INNOVATIONS IN EDUCATION

Morbidity and Mortality Conference, Grand Rounds, and the ACGME's Core Competencies

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Morbidity and Mortality (M&M) Conferences are an Accreditation Council for Graduate Medical Education (ACGME) mandated educational series that occur regularly at all institutions that have residency training programs. The potential for learning from medical errors, complications, and unanticipated outcomes is immense—provided that the focus is on education, as opposed to culpability. The education innovation described in this manuscript is the manner in which we have used the ACGME Outcome Project's 6 core competencies as the structure upon which the cases discussed at our M&M conference are framed. When presented at grand rounds in a novel format, M&M conference has not only maintained support for the quality improvement efforts in the Department, but has served to improve the educational impact of the conference.

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Morbidity and mortality (M&M) conferences are considered to be powerful opportunities for learning and reflection. Traditionally, the goal of M&M conferences is to provide a forum for faculty and trainees to explore the management details of particular cases wherein morbidity or mortality occurred.[1–6] In carefully reviewing the records and specifics of care, a primary goal of these sessions is to revisit errors to gain insight without blame or derision. In 1983, the Accreditation Council for Graduate Medical Education (ACGME) required all training programs to institute regular M&M conferences.[7–8]

Sixteen years later, in 1999, the ACGME endorsed a program intended to ensure that residents are developing into competent physicians and professionals.[9] This initiative, "The ACGME Outcome Project," stresses the value of assessing the outcomes of residency education across 6 general competencies—patient care, medical knowledge, practice-based learning and improvement (PBLI), interpersonal and communication skills, professionalism, and systems-based practice (SBP). Methods to teach these competencies have proven to be challenging for medical educators.[10,11] One pragmatic approach for teaching house officers about the ACGME core competencies is to integrate them explicitly into existing curricular forums. One such curricular forum is grand rounds, whose primary goals have been noted to include education and role modeling life-long learning for physicians.[12]

This paper will describe the way in which we have incorporated the M&M conference into the grand rounds schedule and use this seminar to teach about the 6 competencies.

DESCRIPTION

Seizing the Opportunity

At Johns Hopkins Bayview Medical Center, a decision was made in 2002 to move the M&M conference to the Department of Medicine's most prominent and well-attended educational venue, grand rounds. In moving M&M, a message was sent about how highly the Department's leadership valued this conference. This conference was similar in format to more traditional M&Ms until the authors recognized that linking M&M conferences with the ACGME's core competencies could more effectively delineate the teaching points related to each case.

Educational Strategy

We have redesigned our M&M conference to highlight explicitly all 6 of the ACGME core competencies. In addition to teaching traditional case-based *medical knowledge* and *patient care*, attendees are stimulated to reflect on details of systems failures, where the essence of *systems-based practice* and *practice-based learning* are captured. We ask involved faculty to detail the *communication* between the team, patients, and families, highlighting positive and negative verbal and written examples. We draw attention to acts of *professionalism* in the face of untoward events, publicly complimenting faculty and trainees whenever possible.

Logistics

1. The 1-hour long conference is held 4 to 6 times each year. The Deputy Director for Clinical Activity (S.J.K), a faculty member with oversight for quality, safety, and efficiency of the Department's clinical practice, identifies and prepares the cases and moderates the conference with the intention of fostering high-quality discussions. The Deputy Director reviews mortalities and solicits suggestions for cases from risk and quality management, as well as nurses, faculty, and house staff.

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2. Faculty members involved in the care of the patients discussed, as well as those with special expertise in specific content areas, are contacted in advance and asked to prepare comments. Faculty members have universally embraced the experience and none refused to participate.
3. House staff are not expected to present or answer questions related to errors or untoward events. However, voluntary house staff participation at the M&M conference is common and welcomed. The Deputy Director carefully moderates this portion of the discussion to avoid any insinuation of blame or implication of personal failure.
4. We invite members of the greater health care team (e.g., nurses, rehabilitation therapists, pharmacists, risk managers, and hospital administrators) to participate. This emphasizes a systems perspective and fosters a multidisciplinary collaborative approach toward safety and quality improvement.
5. We explicitly highlight how each case relates to the core competencies. A mix of cases is chosen so each of the core competencies is emphasized at every conference at least once. In actuality, the core competencies overlap substantially. For example, effective communication is an integral part of professionalism. Nonetheless, the moderator labels the relationship of the cases and ACGME competencies as precisely as possible.

Examples of M&M Cases

Patient Care. The following case was presented because of the message that it conveys about the delivery of high-quality, safe patient care.

An 80-year-old female with multiple chronic illnesses was admitted with suspected GI bleeding and a worsening microcytic anemia. She was transfused aggressively despite stable vital signs precipitating congestive heart failure (CHF). She also developed hypernatremia secondary to a large amount of osmotic laxatives during the bowel prep. Geriatricians, hematologists, cardiologists, and gastroenterologists led the discussions about the standard of care for such patients with a focus on preventing iatrogenic complications.

Medical Knowledge. Some cases, like the one below, are presented with the purpose of imparting medical knowledge to those in attendance.

A 54-year-old woman developed necrotizing fasciitis in the setting of hidradenitis suppurativa. A pathologist discussed the pathophysiology of these processes. A critical care physician then presented a clinical review of necrotizing fasciitis, stressing the importance of rapid recognition and immediate aggressive therapy.

Practice-based Learning and Improvement. This competency involves having physicians investigate and evaluate their own patient care practices, assimilate scientific evidence, and reflect upon ways to improve their performance.

Three elderly patients were presented who had been readmitted with CHF within 30 days of discharge with the same diagnosis. Data were presented about our institution's length of stay and readmission rates for patients with CHF over the 2 prior years. A facilitated discussion transpired about the factors that contribute to readmission in this population. The Department's Hospitalists who had participated in a root cause analysis of this problem then shared their thoughts and perspectives. A re-engineered discharge instruction sheet and new order sets were designed as a consequence of the discussion.

Interpersonal and Communication Skills. The case that follows was presented because of the lessons that relate to interpersonal and communication skills.

A 72-year-old male with numerous cardiac risk factors was admitted with atrial fibrillation and a rapid ventricular response. He failed chemical cardioversion and died after electrical cardioversion induced a nonsustainable rhythm. There was excellent preprocedure communication of risks with the patient and family. The transmission of the unfortunate outcome was delivered to the family in a sensitive and empathetic manner. The chart noted the family's appreciation of the team's efforts and communication, and house staff familiar with the case shared their positive impression of the faculty's communication. Faculty involved in the patient's care discussed the case and were publicly commended on their verbal and written communication skills. This example was chosen to emphasize that good communication can result in a "better" death.

Professionalism. Examples of professionalism, particularly in the face of morbidity and mortality, can serve as wonderful opportunities for teaching by example or role modeling.

A 57-year-old female was sent to the hospital for admission by her primary care doctor for chest pain. The patient ruled out for myocardial infarction and was discharged. She died of an MI several days later. The abnormal electrocardiogram (EKG) from the PMD's office was not available to the inpatient team, thus lowering their suspicion for coronary artery disease. The faculty member who cared for the patient shared her experience of learning of the patient's death. She also commented on the subsequent peer review. This faculty member exemplified professionalism in her public discussion by sharing a very personal experience. She modeled empathy, respect, compassion, and integrity.

Systems-based Practice. The elements of the cases presented at the M&M conferences that explicitly depict the larger context and system of health care are discussed routinely.

The case of a young woman hospitalized on our medical floor was presented because she had been given 25 mg of olanzepine instead of 2.5 mg, owing to a mixup of the brand names Zoloft and Zyprexa. Multiple systems issues were discussed at the conference: (1) the rationale for using generic names, (2) creating a culture of safety, and (3) our obligation to report medication errors so that others can learn from these mistakes. We also stressed the importance of collaborative efforts involving nursing, physicians, and the pharmacy for safety and quality improvement initiatives in this realm.

Evaluation

Evaluation of the impact and effects of this innovation are ongoing. Preliminary results from surveying the attendees suggest that the conference, with its emphasis on the ACGME's competencies, is well received.

More meaningful data that support the impact of this innovation are evident from the policy changes that have come

about following discussions about specific cases. Often, the changes were achieved as part of a Departmental "Clinical Practice Committee." Suggestions and ideas from the M&M conferences have stimulated operational process redesign. Select examples include the following:

1. *New Policy on Emergency Department Consultation of Cardiology or Pulmonary Medicine:* A policy was drafted with input from key stakeholders. This policy outlines the expectations for responding to consult and admission requests from the emergency department (both in terms of timing and specifics). It is sent to all on-service faculty and fellows every month with the rationale as to why this policy is critical to the institution's commitment to high-quality patient care.
2. *Revision of an Electronic SignOut System:* We re-engineered the electronic signout system so that house staff would be able to create comprehensive, standardized signouts. The nurses were given access to the database, thereby enabling them to correctly identify and page the responsible house-officer at all times.
3. *Revision of Telemetry Protocol:* We revised our policies and procedures for telemetry in order to better manage this limited resource. This amendment has successfully reduced the amount of time we have to hold patients in the Emergency Department owing to the lack of telemetry.

CONCLUSION

The ACGME's "Outcome Project" competencies and the M&M conference are a good fit. Combining these 2 ACGME mandates and integrating them into our prominent, well-attended Departmental grand rounds have been successful in highlighting the importance of the competencies. Although we maintained the traditional goal of M&M, providing a forum for discussing cases, the competencies have added meaning and structure to this discussion. The M&M model described in this paper may be beneficial to institutions where the educational value of the M&M conference is suboptimal,[8,13–15] and for residency programs that are struggling to operationalize the competencies in a meaningful way.

Spreading the M&M conferences throughout the grand rounds schedule has added diversity in topic and teaching methods compared with some of the other traditional presentations. One recently published paper that studied the state of medical ground rounds by surveying Department of Medicine chairmen found that the top 2 objectives of grand rounds were to educate attendees about clinical topics and have faculty serve as role models for the importance of lifelong learning.[12] Our M&M conferences accomplish these objectives. The faculty members participating in our M&M grand rounds have truly been exemplary role models of humility, empathy, humanism, and professionalism. Their public sharing of medical errors, mishaps, and unexpected outcomes along with their commentaries of how the cases have affected them professionally and personally serve as wonderful opportunities for learning and reflection. Further, welcoming all clinicians and health team members has generated broad attendance and helped to foster a culture of teamwork, collaboration, and safety.

Several limitations and barriers to implementing this innovative conference should be considered. First, coordination of this conference takes substantial time and energy. Second, as this conference primarily models the ACGME's core competencies, it should be characterized as a passive, versus active, learning experience. In our program, there are many opportunities for active house staff learning about the competencies in smaller and safer environments, including a house staff M&M morning report. Third, we cannot evaluate residents' competency based on their attendance at these conferences. However, we do believe that these sessions heighten the awareness and remind residents and faculty to consider and discuss the competencies in the context of their teaching and patient care. Finally, this conference will almost certainly expose weakness within any system that will require fixing and attention. Procedures need to be in place (e.g., a Deputy Director of Clinical Activity or Clinical Practice Committee) to ensure that suggested changes are carefully thought about and made, when appropriate. In looking for innovative ways to educate residents and faculty about the ACGME Outcome Project's 6 competencies, the newly formatted M&M conference integrated into our Departmental grand rounds has been a success.

Dr. Wright is an Arnold P. Gold Foundation Associate Professor of Medicine.

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