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University of Colorado Hospital – Department of Medicine
Morbidity and Mortality Conference

Name_____ PGY____ Date_____

Topic Presented_____ Speakers_____

Case Presentation

As the case unfolds, please use the timeline below to highlight critical events over the course of the patient's care. Consider adding these key events:

- ✓ Sentinel event (Adverse event, AE)
- ✓ Key preceding events

Modified Root Cause Analysis

Using the modified fishbone below, please consider which factors may have contributed to the AE.

Discussion and reflection

Please answer all questions.

1. Was there a medical error in the adverse event that occurred in today's discussion? Was that error preventable?
2. What were the health system forces that contributed to the error? How can those systems be changed to prevent a similar adverse event from occurring in the future?
3. Was there a cognitive error that contributed to the error? How would you address the cognitive error?
4. Please recommend one course of action that our institution can take to prevent an event like this in the future. Who else should be involved in this process? What would be the role of the residents and students?
5. Which of these competencies do you feel were addressed in today's conference?

Medical Knowledge

Patient Care

Interpersonal Communication

Professionalism

Systems-Based Practice

Practice-based Learning and Improvement

Systems and Quality M&M Toolkit

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Introduction

Morbidity and Mortality (M&M) conference is a traditional component of physician peer review, dating back millennia. Unlike typical case conferences, M&M participants analyze a case with an adverse outcome to identify contributing factors. This process allows M&M participants to learn from the case and work to prevent future harm to patients. Therefore, M&M sits at the intersection of performance improvement, medical education, and peer review activities.

The Department of Medicine (DOM) at the University of Colorado School of Medicine undertook an initiative to redesign M&M conferences across the DOM to meet the changing needs of our patients, trainees, and clinical partners.

Philosophy of Redesigned M&M

We intentionally de-emphasized the approach of seeking rare diseases, diagnostic dilemmas, and therapeutic debates. Instead, we chose to refocus the content of M&M to emphasize the relationships between patient harm, cognitive error and systems of care. Furthermore, we wanted to make transparent the process through which sentinel events are reviewed and ultimately can lead to improvements that will provide higher quality care to patients. Lastly, we wanted to foster a culture of collaboration among our interprofessional clinical partners and hospital leadership.

Ideally, M&M does not exist independently of a robust reporting and/or peer review mechanism which brings cases to light. Additionally, M&M findings should lead to performance improvement activities that are executed by the appropriate stakeholders.

Rational for the Toolkit

M&M conference requires a distinct approach from that of other case conferences. Our experience is that the conference itself takes significant preparation and skill with facilitation. As such, we developed these materials to guide M&M facilitators.

Preparation Guide for the Conference

Because of the distinct approach, M&M conference preparation takes a significant amount of work and time commitment. In our experience, preparation should begin 4 weeks before the presentation.

1. Logistical Considerations:

- Determine time, duration, and interval of conference
 - Ex: 1st Friday of each month from 12 pm to 1 pm
- Target audience: Students? Residents? Fellows? Faculty? Staff?
- Location: will depend on expected audience; it is useful to have access to both projection and a white board
- Key Faculty and staff
 - Case presenter: will present the clinical case and help facilitate general questions about the events (our CMR was the case presenter for all cases)
 - Faculty QI Discussant: will facilitate systems, quality, and safety discussion after case presentation; ideal faculty discussant should be an experienced facilitator and will have understanding of QI and PS fundamentals
 - Please refer to **Overview of QI/PS Curriculum**
 - Administrator: prepare handouts, slides, space arrangements, take attendance, collect handouts, and other logistical considerations

2. Suggested Timeline

1 Month prior	3 weeks prior	2 weeks prior	1 week prior	Day of M&M	Post Conference
Choose the Case	Prepare the case	Prepare teaching points	Final prep and polish	Bring materials	Debrief and documentation

Each step in case preparation is discussed below.

3. Choosing the Case (1 month prior)

This case sets the stage and tone for the conference. Because the focus of the conference is on the intersection between patient harm, systems of care, and cognitive errors, it relies on the discussion of a case that includes an **ADVERSE EVENT**. Ideally, the case should involve the trainees in order to make the situations more applicable.

Note that an adverse event need not have resulted from medical error. However, cases with preventable adverse events do lend themselves to discussion of systems issues.

Consider these points:

Traditional M&M Cases	Systems-Focused M&M Cases
The rare, missed diagnosis	Common diagnoses, but systems error
"Complex patient"	"Complex systems"
Final pathology/diagnosis required	Final diagnosis less important
Cases can be identified by experts, chief residents	Cases can be found through peer review, incident reports, mortality reports, chief residents, or self report

4. Preparing the Case (3 weeks prior)

- Identify the case presenter (a provider, often a resident or fellow) who will help prepare and present the case.
- The case presenter and the faculty QI discussant will research the case by reviewing the EMR and also eliciting feedback and memories of the people

involved. (residents, fellows, attendings, nursing, pharmacy, other care providers or hospital staff). This will help establish the timeline of the case.

- Compile the components of the case that will be presented
 - Patient age, gender and relevant PMH
 - Physical exam
 - Brief HPI
 - Timeline of events leading up to adverse event
 - Populate Powerpoint slide template
- **Choose only a short window of time around the adverse event of interest.** The case presentation needs to be brief to allow time for discussion.
- Advise fellows and colleagues of your division about the date and time of your presentation. Invite them to attend.
- Always invite:
 - Core faculty for your unit/service/division/department
 - Fellows/residents/students in your unit/service/division/department
 - Nursing staff
 - Pharmacy staff
 - Risk management
 - Clinical quality improvement specialist
- Invite depending on the case:
 - Expert physicians from relevant
 - Other allied health providers
 - Other hospital staff (case management, etc)

Ideally the entire team of providers would be present for the discussion, but if the providers who cared for the patient can't attend, representatives of the same professional groups should be present. (i.e. if the patient's nurse can't make it, a nurse manager would still be able to provide the nursing perspective of the care).

5. Case review and teaching points

- Review prepared case, perform a preliminary analysis (using cognitive-systems fishbone diagram or other tool) and decide upon the teaching points that will be emphasized during the conference
- Consider 1-2 medical knowledge teaching points, consider making one of them a discussion of the adverse event itself.(e.g. diagnosis and recognition of vanco-induced nephrotoxicity). A good resource for this is AHRQ M and M (<http://webmm.ahrq.gov/>). Identify a discussant(s) with relevant expertise to

Speak to these teaching points. Provide them with the specific question prior to the meeting and ask them to limit their comments to 1-2 minutes.

- Consider 1-2 systems and cognitive factors teaching points. These may include introduction of a term or an analytic tool. Review longitudinal QI curriculum for ideas (**Overview of QIPS Curriculum**)
- Faculty QI facilitator and Case presenter should be involved in conference preparation. Both/all should be well-versed with the case and the teaching points.

6. Final preparation and polish

- Rehearse presentation with discussants and presenters.
- Revise final details of presentation.
- Get materials printed/emailed for conference.
- Consider designating someone to take notes

The Conference

After all of that preparation, the conference is here. Room layout is important as attendees will need to see both the screen and the whiteboard.

The conference has 4 distinct parts:

1. Introduction (5 minutes)

The introduction is used to set the stage for the conference. It is useful to introduce the goals of the conference, the guiding principles (respect, transparency, identification of systems issues), and the privileged nature of the discussion and materials. We often use this time to provide updates of the progress on the action items identified in the prior conferences.

2. Case presentation and clinical pearls (15 min)

Unlike the typical case conference, the presentation of the case serves to set the stage for analysis and discussion and is not the point of the conference itself. It

needs to be brief and focused. It can be helpful to present 1-2 brief clinical pearls, so as not to ignore important teaching opportunities.

3. Case analysis (30 min)

This is the central part of the conference and should take the form of a group discussion with participating by all attendees, particularly the trainees. The case analysis proceeds in 3 parts:

- a. identification of the adverse event
- b. brainstorm contributing factors
- c. organize contributing factors using the analytic tool.

4. Development of action items and conclusions (10 min)

The last section of the conference should be devoted to summarizing the discussion and developing action items which might help to mitigate similar events in the future.

Tips for a Successful Conference

- Mind the time!
 - With only 1 hour per conference, we frequently run out of time to complete the systems-based discussion and reach a discussion about ways to improve.
 - Effective facilitation and directing speakers to relevant topics is key to managing the time.
- The PowerPoint slides were most useful for the Case Presentation.
 - Most of the discussion utilized a white board to illustrate key points and to walk the audience through the analytic tool.
- The patient case is presented concisely because its role is to bring systems errors to light, but is critical for reminding people that improving patient care is the goal of the conference.
 - Circling back to the patient case near the end of the conference to helps the audience connect the facilitated discussion back to a patient.
- Invite input from trainees specifically.
 - Trainees can feel embarrassed or shy to speak up in the traditional format of M&M, as they are not the “experts” in the room.
 - In a Systems-based M&M, trainees tend to be frontline and therefore the “experts” about the system and its pitfalls.
- Emphasize that the conference, as part of an organized peer review process, is a “SAFE” environment for discussion and that discourse is considered

“Privileged” and is not discoverable in the State of Colorado. (statutes will vary from state to state)

In addition to the PowerPoint Presentation Template which will help you introduce the conference, present the case data, and introduce discussion points, we recommend the use of any of the following materials during the conference:

5. Agenda

- Provides a brief overview of the case and outlines the major teaching points for the conference
- Details on how time during the conference can/should be allocated for different parts of the conference
- The second page of our agenda was utilized to provide a glossary of terms for the audience. We generally assumed that the majority of trainees in the audience would be unfamiliar with vocabulary related to quality improvement, patient safety and systems-based practice.

6. Resident Reflection Sheet

- The Resident Reflection sheet allowed us to capture the trainees’ ideas and learning throughout the conference. We asked them to utilize the timeline and

fishbone diagram to promote engagement during the conference as well as to provide some teaching.

- We incorporated the most appropriate “tool” for the case in each month’s Resident Reflection sheet (see below for explanation of the tools).
- We collected the reflection sheets at the end of each conference in order to document each resident’s participation and learning.

7. Analytic Tools

- Modified Fishbone Diagram (based on the Ishikawa Diagram, aka Cause-and-Effect Diagram)
 - Fishbone diagrams can be utilized to conduct a Root Cause Analysis.
 - We modified the traditional fishbone diagram, which focuses mainly on systems factors that contribute to the adverse event to include “Cognitive Errors.”
- Vanderbilt Matrix
 - Examines an episode of care in a framework which demonstrates the interaction between ACGME’s Core Competencies and the Institute of Medicine’s (IOM) six Aims for Improvement.
 - Allows a trainee to reflect on whether or not the patient care provided aligns with the IOM’s Aims, and walks them through the Core Competencies to help them consider why Aims were not met.
 - The last 2 competencies of Practice-Based Learning and Improvement and Systems-Based Practice allow the trainee to consider ways in which the deficits in patient care could be addressed.
- Five Whys
 - Directs the trainees to seek out reasons for why a problem exists.
 - Promotes investigative thinking into complex systems and helps deepen the understanding of previously “hidden” factors.

Post-Conference

1. Structured Debrief

- After each conference, the Case Presenter, Faculty QI Discussant, and the members of the M&M Conference Sub-Committee along with the Vice-Chair of Quality would meet to debrief the conference.
- Topics for discussion include:
 - Content Debrief
 - What were the conclusions of the discussion?
 - What did the audience identify as a priority for improvement?
 - Who would be the right stakeholders from the department and hospital to involve in addressing the area(s) of improvement?
 - Who is responsible for the above action items
 - Process Debrief
 - Audience response
 - Success of facilitation; Areas for improvement
 - Was the topic/case appropriate in scope for the conference?
 - Structure and timing of the conference
 - Making the next conference better

2. Documentation

- Case Review Reporting: A designated faculty member is tasked with recording the details of the event on the DOM case review form (which had been revised to reflect the systems approach to case review). The data are entered into a HIPAA compliant database, as well submitted to risk management. The database allows for the generation of annual summaries for monitoring and reporting activities.
- Documentation of Learning: Each attendee is asked to sign in upon entry to the conference. Trainees are also asked to submit a Reflection Sheet at the close of the conference. The Reflection sheet helps trainees document achievement of key elements of ACGME's Core Competencies for Systems-based Practice and Practice-Based Learning. The case reporting, attendance sheets, and Reflection sheets allow us to provide documentation of learning to the GME office as program requirements dictate.

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