

IFMC Implements Intervention to Improve Coding Accuracy for Septicemia

BACKGROUND

As the quality improvement organization for Iowa, the Iowa Foundation for Medical Care is under contract with the Centers for Medicare & Medicaid Services to reduce the payment error rate for inpatient Medicare claims through the Hospital Payment Monitoring Program. The HPMP is a nationwide effort to protect the Medicare trust fund by ensuring Medicare pays for services that are reasonable and medically necessary. The goal of HPMP is to ensure payment accuracy through the reduction of payment errors. Methods include analyzing data, conducting focused audits and implementing system changes.

As a component of HPMP, QIOs were charged with implementing a special project to facilitate reduction in payment errors. IFMC identified an opportunity to improve coding accuracy for septicemia, Diagnosis-Related Groups 575/576 (previously DRG 416). Septicemia is a systemic disease associated with the presence and persistence of pathogenic microorganisms or their toxins in the blood. Subsequently, a special project was designed to focus on the appropriate assignment of DRGs 575/576 for septicemia at two Iowa hospitals during fiscal years 2006 and 2007.

METHODS

Data Sources

IFMC accessed two data sources to identify potential special project participants: (1) *First-look Analysis Tool for Hospitals Outlier Monitoring* (FATHOM) reports; and (2) *Program for Evaluating Payment Patterns Electronic Report*. These electronic data reports are developed under contract with CMS by TMF Health Quality Institute, the HPMP Quality Improvement Organization Support Center.

FATHOM reports compare aggregate data for acute care, prospective payment system, inpatient hospitals in fourteen target areas at risk for payment error based on Medicare discharge data. The data highlight "outliers" which assist in identification of likely payment errors. A hospital may be considered an "outlier" if their discharge data for a respective target area is at or above the statewide 75th percentile or at or below the 10th percentile.

Likewise, PEPPER data identifies potential "outliers" for overcoding, undercoding and admission necessity issues for these same 14 target areas. PEPPER data assist hospitals with their auditing or monitoring efforts related to coding and admission necessity. IFMC distributes quarterly, hospital-specific PEPPER data to each respective Iowa hospital upon request.

Project Participants

Septicemia is one of the 14 areas at risk for payment error, and according to FATHOM data, Iowa ranked 9th out of the 53 states and territories for the highest percentage of septicemia discharges among PPS hospitals.

Two hospitals (i.e., Hospital A and Hospital B) were ultimately selected as participants for the special project, based on their "outlier" status for septicemia (i.e., DRGs 575/576). According to FY 2005 FATHOM data, Hospitals A and B were at the 100th and 96th percentiles respectively for coding septicemia when compared to other Iowa PPS hospitals. Combined, these hospitals accounted for 16.0% (i.e., \$3,213,624) of the total payments (i.e., \$20,394,112) made for DRGs 575/576 to all Iowa PPS hospitals (n=52) in FY 2005.

Baseline Audit

IFMC performed an onsite, baseline medical record audit at Hospitals A and B during 3rd quarter 2006. The audit was designed to verify coding accuracy for DRGs 575/576. Two credentialed coders retrospectively reviewed 100% of inpatient medical records billed with the principal diagnosis of septicemia according to both FATHOM and PEPPER data for 4th quarter FY 2005.

Hospital A data showed 50 Medicare claims were assigned to DRGs 575/576; the baseline audit found 24% were appropriately coded. Hospital B data showed 63 Medicare claims were assigned to DRGs 575/576; the baseline audit found 32% were appropriately coded.

Baseline audit findings confirmed the suspected occurrence of overcoding and overutilization of services related to septicemia and, thus, justified targeting these two hospitals for the project intervention.

Project Intervention

The duration of the project intervention was one year, with roll out to participating hospitals initiated 4th quarter FY 2006 and evaluation completed 4th quarter FY 2007.

Representatives from IFMC (i.e., credentialed coder, compliance professional, medical director, performance improvement manager) held an onsite visit at each hospital to roll out the special project. At this time, the team introduced the project intervention designed to improve coding accuracy for septicemia and, ultimately, reduce the inappropriate coding of DRGs 575/576.

A series of educational sessions was presented, targeting three separate audiences: (1) executive staff; (2) medical staff; and (3) coding/nursing specialists. Each educational session was tailored to highlight information most applicable to the target audience. Supporting tools and resources made available to assist hospitals with coding accuracy included: (1) Septicemia Self-Audit Tool (Exhibit A) and corresponding training; and (2) Septicemia Tip Sheet (Exhibit B).

Executive Staff Education

During the session targeting executive staff (e.g., CEO, Compliance Officer, Director of Health Information Management), the compliance professional and performance improvement manager presented the: (1) project purpose; (2) hospital selection rationale; (3) baseline audit findings (i.e., accuracy rates); (4) participant expectations; and (5) project timeline.

IFMC requested each hospital complete a written "Collaboration Agreement" prior to participating because completion of the special project was dependent on the cooperation of hospital staff. The executive staff members were expected to fulfill tasks such as:

- enlist support for and engage all hospital team members in the project
- coordinate self-audits and submittal of monitoring reports to IFMC on a monthly basis
- fulfill inpatient medical record requests for interim audits performed by IFMC
- participate in IFMC-led quarterly conference calls to evaluate coding progress
- utilize supporting tools and resources as warranted

Medical Staff Education

The session targeting medical staff emphasized appropriate diagnosis of and documentation for septicemia. Three inappropriately coded cases from the baseline audit were used to facilitate this discussion. Led by the project team's medical director, this was also an opportunity to address challenges and proactively overcome identified barriers from the physician perspective.

Specific concepts discussed with the medical staff included:

- use of terminology and related definitions (e.g., sepsis, systemic inflammatory response syndrome, septicemia, sepsis syndrome)
- blood cultures (e.g., negative or inconclusive blood cultures do not preclude a diagnosis of sepsis in patients with clinical evidence of the condition)
- types of clinical variables (e.g., hemodynamic, organ dysfunction, tissue perfusion, inflammatory) associated with septicemia diagnosis
- physician documentation (i.e., consistency, completeness and clarity are essential to support the primary diagnosis of septicemia)

Coding/Nursing Specialist Education

Facilitated by the project team's credentialed coder, the main topics addressed during this session included: (1) definitions for sepsis and septicemia; (2) sequencing guidelines for septicemia; (3) Code of Ethics for health information management professionals when coding; and (4) common coding errors identified from the baseline audit.

The significance of physician documentation was emphasized among the coding and clinical documentation nursing staff as well, including the following key concepts:

- documentation from the attending physician must be present in the medical record to substantiate a septicemia diagnosis
- an attending physician's documentation takes precedence over advice from a consultant
- an attending physician should be queried when documentation is unclear or inconsistent

A self-audit tool was distributed, and the coders/clinical documentation nurses were trained regarding use of the tool. Each participating hospital was expected to perform monthly self-audits of inpatient medical records coded to septicemia; submittal of findings to IFMC was requested as a means to monitor progress and demonstrate each hospital's continued commitment to improved coding accuracy.

Follow-up Education

After the initial series of educational sessions, IFMC provided ongoing technical assistance to participating hospitals' staff in the form of quarterly conference calls and Web Ex audio seminars. These contacts presented additional opportunities to educate and engage hospital staff, address questions and make process improvements in a timely manner. For example, the most recent self-audit and interim audit findings as well as PEPPER data were discussed during the conference calls; the audio seminar provided coding and nursing staff updates regarding newly published septicemia coding guidelines. In addition, hospital staff members were encouraged to call or e-mail the project team with any inquiries.

Project Evaluation

PEPPER and FATHOM data were again accessed to evaluate special project outcomes. Percentiles determining "outlier" status and discharges associated with DRGs 575/576 were monitored for each hospital for the duration of the intervention.

In addition, IFMC performed two interim audits, at two and four months following intervention roll out, to measure progress and identify changes in coding accuracy rates. The monthly self-audit reports were used to select the inpatient medical records for the interim audits.

A final audit was performed upon conclusion of the project intervention. Two credentialed coders retrospectively reviewed 100% of inpatient medical records billed with the principal diagnosis of septicemia according to both FATHOM and PEPPER data for 2nd quarter FY 2007.

Ultimately, the most recent figures available were used to calculate changes in Medicare payments made for DRGs 575/576.

RESULTS

Table 1 shows the coding accuracy rates for septicemia and the appropriate discharges for DRGs 575/576 based on IFMC audit findings. In general, both hospitals experienced a decrease in DRGs assigned to septicemia and more appropriate use of DRGs 575/576 when compared to baseline.

Hospital A reached 100.0% coding accuracy by the conclusion of the project; IFMC audited 100% (n=9) of inpatient medical records billed with the principal diagnosis of septicemia for 2nd quarter FY 2007 and agreed all nine were appropriately coded. Hospital B reached 90% at second interim audit yet concluded with 65% coding accuracy; IFMC audited 100% (n=20) of inpatient medical records billed with the principal diagnosis of septicemia for 2nd quarter FY 2007 and agreed 13 were appropriately coded.

Table 1: Coding Accuracy Rates for DRGs 575/576				
	Baseline Audit ¹	1 st Interim Audit ²	2 nd Interim Audit ³	Final Audit ⁴
Hospital A	24.0 (n=12/50)	75.0 (n=6/8)	75.0 (n=6/8)	100.0 (n=9/9)
Hospital B	32.0 (n=20/63)	83.0 (n=5/6)	90.0 (n=9/10)	65.0 (n=13/20)

¹ Baseline Audit performed using 3 months of discharge data from Q4 FY 2005

² 1st Interim Audit performed using 2 months of discharge data, one from each Q4 FY2006 & Q1 FY 2007

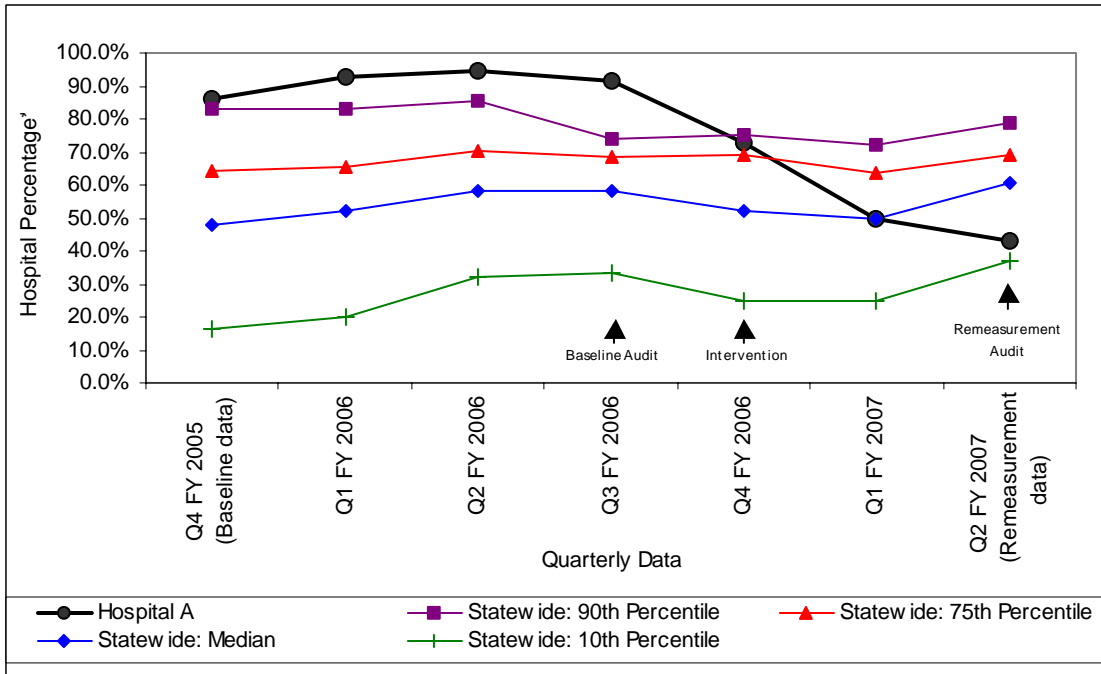
³ 2nd Interim Audit performed using 2 months of discharge data from Q1 FY 2007

⁴ Final Audit performed using 3 months of discharge data from Q2 FY 2007

Figures 1 and 2 show percentiles for coding septicemia for Hospitals A and B, respectively, when compared to aggregated data for all Iowa PPS hospitals. Roll out of the project intervention occurred during 4th quarter FY 2006. At the beginning of FY 2006, both hospitals were considered "outlier" status because discharges for DRGs 575/576 were approximately at the statewide 90th percentile.

At the time of the onsite baseline audit (i.e., 3rd quarter FY 2006), Hospital B showed a decline in septicemia coding. Both hospitals showed a decline in conjunction with the intervention roll out (i.e., 4th quarter FY 2006), with discharge data for DRGs 575/576 at or below the statewide 75th percentile. Subsequently, Hospital A's data reflected a steady decline below the statewide median; Hospital B's percentile fluctuated at or below the statewide median.

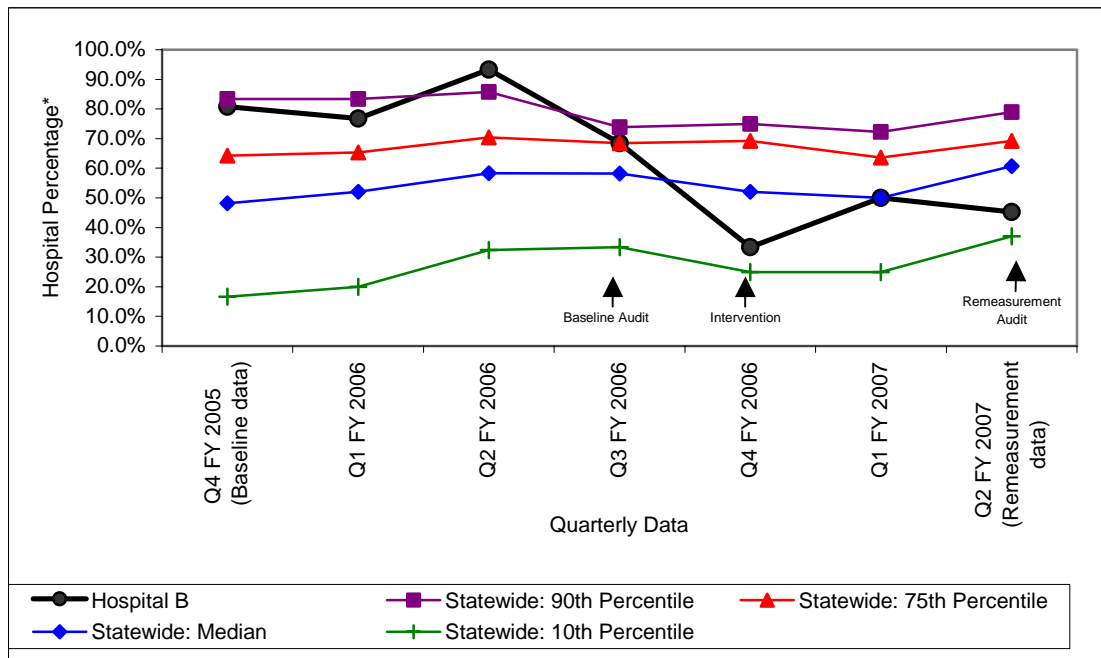
Figure 1: Comparison of Hospital A and Statewide Percentiles for Septicemia Coding



Source: Iowa Short Term PEPPER Version 19

* Numerator = discharges for DRGs 575/576; Denominator = Discharges for 320, 321, 575, 576

Figure 2: Comparison of Hospital B and Statewide Percentiles for Septicemia Coding



Source: Iowa Short Term PEPPER Version 19

* Numerator = discharges for DRGs 575/576; Denominator = Discharges for 320, 321, 575, 576

Table 2 shows the percentage of combined payments made for DRGs 575/576 to Hospitals A and B compared to all Iowa PPS hospitals prior to and during the project intervention. Although the number of PPS hospitals in Iowa decreased, the total payments made for DRGs 575/576 increased. The proportion of payments to Hospitals A and B declined from FY 2005 to 2006; based on available data to date, this downward pattern appears to be continuing into FY 2007.

Table 2: Payments for DRGs 575/576		
	Hospitals A & B (% of total)	All Iowa PPS Hospitals (n) ¹
FY 2005	\$3,213,624 (16.0%)	\$20,394,112 (n=52)
FY 2006	\$2,822,136 (12.0%)	\$23,351,895 (n=41)
FY 2007 (Q1 & Q2) ²	\$448,471 (4.0%)	\$11,709,310 (n=34)

¹ n declined due to PPS hospitals changing to critical access hospital status

² Q3 & Q4 data for FY 2007 not yet available

DISCUSSION

Upon conclusion of IFMC's project, Hospitals A and B were no longer considered "outliers" when compared to all Iowa PPS hospitals for discharges associated with DRGs 575/576. Overall, these hospitals coded fewer cases for septicemia following the project intervention. Furthermore, the accuracy rates for the audit cases that had a discharge associated with DRGs 575/576 increased from the baseline rates. Ultimately, these coding improvements translated into fewer payment errors and decreased Medicare payments for septicemia in the two participating hospitals.

Lessons Learned

A team approach and education were essential for the success of the special project. The initial educational component enhanced awareness of inappropriate septicemia coding and potential opportunities for improvement. Concurrently, the educational sessions fostered collaboration between the QIO and participating hospitals as well as among staff from various hospital departments that typically work in isolation. Qualitative feedback from hospital staff suggested this level of interaction contributed to the culture change imperative for success.

The project team noted very few barriers beyond roll out of the project intervention. Regular, positive communication proved effective in establishing hospital leadership buy-in and recognition of the project as a beneficial quality improvement initiative. In general, hospital staff members were motivated by factors focused on improving accuracy rather than errors.

It was apparent the value of using readily available data (e.g., hospital-specific PEPPER data) for improving coding accuracy was not fully recognized by the hospitals; this project demonstrated the value of targeting key people and data as an effective means to reduce payment errors.

Limitations

While improved coding accuracy for septicemia and declining percentiles for discharges associated with DRGs 575/576 seemed to correspond with the timing of the educational intervention, there may have been other contributing variables.

Data used for project evaluation were only available through 2nd quarter FY 2007; therefore, findings were not based on the entire duration of the intervention. Conclusive comments regarding the change in coding accuracy and longevity of improvement for Hospitals A and B are not feasible at this time.

In general, this was a relatively short term intervention targeting only two "outlier" PPS hospitals. IFMC worked intensively with the project participants to improve coding accuracy of septicemia for one year. Resources were not available to implement the intervention with other Iowa PPS hospitals. While Hospitals A and B experienced improvements in relation to statewide percentiles, the limited number of project participants prohibited a widespread impact on discharges for DRGs 575/576 among all Iowa PPS hospitals.

CONCLUSION

Hospital-specific PEPPER data cannot identify the *actual* occurrence of inappropriate coding; however, IFMC's project demonstrates how it can serve as an effective guide for PPS hospitals to improve coding and payment accuracy. Just as IFMC implemented an intervention to improve coding accuracy for septicemia among two "outlier" participants, each PPS hospital in Iowa and the nation has the means to use their respective PEPPER data for routine compliance monitoring and auditing in other target areas. Appropriate DRG assignment translates into accurate payments for medically necessary services and, ultimately, protects the Medicare trust fund.

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Exhibit A



**IOWA FOUNDATION
FOR MEDICAL CARE**

Name: _____
Medicare ID#: _____
Admission: _____
Discharge: _____
Hospital: _____

Audit Tool for Coding Septicemia

Purpose

The review worksheet can be used to evaluate simple coding errors as well as complex errors that impact the Diagnostic Related Group assignment. It can also be used to monitor improvement in coding or DRG assignment.

Preparation

1. Prior to reviewing a group of cases with similar diagnoses, review related coding conventions and guidelines.
2. Identify possible coding problems that can occur.

Record Review

	Yes	No
1. Does the medical record match the claim being reviewed? (patient name/admission date);	_____	_____
2. Is there physician documentation that septicemia is: a) present on admission? b) the principal reason for admission?	_____ _____	_____ _____
3. Do blood cultures support septicemia? (____check if not ordered)	_____	_____
4. Is there medical record documentation evidence of end organ compromise?	_____	_____
5. Do orders reflect treatment of septicemia?	_____	_____
5. Did the attending physician document urosepsis as the final principal diagnosis? If yes, the correct ICD-9-CM code for urosepsis is 599.0	_____	_____
6. Does physician documentation indicate that the septicemia is due to an internal device, implant or graft? If yes, the correct code is from the ICD-9-CM 996 category.	_____	_____
7. Is medical record documentation present to support the patient's age and discharge status?	_____	_____
8. In general, does the patient's whole clinical picture reflect a septic patient?	_____	_____

Exhibit B

Strengthening Your Coding Compliance Infrastructure

Within the HPMP Compliance Workbook is a chapter on Coding Compliance. It states: “This chapter will discuss a hospital’s compliance program as it relates to the area of coding. As you evaluate your compliance program in terms of addressing coding risk areas, consider whether you have addressed these areas within all elements of your compliance program. The following information outlines aspects of your compliance program and presents questions and guidance on assessing whether on-going processes are in place to address coding issues. We have also provided very specific coding risk areas that CMS is currently monitoring through HPMP and that you should be monitoring and consider auditing as well.”

Establish Responsibility

It is important to review who truly has ultimate authority for coding compliance at your hospital. This may be assigned to the compliance officer or it may be assigned, perhaps more appropriately, to your director of medical records/health information management, a coding manager, or a similarly qualified individual. Regardless of whom you assign to this function, this individual must be accountable to the compliance officer regarding coding compliance. He or she should also sit on the compliance committee or a subcommittee.

- Who has ultimate authority for coding compliance in our hospital?
- Has the compliance officer actually met the coders, outside of general training sessions?
- Who is performing inpatient coding?
- Who is performing outpatient coding?
- What are our coders’ qualifications, credentials, background, etc.?
- What is included in the job description for our coding staff? When was the last time it was updated?
- What process do we have to verify coders are maintaining their credentials?

Coding Compliance Subcommittee or Workgroup

Your hospital’s general compliance committee may have elected to establish a coding compliance subcommittee. Representatives from relevant areas need to be included on the team. In particular, representatives from medical records or health information management, compliance, billing, data management services, chargemaster, utilization management, and quality management should be considered.

- How are we addressing these hospital inpatient coding risk areas at the committee level?
- Do we have a compliance subcommittee that regularly monitors fiscal intermediary bulletins and newsletters for guidance on coding?
- How do the coders maintain awareness of current coding regulations through other publications such as *Coding Clinic* and *CPT Assistant*?
- How often are coding policies and procedures revised? Who revises them?
- Are we receiving the Program for Evaluating Payment Patterns Electronic Report from our QIO?
- Do we have a distribution system set up within our hospital once our QIO/Quality Net contact receives the PEPPER data?
- Which policy addresses review and evaluation of PEPPER data?
- Are we analyzing our data quarterly?

Code of Conduct

- Have we addressed coding compliance risk areas in our Code of Conduct?
- Have we adopted a more specific Code of Conduct related to coding? If not, should we?
- Does our Code of Conduct specifically prohibit upcoding and DRG creep for the purpose of maximizing reimbursement, and clarify that coding to ensure “optimal” deserved reimbursement is reasonable?

Coding Policies and Procedures

- Do our policies cover how coding regulation changes are communicated within the organization and how the organization will respond?
- Do our policies address appropriate resources and instructions for ICD-9-CM diagnosis and procedure coding?
- Do our policies require coders and billers to carefully document any advice received from the FI or carrier upon which we base our decisions?
- Who is reviewing “rejected claims” relative to coding issues? Do they have any concerns? What did we do about those concerns? How do we track our results?
- How do we arrive at our measurement indicators for coding success with our internal audit procedures after identifying the root cause of any coding problems that we find?
- Do our policies cover general medical record and other documentation and retention requirements?
- Are we addressing all these hospital inpatient coding risk areas in our policies and procedures?
- Do our policies explicitly prohibit coding and billing for services not rendered?
- Do our policies adequately address upcoding/DRG creep and/or inaccurate DRG assignment?
- Do we have a 72-hour rule policy? Have all new billers been trained about this policy?
- Do our policies define how coding consultants may be used? Should they?
- Do our policies and procedures prohibit billing until appropriate codes are established?
- When was the last time we talked to our billers about this?
- Have our billers been told they cannot change codes or add codes? Do they understand why?
- What improvement in the process do our billers feel would be helpful? What rejections and denials are they seeing regularly in relation to coding and documentation issues?
- Do we have a policy regarding the use of discharge status codes? When was the last time it was updated? What system do we have in place to address this? How do we know it works?
- Who is assigning discharge status codes at the hospital? Have they been trained on the policy? Do they understand the importance of using correct discharge status codes? Do they have any questions?

Open Lines of Communication

- Do the coders feel comfortable talking to their manager and director about coding concerns? If necessary, are managers and directors encouraging the compliance officer to be part of discussions regarding coders concerns?
- Do our coders have any concerns?
- Have we asked them if there is an area of coding in which they feel deficient?
- What additional training do they feel they need?
- Where do they believe are areas for improvement in the coding processes?
- How do they communicate with the billers when coding concerns arise?
- What is their process to query physicians when they have questions?
- What is the coders’ role when they are told an inpatient admission should have been an outpatient observation? What demonstrates that we are addressing this issue?

Develop and Provide Education and Training

- How are our coders trained? How often?
- Do we establish minimum education requirements for our coders?
- What specific on-going training are our coders receiving?
- Are the coders tested? How often?
- Do we monitor their individual error rates? Should we?
- What resources do they use to code?
- Do our coders feel they need additional training in any of the following areas?
 - * Anatomy and physiology
 - * Medical terminology
 - * Pathology and disease processes
 - * Pharmacology
 - * Health record format and content
 - * Reimbursement methodologies
- Are our coders getting training in coding regulations related to the areas in which they are working?
- Are the coders receiving annual training related to ICD-9-CM and CPT/HCPCS updates?
- How do our coders learn about significant program changes or when periodic coding clarifications are provided?
- Is there a process to train the coders when the organization begins to treat new diseases or acquires technology that involve new codes?
- What training occurs when coding problems are identified?
- Are the coders trained on the CMS DRG target areas identified in PEPPER?
- Are the coders receiving general compliance program training?
- Do we have records of training content and attendance?
- How do we measure what they have learned in training?
- Do we use pre- and post-surveys or audits to determine knowledge gained?
- Do our monitoring and auditing efforts guide future training?

Coding Monitoring and Auditing

- How are we performing ongoing monitoring to ensure that coding practices result in accurate code assignment, proper sequencing, and accurate DRG grouping?
- Are we monitoring our PEPPER data? How are we tracking our actions and results? How are we choosing our measurement indicators to determine our effect and measure our outcomes (success)? How do we tie the PEPPER data into our existing data reports? Do they complement one another? Are they incongruent sources of data?
- Are we auditing the areas in which our data appears unusual in the target areas CMS is focusing upon?
- How are we monitoring completeness and timeliness of medical record documentation?
- How are we monitoring to ensure that billing accurately reflects coding assignments and that billers are not changing codes to get paid?
- What is our monitoring/auditing process to ensure we are properly assigning discharge status codes?
- Who is assigning these codes?
- When was the last time we updated our chargemaster?
- Who is responsible for implementing chargemaster updates?