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A Systematic Approach to Clinical Peer Review in a Critical Access Hospital

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Purpose: Clinical provider peer review (CPPR) is a process for evaluating a patient's experience in encounters of care. It is part of ongoing professional practice evaluation and focused professional practice evaluation—important contributors to provider credentialing and privileging. Critical access hospitals are hindered in CPPR by having a limited number of providers, shortages of staff resources, and relationships among staff members that make unbiased review difficult. Small departments within larger institutions may face similar challenges. **Methods:** A CPPR process created at Mayo Clinic Health System is described. It involved a case review questionnaire built on the Institute of Medicine "Six Aims for Changing the Health Care System," a standardized intervention algorithm and tracking tool. **Outcomes:** During 2007 through 2014, a total of 994 cases were reviewed; 31% led to provider dialog and education or intervention. Findings were applied to core measure processes with success rate going from 87% to 97%. Changes were adopted in end-of-life care, contributing to a 50% reduction in all-cause mortality rate. **Conclusions:** Providing peer review tools to a critical access hospital can keep peer review within a group with knowledge of the individual provider's practice and can make process improvement the everyday work of those involved.

Key words: clinical peer review, critical access hospital, degrees of harm, peer review tools

Clinical provider peer review (CPPR) is a process focused on the patient's experience in care encounters over time, evaluating the quality of care as provided by individual practitioners and supported by the organization.[1] CPPR is a basic component of a hospital's quality improvement program and is mandated by governmental regulatory and accreditation agencies. Participants are protected by federal law (1986 US Health Care Quality Improvement Act), and findings are shielded from legal discovery in many jurisdictions.[2]

CPPR may be triggered by various events, commonly adverse outcomes. An identified case is evaluated by a person or group of persons on the basis of the documentation in the electronic health record. At the review's culmination, a recommendation is made to the organization's process of ongoing professional practice evaluation and focused professional practice evaluation to either continue or alter the practice of an individual provider.

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The *critical access hospital* (CAH) designation was established by the US Congress in 1997. The CAH is often the only provider of emergency and inpatient care in rural communities and remote areas of the United States. Because of their small size and rural locations, CAHs have a shortage of providers who can perform patient care, with a greater shortage of providers who can review care already completed. CAH providers often have a close working relationship, share call responsibilities, and even share a business practice. Workforce shortages are present in many departments, whereas department quality assurance staff have multiple CAH roles and have limited time available to support a strong review process.

Some CAHs choose to contract with a larger affiliated hospital or an unaffiliated organization for CPPR. This arrangement provides various benefits: an unbiased outsider's view of the care rendered, knowledge of regional and national care standards, the opportunity for CAH staff to learn from other health care professionals, specialty support in areas where the CAH may have few providers, and a tracking and reporting system. Outsourcing of CPPR also has drawbacks: Providers in the organization do not have the opportunity to educate and mentor one another on the basis of actual clinical cases, and no opportunity is present for provider reviewers to learn what their colleagues and patients experience through the review process. In addition, information not found in the electronic health record[3] will not be known by an outside reviewer but may be known by a reviewer within the organization.

The Joint Commission (2007) has outlined several requirements in the area of ongoing professional practice evaluation and focused professional practice evaluation.[4] Coyne and Fields[5] stated that in focused professional practice evaluation, "The performance

monitoring process must be clearly defined and include each of the following elements:

- Criteria for conducting performance monitoring
- Method for establishing a monitoring plan specific to the requested privilege
- Method for determining the duration of performance monitoring, and
- Circumstances under which monitoring by an external source is required."

These criteria were successfully met at Mayo Clinic Health System (MCHS)–Red Cedar in Menomonie (MCHS-RC), Menomonie, Wisconsin, in a Joint Commission survey in 2010. MCHS, a part of Mayo Clinic, is an integrated network of hospitals and clinics serving 64 communities across southern Minnesota, western Wisconsin, and northern Iowa.[6] Among the 18 MCHS hospitals, 12 are CAHs. The institution serves approximately 40 000 people in and around rural Menomonie. It is 1 of only 16 CAHs to be recognized as a top-100 CAH in the United States for 5 consecutive years and was named 1 of the top 20 CAHs in 2014.[7]

The majority of the medical staff of MCHS-RC is its 38 employed physicians. In addition, care is provided by nurse practitioners, physician assistants, and certified registered nurse anesthetists. Several independent physicians within the MCHS-RC service area have privileges to practice at MCHS-RC. Provider governance is provided by a 3-member medical executive committee (MEC) elected by the medical staff to 3-year terms. The MEC appoints physician chairs of several quality care committees. The administrative vice chief medical officer and the site medical director are appointed positions. Fully one third of the entire medical staff may hold a quality care committee leadership position in the organization at any given time.

Programs were developed in the 1960s and 1970s to audit medical care for the purpose of cost containment. Quality assurance programs based on concepts from other industries became common. These programs focused on identifying defects but not on improving the processes that led to those defects.[8] At that time, MCHS-RC was an independent nonprofit hospital with no affiliations and had only 1 trigger for CPPR: inpatient death. This trigger initiated a basic process. A reviewer was chosen at random during the monthly medical staff meeting and was provided a paper copy of the inpatient medical record for that hospital stay only. The reviewer then determined that the care was either acceptable or unacceptable. The result was recorded and placed in the attending provider's credentialing file.

In the 1990s and 2000s, *quality assurance* evolved into *quality improvement*. More than a change in semantics, the new paradigm allowed for opportunities to improve care in the future on the basis of the experiences of the past.

METHODS

The current CPPR process of MCHS-RC began in 2007. A multidisciplinary case review team (CRT) manages the process and meets weekly for 1 hour, ensuring that reviews are completed in a timely manner and according to a defined process. CRT members facilitate a culture of safety through approachable behaviors and communication with persons and teams in a safe learning environment. The CRT includes a vice chief medical officer, a medical director, a quality nurse specialist, a registered nurse supervisor, and a director of quality. The members of the CRT support and supervise providers and allied health professionals and are accountable for quality and safety in the organization.

Provider training in the CPPR process occurs primarily on a "just-in-time" basis: When a case is assigned for a provider new to the system, a CRT member meets individually with the provider or providers to review the process. When a first case review is completed, or for cases with opportunity for improvement, a physician member of the CRT meets with the reviewed provider to discuss the findings and plan. The focus of the training and follow-up is on the organization's culture of safety and protection of patients and providers. These one-on-one conversations promote trust in the process and trust in the organization.

Key elements for success

Case review with CPPR is triggered when a case meets certain indicators identified in the documentation and coding processes. The MCHS-RC quality care committees define the triggers. Random CPPRs are completed when no triggers are identified for a provider during the provider's credentialing reappointment cycle.

All reviewers and committees in the organization use a standard case review questionnaire[9] based on the framework of the Institute of Medicine "Six Aims for Changing the Health Care System" (Appendix). The 12 review questions are grouped into 5 areas: evaluation, intervention, documentation, teamwork, and patient centeredness. Each question references its corresponding Institute of Medicine aim, with possible descriptors of safe, timely, patient-centered, efficient, effective, and equitable. The questionnaire is scored from 0 to 3 in each of these categories. An unscored question addresses the identified system issues.[10] A perfect score in each area indicates that no concerning factors were found. A score of 1 is given when a single issue of concern is found; 2 for 2 or 3 issues; and 3 for a greater number of issues. The highest scores of the categories are added to create a review score.

To report the degree of harm from the patients' perspective, the Agency for Healthcare Research and Quality (AHRQ) developed its Common Format Harm Scale.[11] In the MCHS-RC review process, each event is assigned to a degree-of-harm category by the CRT.[12] The categories are (1) no error, no harm; (2) error, no harm; (3) error with harm; and (4) error with patient death.

All events evaluated through the CPPR process are tracked in a database. Trends are established with the number of events attributable to a particular provider or work area. Each reviewed event is assigned an intervention algorithm (Figure 1). The algorithm is modeled after a failure mode effect analysis, where

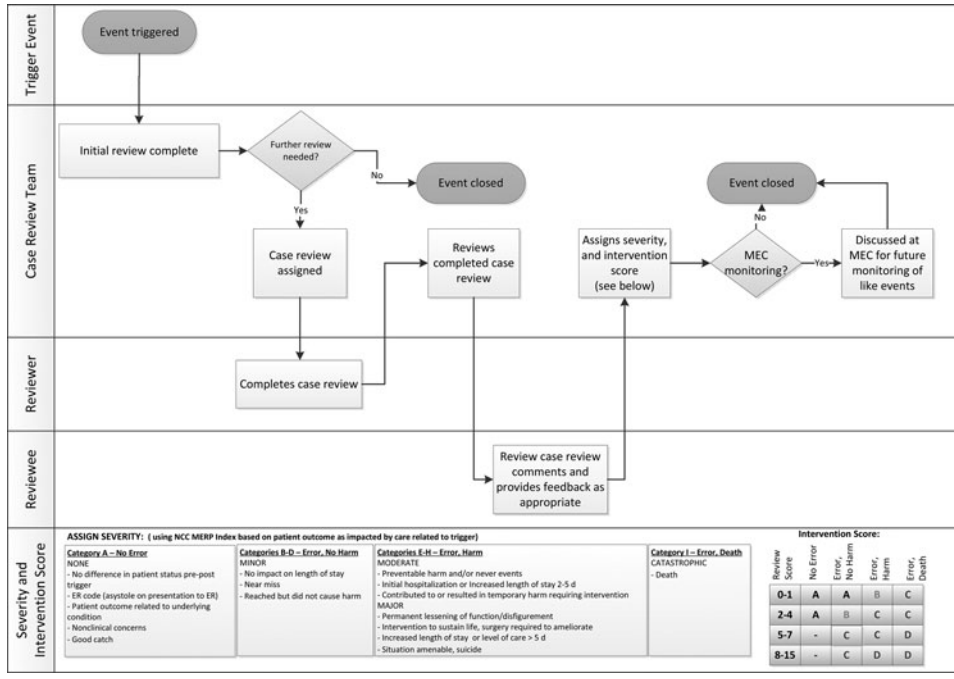

Figure 1. Provider case review flowchart. ER indicates emergency department; MEC, medical executive committee; NCCMERP, National Coordinating Council for Medication Error Reporting and Prevention.

the probability of an event and the magnitude of its implications inform a decision about intervention.[13] For each case reviewed, the scores from the review questionnaire, the degree of harm evaluation, and the number of similar events are combined to determine the appropriate intervention.

The database of previous events and outcomes provides a resource of precedent that guides the CRT in the processing of new cases.

Steps in CPPR

1. The trigger is noted and the case is presented to the CRT.
2. The CRT determines a review assignment. The case may be assigned to (1) the CRT itself (eg, brief emergency department care for a prehospital death, a blood usage trigger, or an adverse drug reaction), (2) an individual provider reviewer for an in-depth review, or (3) a medical staff quality care committee, where input from several providers is indicated, which typically is the committee that created the event-related trigger.
3. A review questionnaire is sent out. When completed, the questionnaire is returned to the CRT for review and scoring. The CRT determines whether any errors in judgment occurred in care and assigns the degree of harm.
4. The review questionnaire is sent to the providers involved in care for their information and for comments when there are findings.
5. The CRT considers the review providers' input and adjusts the degree of harm assignment when information not previously evident has been provided. The review score is recalculated. Interrater reliability is assessed comparing review with previous similar cases and multiple reviews of a single case in situations with harm.
6. The CRT makes a recommendation for intervention to the MEC on the basis of the algorithm (Table). Referral to risk management may occur at any step.

Possible outcomes of the CPPR process range from *no intervention, file in provider's credentialing file*, to interventions such as proctoring, required education, MEC oversight of ongoing care, removal of a privilege, or even removal from the medical staff.

OUTCOMES

From 2007 through 2014, our institution evaluated 994 cases through the CPPR process. Of these cases, 396 (40%) were reviewed in the CRT and did not require further review, 258 (26%) were assigned to an individual provider reviewer, and 340 (34%) went to a quality care committee. Scores ranged from 0 to 11, of a maximum possible score of 15. A score of 0 to 1 correlated to 70%; 2 to 4, 27%; 5 to 7, 2%; and 8 or more, 1%.

Interventions recommended to the MEC as a result of the CPPR process were categorized into (1) requires no intervention (69%), (2) requires provider feedback (26%), (3) requires MEC tracking of ongoing cases (5%), and (4) requires proctoring (0.1%). Most cases required no further action and the provider was made aware of the outcome. Where present, exemplary care was noted. One quarter of cases resulted in the provider needing to respond to the CRT about the

Table. Intervention Assignment Algorithm

Intervention Score	Sent to Reappointment File	Provider Feedback Required	MEC Report	MEC Monitoring	Proctor Procedures	Report to Risk Management	Outside Review
A	Yes	No[a]	No	No	No	No	No
B	Yes	Yes	No[b]	Yes	No	No	No
C	Yes	Yes	Yes	Quarterly × 1 y	MEC determined	Yes	No
D	Yes	Yes	Yes	Monthly × 2 y	Recommended	Yes	Yes

Abbreviation: MEC, medical executive committee.
[a]Memo with comments sent; no feedback required.
[b]Refer to MEC when 3 or more similar cases within 2 years.

review outcome—for instance, noting that they had experienced learning or had changed their practice.

In 5% of cases, the review resulted in the MEC monitoring of the provider's practice, evaluating all cases of a similar nature (eg, all cesarean sections reviewed for a specified period). Only 1 case resulted in the creation of a proctoring program. In all cases, the CRT ensured institutional learning where possible.

An example of a positive organizational outcome is a reduction in all-cause mortality rate. All inpatient deaths are entered into the CPPR process. In 2007 through 2008, it was common practice for a patient to present for end-of-life care and be admitted. The score of many of these cases meant that provider feedback was required, and grand rounds were performed regarding end-of-life care. Palliative care services were developed and were used more frequently, and terminally ill patients were cared for in a more appropriate setting. In 2008 through 2015, the number of inpatient deaths decreased by 50% (Figure 2). Improvement was seen in core measures and blood utilization review, which were other key areas of CPPR work (Figure 3).

CONCLUSION

CPPR is a regulatory requirement that can be used to promote practice improvement[14] and enhance the safety of patients. Although the CPPR process is valuable to underresourced CAHs, the structured approach of this review strategy may have broader appeal to larger hospitals as they control costs and standardize practices in a culture that is safe for patients and

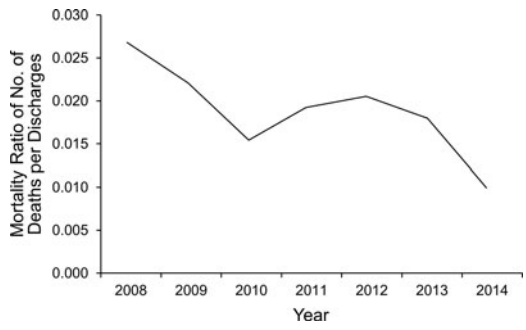

Figure 2. Inpatient mortality ratios, 2008 to 2014.

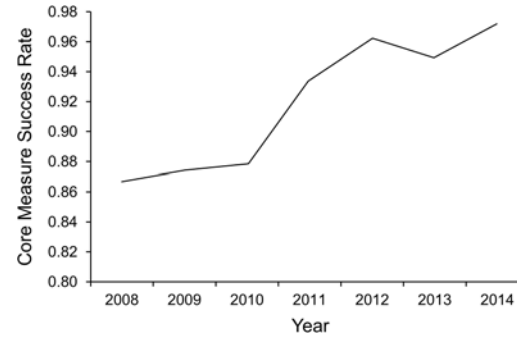

Figure 3. Core measure success rate, 2008 to 2014.

providers. A CAH faces the challenge of limited provider resources and close provider and staff relationships. Similar challenges may be present within subunits of larger institutions. The level of trust developed through personal communication with colleagues can promote dialogue to improve care. Small groups of persons with similar goals and values are effective in changing practice and behavior.[15] Our experience indicates that the CAH setting is ideal for the formation of a CRT that has strong relationships and commitments to quality, safety, learning, and improvement.

Lack of standardization of the CPPR process puts hospitals at risk for allegations of abuse.[14] Many hospitals have introduced policies that outline a systematic process for clinical peer review involving training, structured assessments, and interrater assessment.[16]

Use of a systematic CPPR process involving standard tools and an algorithm for interpretation of results takes the onus off an individual reviewer and places the responsibility for action on the organization and the reviewed provider. The message for provider reviewers is, "Don't worry about the outcome for your colleague; you are not deciding your colleague's fate. Simply tell us what you find in the chart." Because all providers on staff have been both the reviewer and the provider reviewed, they fully understand that the process is fair, reliable, and nonpunitive. In fact, the name of the second largest category of review, termed *quality issue referred*, is used when a staff member or staff provider involved in care asks for CPPR to occur on 1 of the staff person's own cases. From 2009 through 2014, we have

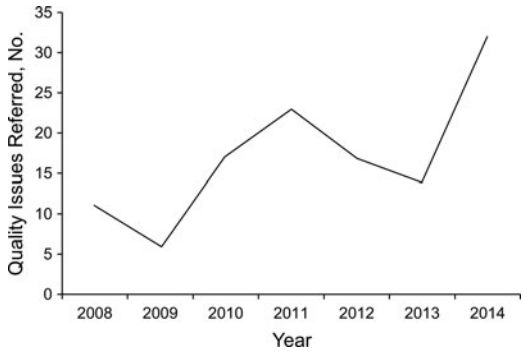

Figure 4. Provider self-referred cases, 2008 to 2014.

seen an increase in the number of providers requesting CPPR—from 6 in 2009 to 32 in 2014—and indicative of a safe culture (Figure 4).

Our CPPR process is methodical, in which a scoring and intervention system creates unbiased quantifiable data that are tracked over time. Previously, our organization might have had a "hunch" that a provider was struggling with an issue. Now, the MCHS-RC process provides numerical data with which to make decisions about helping the provider to improve care. The AHRQ Common Format Harm Scale provides updated guidance as AHRQ research establishes criteria and develops recommendations for intervention in other areas of patient safety.

Tracking the frequency with which an issue arises is another key component of the system. A safety or quality issue may not be noticed when case review repeatedly shows no area of concern (eg, repeated neonatal transfers that, when viewed individually, are deemed appropriate care but when viewed in aggregate suggest a problem of process, equipment, and group practice). Even where case outcomes are extreme (eg, patient death), a review process that does not connect multiple cases together may miss a crucial pattern (eg, an "angel of death" employee). The MCHS-RC process quickly looks for intervention for more egregious issues, but even subtle problems are noticed when they occur repeatedly.

Our CPPR process is improvable. The list of triggers has evolved over time, going from greater than 100 to less than 50. Triggers were retired that were no longer useful because either they never occurred or they never resulted in action.

The review questionnaire has undergone minimal change over time and is a key strength of the program. Many CPPR processes solicit a summary of a case, what the reviewer thought went wrong, and occasionally what went well. They may ask for an opinion about system-related problems that contributed to the defect. The MCHS-RC questionnaire asks for quantifiable accounting of process breakdowns that are critical to quality. The questionnaire focuses on proven areas where intervention is possible—in safety, timeliness, patient-centeredness, efficiency, effectiveness, and equity.

The scoring system also has evolved, reflecting a continuous-improvement environment. Feedback was received from the MEC regarding the recommended interventions, based on the review score and harm assignment.

Our CPPR process is reproducible. MCHS-RC allows member hospitals to use local resources in a way that best meets the needs of the local patient population. The process for case review is not prescribed by the larger entity; instead, each MCHS site creates its own process. Successful ideas spread though MCHS organically as they are deemed worthy. MCHS sites other than MCHS-RC have used some of our tools and methods but did not have the appropriate staff to create a CRT. An opportunity exists for the MCHS-RC process to be used in other CAHs that have the necessary organizational commitment.

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Appendix. Standard Questionnaire for Clinical Peer Review. (Used with permission of Mayo Foundation for Medical Education and Research.)

STANDARD PEER EVALUATION FORM

The following discussion was undertaken pursuant to this Committees Peer Review and Quality Assurance Policy. It is intended that these materials and future discussion (and any other record of an investigation, inquiry, proceeding or conclusion by these Committees) will be privileged to the fullest extent under Wisconsin Statute Sections 146.37 and 146.38, any amendments thereto, and all applicable federal laws.

Reason for review:_____.

Explanation is required for all entries other than "Clearly appropriate" including N/A.

DIAGNOSTICS:

DG1. Considering the reason for review, were there other diagnostics that could have been considered or other interpretation of diagnostics that were important? (safe, effective*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

DG2. Were there excessive diagnostics ordered? (efficient, equitable)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

TREATMENT/INTERVENTIONS: (Include Failure to Rescue in your consideration)

TR1. Considering the reason for review were there instances when treatments/interventions were delayed? (timely*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

TR2. Were there instances when treatments/interventions occurred prematurely? (timely*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

TR3. Is there an indication that treatments/interventions performed used improper techniques, were unnecessary or were lacking? (Please take into consideration the reason for review, and the use of palliative care or SCU, or lack thereof) (safe, effective*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

DOCUMENTATION:

DC1. Is there evidence that documentation of the provider's treatments and findings were inadequate? (safe, effective*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

TEAMWORK/COMMUNICATION:

TW1. Does the record demonstrate any discrepancies in documentation by various care team members? (safe, effective*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

TW2. Does the record demonstrate any discrepancies or a lack of communication by/between various team members? (safe, effective*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

PATIENT-CENTEREDNESS:

PT1. At any point does the provider demonstrate a lack of patient centered care? (patient-centered*)

Clearly appropriate 1 instance 2 or 3 instances More than 3 instances NA

Explain_____

SYSTEM ISSUES:

S1. Does there appear to be any system or processes in place that would have prevented the reason for review that weren't' followed?

Yes No NA (explain if "yes")_____

S2. Does there appear to be any system or process issues that need to be created or re-evaluated based on your review?

Yes No NA (explain if "yes")_____

Describe where the care was exemplary or problems were corrected by providers before becoming an issue:

_____

Is there anything else we should know about this case review?

_____

Reviewer Signature_____ Date_____

Reverse side may be used for additional comments. Please return completed evaluation form to Quality Resources.

***The Institute of Medicine's "Six Aims" for healthcare improvement include safe, timely, efficient, effective, equitable and patient-centered care.**