration (HCFA)'s Center of Excellence designation illustrates the critical importance of complete, accurate healthcare data in a non-DRG environment. Under the Centers of Excellence program, special Medicare status is given to facilities that meet high volume and quality standards for selected services. For facilities earning this designation, reimbursement for the selected services is in the form of a single bundled payment covering all inpatient hospital and physician services. This replaces DRG reimbursement and effectively transfers the financial risk to hospitals by eliminating outlier payment. The Centers of Excellence demonstration project was initiated because of a belief that increased volume leads to improved quality of care and reduced healthcare costs.

Because the payment is a discounted rate, the Medicare program realizes significant cost savings. Beneficiaries benefit from lower cost sharing, simplified claims administration, and special services offered by the facility as part of its package deal. Hospitals and physicians benefit through an enhanced reputation, which results in increased patient volume. As managed care causes markets to become increasingly competitive, the need to have an edge in a particular market is even greater. The Center of Excellence designation also increases a facility's attractiveness to managed care plans. Physicians experience decreased overhead because they do not have to bill for services provided as part of the Centers of Excellence program. An alignment of hospital and physician incentives and coordination of services will result in cost efficiencies in the delivery of care. As patient volume increases, average costs and length of stay have been shown to decrease. Quality of care increases. Cost efficiency and improved patient outcomes result in a better chance of attracting managed care contracts. Medicare beneficiaries still have freedom of choice, but they, as well as referring physicians, are strongly encouraged to use these Centers of Excellence for the designated services.

The first Centers of Excellence demonstration involved coronary bypass surgery. This project has saved the Medicare program approximately $40 million since its inception in 1991. Many of these cost savings were due to improved efficiencies in patient management. The savings were achieved with no adverse impact on patient outcomes.

Currently, this program is limited to certain cardiovascular and orthopedic procedures. Cardiovascular services include coronary bypass grafts (DRGs 106 and 107), cardiac valve procedures (DRGs 104 and 105), angioplasty (DRG 112), and cardiac catheterizations (DRGs 124 and 125). Orthopedic services include total joint replacement for hips and knees (ICD-9-CM codes 81.51, 81.52, 81.53, 81.54, and 81.55). A facility may apply for Center of Excellence status for any or all of these services.

Data Requirements

Complete and accurate data are critical to the Centers of Excellence application process because HCFA relies on this data to assess the applicant's qualifications and evaluate the quality of care provided. Measures of outcome and appropriateness of surgery are among the data facilities are required to submit.

Outcome measures for cardiovascular surgery include:

- Mortality rates, categorized by age group, sex, race, and preoperative risk factors (risk factors include history of previous bypass, angioplasty, or valve surgery; emergent clinical presentation; cardiogenic shock; diabetes mellitus; pulmonary disease)
- Surgical complications, including infection/mediastinitis, acute myocardial infarction, stroke, renal failure requiring dialysis, and need for reoperation
- Related readmission rates
- Post-discharge functional status

Outcome measures for joint replacement are:

- Mortality rates
- Surgical complications, including infection, deep vein thrombosis/pulmonary embolism, dislocation of prosthesis, and return to operating room
- Related readmission rates
- Functional status

To determine medical necessity of cardiac surgery, facilities applying for the cardiovascular Center of Excellence designation are required to submit one year's worth of information on:

- Extent of coronary disease (coronary vessels affected)
- Left ventricular ejection fraction
- Exercise stress test
- Comorbidity risk (including the preoperative presence or absence of congestive heart failure, diabetes mellitus, renal insufficiency, history of previous bypass, and age)

For the joint replacement demonstration project, applicants are required to submit information on:

- Proportion of patients on nonsteroidal anti-inflammatory drugs prior to surgery and the average length of time patients are on these drugs
- Proportion of patients reporting severe pain or stiffness before surgery
- Patient perception of reduction in pain after surgery
- Patient perception of improved functional status after surgery

It is interesting to note that the Centers of Excellence concept is catching on in the private sector. Directing high-cost care to institutions meeting certain price and quality criteria is becoming a recognized method of reducing healthcare costs and improving patient outcomes. Low-cost, high-quality care is accomplished through prenegotiated price arrangements, better cost efficiencies and care processes, and use of "best practices."

Data Quality Issues

Clinical data is used for the participating Centers of Excellence Demonstration application process as stated above. The collection of data and its usage is critical to a facility's efficient delivery of care in the program. Clinical data must be maintained and routinely submitted to HCFA in a standard format for the ongoing monitoring and evaluation of the program (demonstration).

Clinical information collected includes patient demographics, preoperative risk factors, disease anatomy (from cardiac catheterization), operative data (e.g., vessels bypassed), postoperative complications, and inpatient mortality. Other data necessary for the program include microcost data, such as line-item costs by department for all services provided to the program patients.

Prior to beginning the demonstration application process, the facility should examine its clinical data. The MedPar data from HCFA (which only includes the nine ICD-9-CM diagnosis codes from the UB-92) is used to produce comorbid diagnosis reports and comparisons. As we know, most encoders will automatically move comorbid codes to the top of the coding list with the noncomorbid codes following. Interestingly, complication codes from the 997-998 series may be excluded from a facility's comorbid population data. Complication codes 997-998 would be sequenced above the specific ICD-9-CM diagnosis code in normal coding scenarios and data systems (since these codes are complications/ comorbidities). An example of complication/comorbidity data for DRG 106 (Coronary Bypass with Cardiac Catheterization) is shown in Table 1. The complication/ comorbidity rates for Hospital X are compared with the national averages for similar hospitals with high patient volumes. Complication codes from the 997-998 range are not included in the selected complications/comorbidities.

One can be misled when trying to interpret this data, as certain coding issues come into play. The low percentage rate (0 percent) for the coding of fluid overload (276.6) could indicate that physicians within Hospital X rarely document this diagnostic term, but instead use the term "congestive heart failure" to describe a fluid overload condition in their documentation. Another reason for the low percentage rate may be that when some coding staff see the term/documentation "fluid overload" they contact the physician to clarify the possibility of CHF being the actual condition the physician had intended. The percentage rate (0 percent) for the data would appear to show that Hospital X never has any patients within DRG 106 with a fluid overload (276.6) condition, which seems very unlikely. For patients who develop a postoperative complication of Congestive Heart Failure, the 900 series complication code would be sequenced before the code for Congestive Heart Failure.

In addition, only code 496 was selected to identify Chronic Obstructive Pulmonary Disease (COPD). Since patients with specified forms of chronic obstructive pulmonary disease, such as emphysema, asthma, and chronic bronchitis, are assigned codes other than code 496, the data collected on the prevalence of COPD as a comorbid diagnosis is inaccurate. Since higher length of stay and resource utilization can often be explained by the presence of complications/comorbidities, the incomplete identification of patients with COPD may result in your facility appearing less efficient. Inconsistent coding practices and differences in documentation patterns result in significant variances across hospitals in the frequency of code 496 as a secondary diagnosis.

The Centers of Excellence Demonstration application process requires the reporting of the facility's comorbidities. The facility-specific information is then compared against the national averages of these comorbidities within certain DRGs. Utilizing a database that contains more than nine diagnosis codes may prove to be a wise route. Many hospital databases include more diagnoses/procedures than the MedPar data (from the UB-92). For proper and complete analysis, running your own

comparative DRG data could show a truer picture of the comorbid population percentages for a given DRG within your facility during a given time frame.

Extensive examination of patient outcomes through clinical data is a critical part of the application review process. In order for HCFA to identify premier heart and orthopedic facilities offering superior quality care/service to Medicare beneficiaries, evaluation will focus on various clinical outcomes measures, with extensive consideration given to differing patient mix and severity at different facilities. The main outcome measurements for cardiovascular care will be the mortality rates and complications from surgery. The rates mentioned earlier for certain complications from coronary artery bypass graft (CABG) surgery include: infection/mediastinitis; AMI; stroke; renal failure requiring dialysis; readmission rates by DRG; and reoperation (for hemorrhage or other complications). This data is derived from the clinical coding being done by the professional coding staff. Additionally, there will be substantial weight in the review process according to the degree to which the applicant facility tracks major complications resulting from the surgery and their impacts on mortality, morbidity, and functional status. Again, health data information derived from the clinical documentation and code assignments will serve as the source. Specific outcome measures to be reported as part of the Centers of Excellence application process were described earlier in this article. The clinical data needed for outcomes measurement must be consistent and of the highest quality to assure that the information being reported to HCFA is accurate. The success of a facility's bid for the Center of Excellence designation depends on it.

Although certain minimum volume criteria must be met to participate in this project, institutions demonstrating their capacity for treating more complicated cases will receive additional consideration. Once again, clinical coded data is very important to this process.

Additional data quality/coding issues to consider are coding policy changes (Coding Clinic guidelines) that impact the assignment of codes and annual coding updates. Changes in coding practice or code assignment could shift the data percentages in either direction within the range and present higher or lower percentages of comorbid conditions within a certain DRG. In meeting the volume and quality standards to be considered as a participating facility for the Centers of Excellence Demonstration, the importance of data quality can't be overemphasized.

Another area that is essential to participation in the Centers of Excellence demonstration project pertains to the analysis of the clinical data and data quality. Here, again, the importance of clear and concise documentation within the medical record is crucial. Frequently we hear coding professionals comment, "If only the physician would document the condition, I'd code it." Documentation must be clear and complete for coders to code accurately. This is an opportunity for health information managers to further communicate with physicians about documentation and its importance to coded data.

HIM professionals need to develop a comfort level with physicians, explaining how other high-quality institutions have improved revenues and patient profiles, with no adverse effect, through improved documentation. We must continue our work with physicians to identify deficiencies in documentation and their relationship to the coding of comorbidities and appropriate coding of complications. Some additional suggestions include concurrent coding, worksheets that identify the more common comorbidities, and physician pocket cards that summarize that most frequently documented comorbidities by DRG to aid in documentation improvement. Another suggestion is to develop facility-specific definitions and coding guidelines when a particular coding assignment is unclear. Above all, education is key.

Not only does the Centers of Excellence Demonstration use clinical data but, as described earlier in this article, it forecasts the future use of clinical data. These implications, along with the capabilities of technology, produce a staggering image of the next 10 years. Without quality reviews of clinical data, many facilities will find themselves marginal players in healthcare delivery in the near future. The importance of clinical data quality must be a top priority for all HIM professionals, and we must strive to make others visualize the same goals.

For more information about the Participating Centers of Excellence Demonstration, contact the Health Care Financing Administration, Department of Health and Human Services, Administrator, Washington, DC 20201.

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Table 1—Example of Complication/Comorbidity Data for DRG 106

Code No.	Complication/Comorbidity	MedPar Nat'l Avg. High Vol. Hosp.%	Nat'l Range	Hospital "X"%
250.01	Diabetes uncompl type 1	8.4	0.0-16.3	21.0
250.91	Diabetes w/compl NOS type 1	5.8	0.0-12.6	19.0
276.1	Hyposmolality	16.3	0.0-36.7	8.5
276.6	**Fluid Overload**	**6.8**	**0.0-16.7**	**0.0**
276.7	Hyperpotassemia	4.5	0.0-18.6	4.8
276.8	Hypopotassemia	16.2	0.0-35.1	6.0
285.1	Ac PostHemorrhag Anemia	48.4	0.0-89.4	25.6
411.1	Intermed Coronary Synd	65.3	14.1-90.4	52.4
413.9	Angina Pectoris NEC/NOS	25.6	0.0-43.8	7.3
424.0	Mitral Valve Disorder	9.7	0.0-23.5	6.0
424.1	Aortic Valve Disorder	3.5	0.0-6.9	1.0
427.2	Parox Atrial Tachycard	4.8	1.3-33.4	2.1
427.1	Parox Ventric Tachycard	12.9	0.0-10.2	8.4
427.31	Atrial Fibrillation	37.3	8.2-62.8	13.4
427.32	Atrial Flutter	10.2	0.1-20.6	6.3
427.41	Ventricular Fibrillation	3.4	0.0-9.7	1.3
428.0	Congestive Heart Failure	32.6	4.5-45.6	7.0
496	**Chr Airway Obstr NEC**	**16.5**	**3.5-33.7**	**10.7**
511.9	Pleural Effusion NOS	20.8	1.5-49.8	2.5
518.10	Pulmonary Collapse	27.8	4.1-76.5	6.3

Article citation:
Prophet, Sue and Gloryanne Bryant. "Growing Demand for Accurate Coded Data in New Healthcare Delivery Era." *Journal of AHIMA* 68, no.1 (1997): 42-47.