A Comprehensive Program for Concurrent Review

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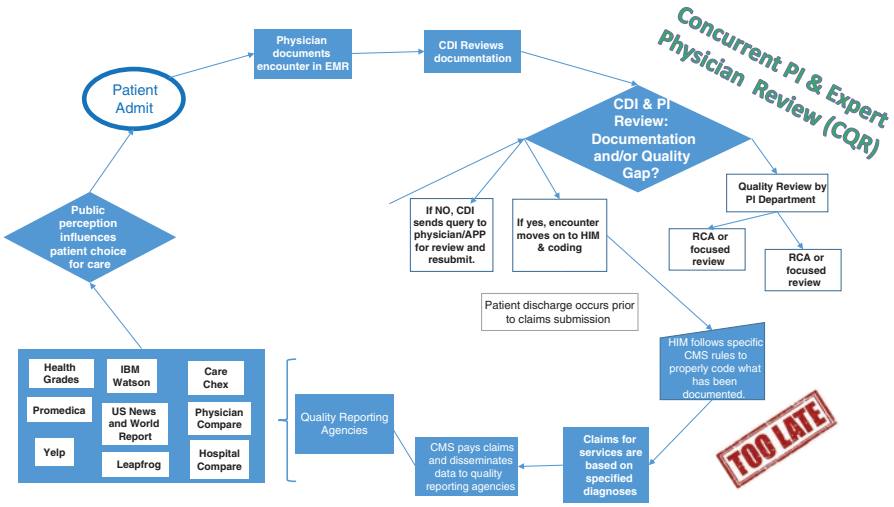

Fig. 7.1 Medical record and billing-based cycle of publicly reported quality information. CDI clinical documentation improvement team, PI performance improvement team, HIM health information management department, RCA root-cause analysis, CMS Centers for Medicare and Medicaid Services. (© Ochsner Health)

Concurrent quality review (CQR) aims to identify whether the medical record and the coding profile accurately reflect the patient's clinical condition. This type of review should be done as early as possible in the patient's hospital course and medical record-based billing submission cycle (Fig. 7.1). At the very latest, it should be completed prior to submitting the patient's coding profile for payment.

7.1 Concurrent Review and Measure Validity

It is well known that documentation and coding issues affect, for example, the validity of the Agency for Healthcare Research and Quality (AHRQ) patient safety indicators (PSIs) [1]. The positive predictive value of this measurement is the ratio of true positives to events that were identified as PSIs. If this ratio were 1, the reporting or measurement of PSIs would be considered completely accurate, meaning that the reported PSIs reflected the occurrence of actual harm events 100% of the time. If patients are identified as having safety or quality events when no such event occurred, such situations are referred to as false positives. The false-positive rate, false-negative rate, and positive predictive value of AHRQ PSIs have been reported repeatedly. Their validity was summarized in a 2016 systematic review and meta-analysis, with the conclusion that PSI validity is limited [2]. The purpose of CQR is to increase their accuracy by eliminating or at least minimizing as many false positives as possible. Missed cases or false negatives also contribute to accuracy but are much more difficult to identify (see Chap. 7). CQR should take the opportunity to identify missed cases when such cases appear evident on review.

Documentation and coding inaccuracies can be thought of as *noise* that obscures opportunities for improvement. Poor performance in a quality metric such as post-procedural bleeding can all too easily be blamed on coding mistakes. When this is the case, it is difficult to mobilize medical staff or performance improvement professionals to engage in true quality improvement efforts. Improving the accuracy of documentation and coding should reduce data variability, instill greater confidence in measurement integrity, and facilitate the identification of opportunities for care process improvement [1]. Therefore, greater measure accuracy, greater confidence in reported data, and better process improvement work can all be facilitated by a thoughtfully constructed CQR program.

Another way to look at this is through the accountant's lens. Just like the accountant aims to avoid unnecessary taxes, CQR aims to assure that documentation and coding our patients' medical diagnoses occur in the most accurate way. CQR aims to "avoid more taxes than required by law" (i.e., avoid reporting events that do not satisfy the official definition of a complication event, such as an AHRQ PSI). In CQR, we can think of such unwarranted complication codes as unnecessary taxes on an organization's quality performance. This is so because the organization's reputation, as measured by performance in publicly reported quality indicators, may be diminished by inaccuracies in documentation and coding. Especially in light of multiple reports of high false-positive rates and coding errors [3, 4], organizations are well advised to examine carefully every claim that contains the potential of a PSI or similar reporting event. Again, CQR can accomplish such careful examination to remove unwarranted blemishes on reputation.

7.2 How Does Concurrent Quality Review Protect Against False-Positive Complications?

CQR affords the opportunity to avoid unwarranted complications by assuring accurate documentation and coding before the patient's demographic and billing information is submitted to the payer. CQR can have a substantial impact. This is in part achieved by examining and correcting whether a medical diagnosis triggering a complication report is present on admission (POA) [5]. Furthermore, review also attempts to verify whether a medical diagnosis is present at all (or was ruled out during the diagnostic workup) and whether other medical conditions are present that could exclude complication codes from being counted as occurrences that negatively affect publicly reported quality metrics [1].

An example from the authors' practice is how CQR has helped to identify previously not reported medical diagnosis codes describing exclusionary conditions for a report of postoperative hemorrhage (AHRQ PSI-9). Our CQR activities identified that coagulopathic conditions were frequently present based on valid clinical indicators or language used by providers in their notes. When appropriately included in the patient's coding profile, exclusionary diagnoses prevent a number of diagnostic complication codes, such as for perioperative bleeding, from being counted as PSIs or complications included in risk-adjusted complications metrics. By adding these codes where appropriate, case mix index also increase, which may also affect payment positively.

Key Concept
Concurrent review can help identify diagnoses based on evidence in the medical record. Examples are coagulopathy or thrombocytopenia. These PSI exclusion diagnoses may also lead to a more accurate DRG assignment by adding a comorbid condition (CC) or major comorbid condition (MCC) to the coding profile.

Evidence for bias against including certain diagnoses exists. One example is the bias against reporting chronic disease conditions or comorbidities in patients who die in the hospital, as reported by Iezzoni et al. [6]. Other common inaccuracies relate to the accurate reporting of the elective nature of a surgical procedure as would be important in the review for AHRQ PSI-10, PSI-11, or PSI-13, which are only applicable to elective surgical procedures. Occasionally, there may be a misunderstanding of a medical record entry, such as the presumption that a deep vein thrombosis (DVT) occurred when the medical record entry refers to prophylaxis against DVT. Moreover, a diagnosis may be reported as having occurred during the hospitalization, but the medical record mentions it only in the context of history or rule-out documentation [7]. Misunderstandings may also occur over descriptions of a deliberate surgical intervention such as a plaque laceration, which, when reported as a complication code, may lead to an inflated PSI-15 rate [1].

7.3 Components of a Successful Concurrent Review Program

A comprehensive model and program for concurrent review (Fig. 7.2) include a collaborative approach, a rigorous review rhythm, a well-defined process, and timeline for bill holds, electronic efficiency tools, and metrics to gauge program impact.

Collaborative Approach CQR should allow real-time communication among the collaborating members of the team, including clinical documentation improvement (CDI) specialists, coders, performance improvement personnel, and medical reviewers. At the authors' hospital, a work queue in the Epic electronic medical record (EMR) allows these team members, including clinical documentation specialists, performance improvement coordinators, and designated medical staff members (such as physician advisors and medical quality leaders), to enter the results of their review of the medical record, which allows for transparent communication. The procedure for review of the Epic electronic medical record (coders' view) is as follows:

- In the Doc(ument) Review tab, open "Account Activities" and enter "160" to open an account note to be able to document the results of concurrent review.
- Disagree or agree with coding based on clinical indicators identified, such as POA status, whether the diagnosis was correct (e.g., pressure or nonpressure

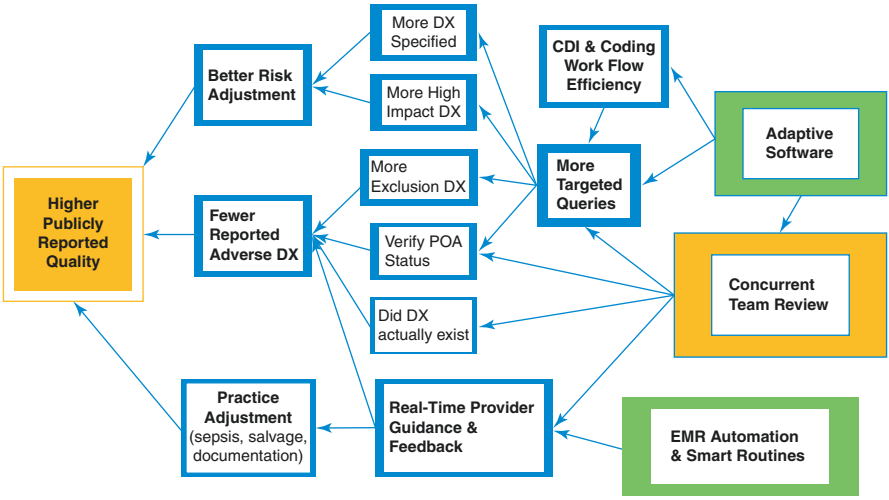

Fig. 7.2 Model and process of concurrent quality review (CQR). POA present on admission, Dx diagnosis, CDI clinical documentation improvement team, EMR electronic medical record. (© Ochsner Health)

ulcer), whether the diagnosis was clinically insignificant, etc. Give reasons, including specific clinical indicators, to support opinion.

- Identify diagnoses that were not picked up in the current (preliminary) coding profile, based on clinical indicators in the record; for the purposes of quality review, the most relevant diagnoses are those identified as exclusions (e.g., coagulopathy is an exclusion diagnosis for PSI-9) and diagnoses of high impact especially when POA.
- Buttress requests for including or changing diagnosis codes by identifying clinical indicators from the medical record in support of such diagnoses.

Performance improvement coordinators may be able to present evidence for or against a particular diagnosis or intended code, which may result in a report of a complication. Still, because of the complexity of clinical decision-making in all but the most straightforward cases, we recommend that a member of the medical staff be designated to provide a higher level of review (in addition to a second level coding review).

Clinical Review Pearl

Is the coded diagnosis correct? Was the coded diagnosis of septic shock really cardiogenic shock? Was it really shock? Was it specifically treated and confirmed or was it just part of a differential diagnosis and later ruled out? Was the deep tissue injury really a venous stasis ulcer? The answer to these questions could determine whether a PSI-13 (see Chap. 19) or PSI-4 (see Chap. 26) is reported.

Physicians chosen for this review role should have a broad and general knowledge of inpatient care, with special emphasis on procedural care, as a large portion of AHRQ PSIs and other complications relate to this aspect of medicine. In addition, the designated physician should have a network of trusted colleagues in various medical and procedural disciplines to call upon for an expert opinion.

Physicians are in a unique position to bring the medical perspective to the table of what otherwise is a fairly rote procedure of dredging the medical record for diagnoses and their attributes. Consider the physician's ability to understand the evolution of disease, the interplay of diagnostic conditions to produce otherwise puzzling symptoms in a patient, and the procedural care provided. Because they bring years of medical training and expertise in practice, members of the medical staff are able to point out relationships between diagnoses (linking them) and identify clinical indicators for diagnostic conditions. They can elucidate the evolution of diagnoses such as stroke or pneumonia, which may not always have declared themselves on admission, and formulate evidence in support of some diagnoses or in favor of their dismissal from a list of differential diagnoses. They may also be able to see if a condition mentioned in the medical record was clinically significant. Alternatively, they may be able to discern if interventions mentioned in the medical record as seemingly addressing the condition were part of an already established treatment and surveillance regimen for another diagnosis, thereby failing the MEAT (monitoring, evaluation, assessment, and treatment) test for the diagnosis in question. In general, a physician reviewer's most valuable contribution will be to ascertain situations, based on clinical indicators in the medical record, where medical judgement is required to arrive at the most accurate diagnosis, and to request a suitable clarifying query. For most medical diagnoses to be codable, evidence in the medical record must show that they meet the MEAT test.

Review Procedure, Rhythm, and Workflow In the first level of review, a performance improvement or quality department coordinator identifies and reviews numerator diagnoses for POA status and assesses the obvious presence of complications. This first level of review can be prompted by using commercially available identifier software programs such as 3M/MModal, Nuance, ChartWise, or others [8]. For cases where no controversy exists, the first-level reviewer enters his or her findings into the team-available software platform and closes the review.

Key Concept
Software programs are essential for efficient and accurate concurrent review; they facilitate the scanning of large numbers of medical records for more accurate documentation and coding opportunities.

Cases of high medical complexity or those with unclear documentation prompt a higher level of review. The performance improvement coordinator may assign a list of remaining cases to concurrent expert specialty physician reviewers (surgical,

infections, cardiology, stroke, etc.). For some complications (e.g., pressure ulcer), an expert allied health or nursing review may also be helpful. Table 7.1 is a tool for such review assignments. The concurrent expert physician reviewer either works from such an assignment tool or from work queues in the EMR. Smaller facilities may be able to accomplish a 100% review procedure by creating swim lanes of names of recently discharged patients to prioritize timely review.

Table 7.1 Form for requesting and recording physician specialty reviewer feedback

Concurrent physician specialty reviewer form				
Assigned to:	Surgical physician reviewer			
Due by:	5/26/19			
MRN				
HAR				
Mortality?	no			
Discharge date	5/24/19			
First surgical or procedure Date	4/10/19		**Recommendations**	
Request to Investigate	**Findings**		**Follow-up: Medical Staff**	**Follow-up: CDI/Coding**
The preliminary coding profile includes postop bleeding, sepsis, and wound dehiscence as complications. Please review for accuracy	*Bleeding occurred during the laparotomy but was inherent in difficult anatomy and cancer spread. Wound intentionally only closed with retention sutures (no dehiscence). Sepsis was present but related to pneumonia that developed on POD5 from aspiration event.*		*Discharge summary states "course complicated by postop sepsis"– educate on meaning of "complicated by" and "postoperative"*	
Hematoma	Assessment	Reasoning		

(continued)

Table 7.1 (continued)

• Was coagulopathy present?	*No*	*No diffuse oozing*		
• Inherent in procedure?	*Yes*	*altered anatomy, tissue planes distorted*	*Reinforce importance of documentation of difficult anatomy and linkage to bleeding if appropriate*	
• Clinically significant?	*Yes*	*required transfusion*		
Wound Dehiscence				
• Inherent in procedure	*Yes*	*wound not closed*	*Reinforce importance of documentation that wound was left open intentionally*	*Review op note for closing technique; look for "retention," "stay" sutures, "wound vac," etc.*
• Clinically significant?	*NA*	*Wound intentionally left open*		
Postop Sepsis (PSI-13)				
• Was sepsis present (vs. infection or bacteremia)? • Was sepsis directly related to surgical procedure?	*Yes* *No*	*per medical staff guideline (SOFA)* *likely from pulmonary aspiration*	*Reinforce importance of documentation* *Linkage of sepsis to the likely causative condition (e.g., pneumonia vs. intestinal spillage)*	

Normal text represents the content of the form when presented to the physician reviewer. The blue italicized text represents the physician reviewer's findings and recommendations

Clinical Review Pearl
Sometimes patients are moved from outpatient to inpatient status; when the QNE occurred during their outpatient procedure, it likely was POA for the inpatient stay.

Reviewing physicians may also look up a patient in the identifier software and review diagnoses for POA status, diagnostic accuracy and specificity, PSIs, hospital-acquired conditions, and other potential complications. The reviewing physician prioritizes review of diagnoses that have a high impact as complications, such as PSIs or other complications prioritized by the organization, such as Vizient complications or subgroupings thereof. Such diagnoses may include respiratory failure, sepsis, hematoma, wound dehiscence, DVT/pulmonary embolism, pneumothorax, line or catheter infection, and device-, infusion-, or transfusion-related complication codes. The physician reviewer completes the assessment and enters the findings into the appropriate form or software tool. The latter often more easily allows multidisciplinary access and sharing among performance improvement, clinical documentation excellence, and coding partners. If the reviewing physician agrees with the coding profile, it is imperative that this be communicated immediately to reduce bill hold times.

It has been our experience that approximately 10–30% of escalated physician reviews yield a disagreement with the proposed or preliminary coding profile. This is similar to error rates previously reported [4]. In case of disagreements over the accuracy of coded diagnoses, physician reviewers need to be explicit about the evidence and the reasons supporting their disagreement and why the issue at hand is important. The supporting clinical indicators should be cited, as well as the reasons for a need for further clarification, pointing out discrepancies in the medical record, lack of provider documentation of a finalized diagnosis when a differential diagnosis is previously mentioned, or clinical impossibilities.

CDI personnel and coders may not always be aware of the intricacies and definitions related to publicly reported quality metrics. When the physician reviewer indicates why it is important to assure maximum accuracy for a coding profile (even if the diagnosis-related group's value may not change), CDI and coding partners feel included and benefit educationally. Our experience is that such case-proximate education and explanation lead to favorable changes in coding practice over time.

7.4 Benefit of Concurrent Review in the Absence of Coding Changes

Even if CQR does not result in any changes to the coding profile, educational opportunities for providers may arise from concurrent physician quality review. We have successfully used this in our group. The reviewing physician communicates any learnings to the treating or discharging clinician as appropriate, indicating findings and a request to consider such information in their documentation of future cases. It

is imperative that such communications are made in a regulatorily compliant manner. No expectation should be created to alter the medical record as a result of the communication, and this should be clearly stated in any communication. The educational message is purely intended to promote future learning; we find that its efficacy is enhanced by taking the opportunity to discuss the learnings using the particular provider's patient in real time to illustrate principles of optimal documentation. Coding professionals have the final responsibility to represent a medical diagnosis compliantly based on the guidelines they are bound by and the potential of a federal audit. When there are irreconcilable disagreements between concurrent reviewers (CDI personnel, coder, quality coordinator, or physician), organizations have set up processes for a fair resolution. At our organization, an appeals process exists to help bring about an appropriate independent review. This process is managed by our corporate compliance department with input from the chief quality officer.

Helpful Exclusion Hint
Consider using physical memory aids (laminated cards) or EMR tools such as exclusion diagnoses added to a specialty preference list.

7.5 Efficiency of Review

One of the most important features of CQR is the ability to identify medical records for review of quality numerator events (QNEs). This means identifying, as early as possible, patient records that may contain codes or combinations of codes that will trigger a QNE. Examples of such QNEs are mortalities, complications, PSI events, and readmissions.

Concurrent reviewers may wish to use branching logic during the review process. Review efficiency will be improved substantially if certain facts are established early during a case review. This will allow the triaging of case reviews when time or personnel are short or other organizational priorities demand greater efficiency. For example, reviewers will find it helpful to identify early on how medical staff responded to a medical record clarification query. Depending on the physician query response, the review procedure may be able to be completed immediately because the definitive documentation was provided in the query. The next place to look for definitive confirmation of a diagnosis should be the patient's discharge summary. This component of the medical record is often viewed as providing the final and confirmed view of the patient's diagnoses as they became clear during the hospital course.

Efficiency Pearl
When a provider responds unequivocally to a medical record query – such as affirming that the enterotomy was a complication of the procedure – concurrent review for this QNE can be stopped.

Table 7.2 A checklist to enhance performance reliability in concurrent quality review

☐ Establish POA status. Recognize the timing of admit orders and the possibility of delayed admit orders due to prolonged preceding emergency department or observation stay.
☐ Establish that the diagnosis truly existed. Assure it was ruled in among multiple diagnostic possibilities. If mentioned only once or in isolation, did the attending physician or surgeon appear to agree with it in their notes? Was this mentioned in the discharge summary?
☐ Confirm clinical significance. Was it an incidental finding not relevant to the patient's care or hospital stay? Check if MEAT criteria are met. Did a plan for treatment or diagnostic evaluation change as a result of knowledge of the diagnosis? Were significant resources devoted to the condition?
☐ For complication diagnoses, is there a clear link to the procedure or treatment modality or did the condition arise concurrently vs. being causally linked to treatment?
☐ Were all applicable exclusion diagnoses represented on the coding profile? If not coded, determine what clinical indicators exist to justify inclusion or query for their existence.
☐ For complication conditions that are linked to timing of surgery or procedures, assure the correct date and time are used.
☐ For complication diagnoses that are linked to the patient's admission type (elective, urgent, emergent), assure that this field is correctly represented.
☐ For complication diagnoses that are linked to point of origin (such as home, another hospital, long-term acute care, and nursing home), assure that the field indicating this information is correctly represented.

Commercially available software and in-house-developed adaptive software can be used to identify QNEs as soon as they are documented, put into a preliminary coding profile, or included in the final coding profile. This should ideally be done while the patient is still hospitalized and definitely prior to external code submission (for billing). It is imperative to examine commercially available software packages for their ability to identify the QNEs of interest to one's organization, as well as their currency with ever-changing definitions from public rating agencies. Because the volume of QNEs can be high (at the authors' 600 bed tertiary/quaternary medical center, the QNEs screened by commercial and internal software range between 60 and 100 weekly), adaptive software should be configured to identify QNEs efficiently. Efficiency in this context means that coding profiles can be batch entered into the software, and well-organized tabular output is available to reviewers in real time. Output should specify the type of QNE and the conditions that triggered its identification. For learning purposes, it is also helpful to be able to query the software for occasional cases that appear to qualify as a QNE from independent clinical review but are not triggered in the software. Finally, a checklist approach to concurrent review has been helpful to guide systematic review (see Table 7.2).

7.6 Metrics of Success

The resources devoted to a well-functioning CQR procedure are not inconsequential. Just like any other part of a health-care system's business, concurrent review must function with accountability for success. Leaders will want to assure that

certain performance metrics are established to identify performance gaps and promote continued value generation.

CQR performance metrics should address effectiveness, efficiency, timeliness, and regulatory compliance. Effectiveness is perhaps the most difficult metric to establish. We suggest tracking the number or percentage of cases reviewed that result in improved accuracy of coding. Our own experience has taught us that early on during the establishment of collaborative CQR the fraction of cases that resulted in coding changes was higher, approximately 30–35%. As team function matured and cross-disciplinary learning took place, this fraction reduced to 10–30%. Beyond tabulating cases with coding changes as a result of CQR, teams can also assess the completeness of review, expressed as the percentage of QNE cases identified that were reviewed by a member of the quality team. Finally, teams can review the organizational performance in PSI rates or risk-adjusted complication rates.

Efficiency of review is gauged by the team's ability to review with the least downtime and overall cost to the organization. One way to express this is by using a capacity utilization measure. For example, if the team's capacity to review is 50 cases per week, the metric to be watched is the speed with which QNEs are made available to the review team. The metric can be expressed as the difference in the number of QNEs made available daily for review minus the team's daily review capacity. By monitoring this metric, we were able to identify deterioration in efficiency both toward the end of the month and at the beginning of the month. Toward the month's end, the number of QNEs that populated our work queues exceeded our review capacity, while at the beginning of the month, the opposite was true. A redistribution of workflow by our clinical documentation and coding specialists increased review efficiency by enhancing the level loading of CQR resources. Another aspect of review efficiency relates to the relative use of first- and higher-level review resources. The fraction of cases that are sent for higher-level or physician review may be a useful gauge of trends. Another aspect of team efficiency is the degree to which a higher-level or physician review results in coding changes. If the review process is done correctly, expenditure of physician time should generally result in acceptance of suggestions to improve coding accuracy. Periodic audits of all cases in which a physician reviewer determined an opportunity for greater accuracy in coding or documentation should be undertaken. Such processes will help the team understand the degree to which coders are taking insights for concurrent review into consideration in their final coding procedure. It should also help team leaders understand where additional provider, CDI, and coding education efforts should be directed.

Timeliness of review is monitored through feedback of the time allotted for review against actual performance. Another measure is the billed dollar value of the work queue for review. Transparency around timeliness and bill hold dollars allows for mutual appreciation of the impact of bill holding for review. Some organizations set a threshold for action once the bill hold amount exceeds a certain amount. At that point, additional review resources may need to be mobilized to mitigate the impact of quality review on the revenue cycle.

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