Coders Join Forces with Physicians to Improve Clinical Outcomes

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by Janice R. Noller, RHIA, CCS, CPHQ

Editor's note: This project received first prize in AHIMA's first annual Best Practices Award Program. Second and third-prize winners will be featured in upcoming issues of the *Journal of AHIMA*.

As part of a project to investigate high complication rates, coders at this facility found themselves working to improve communication, physician understanding of coder issues, and data quality. Here's how they did it. This project is first-prize winner in AHIMA's 1999 Best Practices contest.

The quality of data, in many cases, begins with quality coding. Staff at Covenant Medical Center, in Lubbock, TX, learned this lesson as part of a project to investigate high complication rates. The results of the project: enhanced data quality, physicians who better understand the importance of coding, and complication rates that are more in line with external benchmarks.Here's how we did it.

Focusing on Complications

Covenant Medical Center (CMC), an 843-bed acute care hospital, is part of Covenant Health System (CHS), formed in 1998 by the merger of St. Mary of the Plains Hospital and Lubbock Methodist Hospital System. Covenant Health System is now one of the largest healthcare systems in the Southwest, serving more than 1 million people in a 62-county area. It employs 6,000 people across western Texas and eastern New Mexico.

In 1995, CMC (previously Lubbock Methodist Hospital) benchmarked clinical outcomes data with peer facilities in Texas and the southern region. Four of these outcomes indicators (length of stay, mortality rate, cost, and complication rate) showed areas of opportunity for improvement within some of the 25 top DRGs and procedures that were a part of the hospital's strategic priorities. Of particular concern was a complication rate that was above the facility's peer average.

When this information was presented to the medical staff, however, they were skeptical of the data. The physicians particularly questioned the accuracy of the complication rates, which were based on the coded data entered into the hospital's data repository.

During extensive discussions with administration, the medical staff and the quality management (QM) department, several problems were identified:

- there was lack of confidence from physicians in the hospital's coding process
- it was unknown whether the complication rates were driven by coding and/or documentation
- the quality management department wanted to ensure data used in clinical outcomes monitoring was accurate and consistent
- there was no clear definition of a "complication"

The first problem to be addressed was the definition of "complication" and codes to be used. Although an outside consulting firm had assigned particular complication codes to each DRG, the quality management staff felt this would be too cumbersome to monitor on a regular basis. A consensus was reached with the director of medical records and the coding supervisor to use the ICD-9-CM code range 996.00 - 999.9 to define "complications" and calculate the facility's complication rate. Because the investigation into the complication rate problem would be extensive, a full-time certified coding specialist position was added to the QM department in June 1996.

Obtaining Baseline Data

To obtain information on the four outcome indicators targeted for improvement, we used the hospital's decision support system.

I used the system to list every DRG for a six-month period and the number of "complications" in the 996.00 - 999.9 code range for each. (See "Complication Frequency within Single DRG.") Then, I looked at the total number of cases for each complication regardless of the DRG. (See "Complication Frequency Across All DRGs.")

After comparative analysis of these two lists, I determined that my first priorities should be DRGs 358 (Uterine and Adnexa Procedures for Nonmalignancy with CC [includes Hysterectomies]), DRG 148 (Major Small and Large Bowel Procedures with CC), and code 997.4 (Digestive System Complications). The most common specific complication in 997.4 was postoperative ileus.

Getting More Detail: The Review Process

We performed a detailed medical record review on all of the cases in these two DRGs that had a secondary diagnosis code of 997.4. In each case, we reviewed the coding using coding guidelines from *Coding Clinic* and the *ICD-9-CM Coding Handbook*, comparing the guidelines with the physician documentation present in the medical records. We soon identified two trends:

- accurate code assignment had been made due to physician documentation of the term "postoperative ileus"
- a physician documentation pattern in discharge summaries was noted: "patient's postoperative course was complicated by ileus"

Registered nurse quality improvement specialists assisted in the review to determine if the clinical treatment of these particular patients differed from that of patients not coded with this complication. In most cases, the patients' care did not require more resources, additional length of stay, or additional monitoring. We decided to take the following question to the physicians for their input:

If the patients coded with postoperative ileus did not receive any additional clinical treatment compared to those not coded with postoperative ileus, why did they document the above statement in their discharge summaries?

A summary of the review findings and the complication data was presented to OB/GYN and general surgeons at regular staff meetings. Their response was that coding technicians were not familiar with the clinical aspects of ileus, as well as other conditions that commonly occur postoperatively but are not necessarily complications, such as atelectasis, hemorrhage, hematoma, and fever.

Our Plan of Action

It was clear that the situation needed remedies. We identified several courses of action to address these issues:

Determining guidelines. Several physicians volunteered to work with us to determine basic clinical guidelines to help the coding technicians make decisions when coding a condition as a complication. This ad hoc group included a trauma surgeon, a general surgeon, a urologist, an obstetric/gynecologic surgeon, and an anesthesiologist, as well as myself and the coding supervisor.

We concentrated on the five top complications identified using our decision support system: hemorrhage, hematoma, ileus, atelectasis, and fever. We reviewed clinical aspects of these particular common conditions and reviewed the official coding guidelines from *Coding Clinic* to determine how and when a postoperative condition might be coded as a postoperative complication. (See "CMC Guidelines for Expected Postoperative Events.")

Spreading the word. In January 1997 we began publishing a coding newsletter, *Quality Notes*, to facilitate communication and education of the medical staff, their office staff, and hospital staff on coding and documentation issues. I write the newsletter, which is edited by a member of the medical staff who champions improvement in physician documentation.

While it initially addressed mostly coding and documentation issues, the newsletter has now evolved into a communication tool about today's healthcare issues, such as case management, fraud and abuse, state and national healthcare legislation, and continuum of care information. All of these are spokes in the wheel of documentation issues and, therefore, coding issues and are equally important to emphasize. Almost 1,000 copies are distributed bimonthly.

Spotlight on coding. To facilitate communication between the QM and medical records departments about issues discovered in the review of records, a coding subcommittee was developed. This group included the director of medical records, coding supervisor, one coding technician, and the quality improvement specialist. Other hospital personnel are invited as needed. The goal of this subcommittee is to discuss facilitywide coding and documentation issues, including how they affect reimbursement issues and data quality.

Initially, this subcommittee formalized a process for referring coding discrepancies that the quality management department found during medical record reviews. (See "Chart Review for Coding of Complications") Additionally, two databases were eventually built-one to assist in communication of coding/documentation trends from quality management to medical records, the other for use in quality management to record all individual record reviews and results. The latter database gave the coding supervisor feedback by individual coding technician for QM reviews. She includes the information from this database with her other information used to evaluate coding technician performance and accuracy. (See form samples "Coding Issues/Outcomes," and "Complication Analysis Review.")

Obstacles to Overcome

As we moved forward with the project, we encountered a variety of obstacles. Here's how we tackled them:

Building physician understanding. When we first began reporting results from the complication rate analyses to the physicians, one of the biggest hurdles was the physicians' idea that any complication meant that they did something wrong. It took almost a year of reinforcement for them to understand that the majority of our findings were not in this category. We rarely hear this statement now.

Clarifying definitions. We had some lively discussions with physicians on the definition of the word "postoperative." *Dorland's Medical Dictionary* defines "postoperative" as "occurring after a surgical operation." The coding technicians had interpreted it to mean a "complication." This issue was discussed at several physician specialty meetings, and physicians were urged to say "complication" only when they felt it really was and to say anything but "postoperative." Some progress has been made on both sides of this definition issue, but continued work is needed.

Getting Results

We have seen these results as our actions were implemented:

Change in the rates. The facility's overall complication rate was measured monthly using a control chart. Within six months, the incidence of code 997.4 in DRG 358 decreased from 12.6 to 3.03 percent. When another review was performed to investigate this dramatic decrease, we found a change in physician practice pattern in documenting ileus as a complication. We directly related this change in documentation practice pattern to presenting the OB/GYN physicians and general surgeons with statistical information and explanations of the coding guidelines for complications. We also used quotes from their own dictation from their patients' records so they could see "their own words."

New insights. With detailed medical record reviews performed on 16 of the 25 top DRGs, it was determined that the facility's overall complication rate was driven by both coding and physician documentation.

Cleaner data. The quality management department now feels that the data used in clinical outcomes monitoring and reporting is much more accurate and consistent.

Education and progress. From our coding newsletter to dozens of discussions at physician specialty meetings, we feel that we have made significant progress in opening a dialogue and educating our medical staff about how their documentation effects coding. They are now requesting presentations on coding guidelines. As of November 1999, a concurrent program has been initiated systemwide to assist physicians with their documentation problems and questions.

Continued improvement. Opportunities for coding technician education were identified in these reviews as well. Some issues were related to coding issues; others were related to code sequencing and abstracting issues that affected the data quality of the hospital data repository.

Plans for the Future

As we smooth out some problem areas, new ones inevitably emerge. Here are some of the ways we intend to continue this successful initiative:

Keep talking. We have continued to pursue discussions about complications with various medical staff members. We have discussed when to code urinary retention as a complication with the OB/GYN physicians and when to code hemorrhage or hematoma as a complication with orthopedic surgeons.

Staying aware. Vigilance is important. For instance, physicians with no complications who had them on previous queries will be reviewed for issues of possible underdocumentation.

Benchmarking continues. We will add additional complication codes to the data repository in response to a new external benchmarking product that, at press time, was scheduled to be implemented in 1999. We want to make sure we are being compared equally with our peers, especially in the area of complications.

With the merger of Lubbock Methodist Hospital System with St. Mary of the Plains Hospital into CHS, complication data was also merged after the merger of the quality management departments. With the ever-changing environment of our seemingly enormous health system consolidation activities, the complication rate has been noted to be widely variable. This has prompted a new, overall review, which is ongoing. Our work continues, but we are pleased with our progress and are determined to improve.

Complication Frequency Within Single DRG

DRG	Complication Code	Description of Comps	Total # Cases in DRG	Total # Cases in DRG	Comp. Rate per DRG
	996.2	Mechanical Complication of Nervous System Device	1		1.28%
001	996.78	Other Complication Due to Other Internal Orthopedic Device, Implant, Graft	1	78	1.28
	997.02	Iatrogenic Cerebrovascular Infarction, or Hemorrhage	1		1.28
TOTAL for DRG 001			3	78	3.85%

(Sample data only)

Complication Frequency Across All DRGs

DRG	Complication Codes										Total Comps.
	998.1	997.4	997.3	998.89	998.2	998.5	997.5	997.1	998.3	996.62	
001				1				1			2
148	3	9	2	5	8	3	2	1			33
TOTALS	3	9	2	6	8	3	2	2			35

(Sample data only)

CMC Guidelines for Expected Postoperative Events

(As developed by Covenant Medical Center surgery ad hoc group)

Hemorrhage or Hematoma

1. Minor or even moderate changes in the hematocrit following major abdominal or retroperitoneal surgery which are not accompanied by hemodynamic changes are not usually considered a complication.
2. Sudden blood loss does not result in an immediate change in the hematocrit. Rapid fluid passage from cells (or from IV fluids) into the vascular space will lower the hematocrit over several hours. This 're-equilibration' is not complete for approximately 40 hours after acute hemorrhage. If systolic pressure and urine output is maintained, there is no need to transfuse most patients.
3. Some changes in hematocrit are artificial, resulting from excessive IV fluid administration or from improper techniques in obtaining the blood sample, such as drawing a sample from a vein in which there is also an IV cannula. Isolated changes in the hematocrit, which are not persistent on subsequent determinations (in the absence of transfusions) should be suspected to be erroneous.
4. Changes in the hematocrit, which occur within 48 hours of the operative event, do not necessarily imply ongoing hemorrhage. These may simply be the result of ongoing equilibration.

Transfusion Guidelines in Relation to Hemorrhage

1. Ability to compensate for acute blood loss changes with the patient's age. Young adult patients can tolerate significantly greater blood loss than the elderly.
2. The FDA has recommended transfusion to be initiated at a hemoglobin of 7 grams and hematocrit of 21% in healthy young individuals. These numbers are too low in most adults over the age of 50 who will not tolerate that degree of anemia. Most physicians will transfuse a patient when their hemoglobin is 8 grams or lower, or below 10 grams if there is active bleeding, there is potential for recurrent bleeding, or the patient has known, pre-existing cardiovascular disease.
3. If the patient has a stable hematocrit and is hemodynamically stable, any loss of blood, even if it does or does not require transfusion, should not be coded as a complication. Failing to transfuse a patient with a stable hematocrit who has no hemodynamic instability should also not be considered a complication or a deficiency in judgment or care.

Ileus

1. Postoperative ileus, or bowel inactivity, will occur following most abdominal operations in which the bowel is handled or reflected to expose retroperitoneal structures. The duration of bowel inactivity varies according to the procedure, the age of the patient, and chronic illness. Simple immobility (for example, an elderly patient with a hip fracture) can occasionally cause a severe ileus requiring prolonged bowel rest.
2. Many operations in which the bowel is simply 'packed away,' such as an open cholecystectomy, an appendectomy, or a hysterectomy do not routinely result in prolonged ileus. However, in these instances, the development of an occasional ileus should not be regarded as a complication.
3. Ileus is the expected event after abdominal surgery and is not a complication unless it is prolonged (usually over 6 days). The phrase "postoperative ileus" in most cases of ileus of less than 6 days means only that the patient is status-post the procedure—not that this is necessarily a complication.

Atelectasis

1. Atelectasis is an anticipated event within the first 48 hours postoperatively when the patient has undergone a general anesthetic with moderately high oxygen concentrations. It will usually

resolve spontaneously without treatment. Sometimes atelectasis may be seen on an X-ray for 4 or 5 days, but if the patient has no increased temperature and is ambulatory, no treatment is usually needed, so it is not a complication.

2. Incentive spirometry (IS) will hasten improvement but an order for IS does not imply a complication. Conversely, the lack of an order for IS does not imply a deficiency in the physician's judgment or care.

3. "Atelectasis" or "discoid atelectasis" as an interpretation on an X-ray, such as after a central line placement, in the absence of other clinical symptoms, should not be a complication.

4. Fever over 100.5, cough, or productive sputum, may indicate a supervening infection or pneumonia. This would be regarded as a complication, but also may likely be a consequence of the patient's underlying disease processes, such as chronic bronchitis, COPD, etc.

This may require a note to the physician for clarification in the absence of any other documentation.

Fever

1. The clinical definition of fever differs from physician to physician. However, an increased temperature is an expected postoperative finding within at least the first 48 hours. Generally, a temperature of less than 100.5 is not clinically significant to the physician during this time frame.

2. This temperature threshold (100.5) may go higher, depending on what the surgical findings were, such as a gangrenous gallbladder surrounded by pus, or other intra-abdominal infectious process.

3. Treatment of an infection unrelated to the primary disease process is not a complication if it clearly existed prior to the initiation of care. For example, an elderly patient coming in for an excision of a breast lesion has bacteriuria on a urinalysis that is performed postoperatively would not have a urinary tract infection as a complication. Preoperative protocols no longer require routine urinalysis performed preoperatively prior to all procedures.

This will require documentation from the physician that this condition truly did exist before hospitalization and before the procedure and is not a hospital-acquired or nosocomial result.

Any events occurring outside these guidelines may require a note to the physician for clarification in the absence of any other documentation in the patient's medical record.

CMC Guidelines for Expected Postoperative Events—Addendum

(As developed by CMC surgery ad hoc group, revised by cardiology specialty group)

Groin Hematoma status-post Cardiac Catheterization

1. Groin hematomas are usual, expected events after insertion of a catheter into the femoral artery and/or vein.

2. Hematomas should not be considered complications unless therapeutic treatment, including Doppler closure and/or drainage by incision or return to the operating room by a surgeon for suture of the artery is performed.

3. Sometimes a patient may require an additional day's stay, such as overnight, in order to be sure the hematoma is resolved or stable. The hematoma could then be considered a complication due to increased length of stay.

This will require clear documentation from the physician that the additional length of stay was to observe the hematoma for stability prior to discharging the patient.

Coding Issues/Outcomes

CATEGORY	Diagnosis
I.D.-ed BY	J. Noller
HOSPITAL	Lakeside
DEPARTMENT	Quality Management
I.D. DATE	023/12/99
EXTENSION	5741
ISSUE DESCRIPTION	Diagnosis Coding
PHYSICIAN	
ISSUE HISTORY/ EXPLANATION	When reviewing delivery and NB records for a special review for an FDA device alert, it was noted that LS coders were not using a V-code available for documenting NBs who receive hepatitis vaccines before being discharged home. I felt this might be a good beginning to try to ensure more consistent coded data between both facilities, since the coders at MC do use this particular V-code. I referred this to Lyn Moore who in turn referred it to Barbara Cunningham.
DATE IMPLEMENTED/ REVISED	02/15/99
REVIEWER'S COMMENTS	
FOLLOW-UP DATE	06/01/99
FOLLOW-UP PERSON	Janice Noller
FOLLOW-UP DATE	
FOLLOW-UP PERSON	
FOLLOW-UP DATE	
FOLLOW-UP PERSON	
FOLLOW-UP COMMENTS	I will do a spot check in June to be sure the V-code is being used consistently.

Complication Analysis Review

DATE OF REVIEW:

MEDICAL RECORD NUMBER:

ACCOUNT NUMBER:

PRINCIPAL DX:

SECONDARY DX: 1.   2.   3.   4.   5.

ATTENDING MD:

 # DAYS POST D/C:

CODED: **DS DICTATED:**

CODER:

REVIEW TYPE:

REVIEWER COMMENTS:

CODES REFERRED FOR REVIEW: 1.   2.   3.   4.   5.

CODER'S RESPONSE:

REVIEWER'S RESPONSE:

CODE(S) REVISED:

References

American Hospital Association. *Coding Clinic for ICD-9-CM.* Chicago, IL: American Hospital Association.

Brown, Faye. *ICD-9-CM Coding Handbook.* Chicago, IL: American Hospital Association, 1996.

Dorland, W.A. Newman, ed. *Dorland's Illustrated Medical Dictionary,* 26th ed. Philadelphia, PA: W.B. Saunders Company, 1994.

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