

Implementation and Evaluation of a Multidisciplinary Systems-Focused Internal Medicine Morbidity and Mortality Conference

JED D. GONZALO, MD, MSc
GREGORY M. BUMP, MD
GRACE C. HUANG, MD
SHOSHANA J. HERZIG, MD, MPH

Abstract

Background Morbidity and mortality (M&M) conferences provide a forum for discussing adverse events and systems-based practice (SBP) issues; however, few models for implementing multidisciplinary, systems-focused M&M conferences exist.

Objective To implement a new systems-focused M&M conference and evaluate success in focusing on adverse events and systems issues in a nonpunitive, multidisciplinary manner.

Methods We implemented a new M&M conference into our large university-based internal medicine residency program. Using content analysis, we qualitatively analyzed audio recordings of M&M conferences from the first year of implementation (2010–2011) to determine the frequency of adverse events (injury resulting from medical care), SBP discussion, and allocation of blame. Multidisciplinary attendance was evaluated by attendance logs. Surveys assessed change in interns' perceptions of M&M conferences before and after the conference series (measured by median Likert-

scale response) and trainee/faculty attitudes regarding the goal of M&M conferences.

Results There were 226 attendees (66 faculty, 160 residents/fellows) at 9 M&M conferences. Average attendance per conference was 71, with representation from 16 disciplines. All M&M conferences (100%) included adverse events, SBP discussion, and lacked explicit individual blame. Interns' perceptions improved, including their belief that the M&M conference's purpose is systems improvement (4.35 versus 4.71, $P = .02$) and complications are discussed without blame (3.81 versus 4.34, $P = .01$). After experiencing M&M conferences, trainees/faculty reported favorable ratings, including beliefs that the M&M conference is important for education (97%) and the purpose is systems improvement (95%).

Conclusions The implementation of a new systems-focused M&M conference resulted in a conference series focusing on adverse events and associated system issues in a nonpunitive, multidisciplinary context.

At the time of the study, **Jed D. Gonzalo, MD, MSc**, was General Internal Medicine Medical Education Fellow and Clinical Fellow in Medicine, University of Pittsburgh School of Medicine, Chief Medicine Resident, Beth Israel Deaconess Medical Center, and Clinical Fellow in Medicine, Harvard Medical School, and is now Assistant Professor of Medicine and Public Health Sciences and Assistant Dean for Health Systems Education, Pennsylvania State University College of Medicine; **Gregory M. Bump, MD**, is Associate Professor of Medicine, University of Pittsburgh School of Medicine and University of Pittsburgh Medical Center; **Grace C. Huang, MD**, is Associate Professor of Medicine, Harvard Medical School and Director of Assessment, Carl J. Shapiro Institute for Education and Research, Beth Israel Deaconess Medical Center; and **Shoshana J. Herzig, MD, MPH**, is Instructor in Medicine, Harvard Medical School and Beth Israel Deaconess Medical Center.

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Corresponding author: Jed D. Gonzalo, MD, MSc, Division of General Internal Medicine, Penn State Hershey Medical Center-HO34, 500 University Drive, Hershey, PA 17033; 717.531.8161; jgonzalo@hmc.psu.edu

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Editor's Note: The online version of this article contains a figure depicting an example internal medicine morbidity and mortality conference case.

Introduction

The morbidity and mortality (M&M) conference has been an integral component of residency education for nearly a century.^{1–3} Over time, M&M conferences increasingly focused on physicians' reflections on how care was delivered, often in a punitive environment.^{4–6} More than a decade ago, the Accreditation Council for Graduate Medical Education (ACGME) and Institute of Medicine (IOM) recommended increased focus on systems-based practice (SBP), suggesting that trainees “demonstrate an awareness of and responsiveness to the larger context and systems of health care” and use health care system resources to improve the quality and safety of patient care.^{7–9} Because the M&M conference provides a forum for

discussing adverse events, this conference has been identified as a venue to promote education in SBP.^{10,11}

Despite the ACGME and IOM recommendations, the discussion of adverse events, medical errors, or SBP in M&M conferences has remained infrequent.^{10,12} In a multicenter analysis of M&M conferences, fewer than 40% of internal medicine M&M conferences included an adverse event.¹² Since the ACGME recommendations, several studies report that M&M conferences can be used to identify adverse outcomes and initiate system changes.^{13–15} However, only 2 articles^{16,17} have described the steps taken to design and implement a multidisciplinary M&M conference with a focus on SBP (hereafter referred to as a “systems-focused” M&M conference), and these works presented only general guidelines for the process or targeted use in underserved countries. Furthermore, while trainee and faculty perceptions and attitudes toward M&M conferences have been evaluated before the ACGME and IOM recommendations, they have not been evaluated in the context of systems-focused M&M conferences.^{18,19}

In a prior study, we describe the well-integrated systems-focused M&M conference at the Beth Israel Deaconess Medical Center (BIDMC) residency program.¹⁰ Using it as a model, we established a new multidisciplinary, systems-focused M&M conference at the University of Pittsburgh Medical Center (UPMC), a large academic medical center without a preexisting M&M conference. In this article, we describe the steps taken to implement the conference. We evaluated the frequency of adverse events, SBP discussion, allocation of blame, multidisciplinary attendance, and the change in interns’ perceptions after experiencing 1 year of M&M conferences. Following implementation of the systems-focused M&M conference, we additionally assessed trainee and faculty attitudes and perceptions regarding this conference series.

Methods

UPMC is a large academic, tertiary care center with numerous ACGME-accredited training programs, including an internal medicine residency program with 156 residents. In 2009, deficiencies in resident perceptions of patient safety culture were identified, including communication openness, teamwork, handoffs, and frequency of adverse events reported.²⁰ To advance resident and faculty education in SBP and initiate improvements in the patient safety culture, a planning committee was formed to implement a new M&M conference. The committee, consisting of curriculum committee leaders, residency program directors, a faculty member (G.M.B.) with training in quality improvement, and a medical education fellow (J.D.G.), was charged with the goal of fostering a

What was known
Morbidity and mortality (M&M) conferences aim to identify and address causes of adverse events, but often do not use a multidisciplinary, systems-focused approach.
What is new
A new M&M conference model facilitates multidisciplinary discussions of adverse events and systems-based practice implications in an environment free of individual blame.
Limitations
Single-institution study limits generalizability; effective implementation of a systems-focused M&M conference requires resources and expertise.
Bottom line
A systems-focused M&M conference was successful in promoting multidisciplinary participation, presenting adverse events, and highlighting and discussing systems issues in a nonpunitive manner.

safer health care system by increasing SBP discussion surrounding adverse events. The specific aims were to develop an M&M conference that (1) included adverse events, medical errors, or near misses; (2) was multidisciplinary; (3) had a strong SBP focus; (4) was free of individual blame; and (5) balanced medical and SBP learning objectives. TABLE 1 and the following sections describe approaches taken to achieve these aims, strategies used to overcome challenges, and metrics used to measure success.

Conference Design and Format

The BIDMC’s internal medicine M&M conference is a well-established conference focusing on SBP issues. In prior work,¹⁰ we describe the prevalence of SBP discussion and the M&M conference’s integration within the hospital’s quality improvement processes. A videotaped BIDMC M&M conference was approved by the BIDMC Institutional Review Board for out-of-hospital review in the UPMC planning process. Two investigators (J.D.G., G.M.B.) reviewed the M&M conference and schematized the content and organization (provided as online supplemental material), attempting to identify the key structural aspects contributing to the conference’s success. Based on this review, several aspects of the conference were agreed upon and are shown in the BOX.

After developing this template, the required resources and strategies for implementation were identified (TABLE 1). The conference design was discussed with divisional leadership and approved to replace nine 1-hour noon conferences during the academic year. To encourage faculty involvement, the conference series was approved for continuing medical education (CME) credit at no financial cost. A medicine faculty member (G.M.B.) was provided 0.1 full-time equivalent to prepare, moderate, and lead the M&M conference series. The assistance of 1 administrative

BOX ORGANIZATION OF THE SYSTEMS-FOCUSED MORBIDITY AND MORTALITY CONFERENCE

1. Cases would be presented in a timeline format, including patient presentation, hospital course, and patient outcome by a preselected resident who read PowerPoint slides which were created with the conference moderator.
2. At the start of each conference, the audience would be informed about the confidentiality of case information, and all identifying patient information would not be included in the presentation.
3. Three to 5 discussants from varied disciplines (eg, nursing, pharmacy, administration) would be invited.
4. Each discussant would be asked 2 to 4 moderator-prepared questions that balanced medical knowledge and systems-based practice.
5. A total of 30 to 35 PowerPoint slides would be used in each conference.
6. Audience participation would be encouraged by moderator-prepared questions directed to the audience.
7. The conference would incorporate approximately 15 minutes for audience-generated discussion of possible system improvements.
8. The conference would close with prescribed learning points and ad hoc learning points generated during the discussion.

assistant was required for e-mail notifications/invitations, recording attendance, etc, which required an estimated 2 hours per conference.

Evaluative Measures

We developed several measures to evaluate whether we met our goals to develop a multidisciplinary, nonpunitive systems-focused M&M conference (TABLE 1).

Adverse Events, SBP Discussion, and Allocation of Blame

The primary evaluative measures were the extent to which adverse events, SBP discussion, and allocation of blame were present in the 9 M&M conferences presented during the academic year. Each conference was video-recorded and independently analyzed by 2 investigators (G.M.B., J.D.G.). With the use of methods from our prior study,¹⁰ all statements made during the conference by the moderator, discussants, and audience were categorized as either comments or questions and then as systems focused or nonsystems focused. Two investigators independently

TABLE 1 RESOURCES AND STRATEGIES FOR PREPARING A MULTIDISCIPLINARY SYSTEMS-FOCUSED MORBIDITY AND MORTALITY CONFERENCE

Objectives	Approaches	Challenges	Strategies	Metrics for Success
Identify cases including an adverse event, medical error, or "near miss"	Use incident reporting system, patient safety/risk management meetings Communicate with health care quality department, residents, providers	Classification of event may be difficult to ascertain by cursory case review Performing in-depth case analysis requires time/skill	Begin planning 3 or more weeks in advance Provide conference "champion" with protected time to coordinate conferences/cases	Number of cases that included adverse events, medical errors, near misses
Identify systems failures or vulnerabilities	Planning committee reviews cases of an adverse event, medical error, or near miss to identify possible systems failures or issues	Some cases are more related to individual provider judgment than to systems failures	Planning committee preferentially chooses cases with systems failures rather than provider error	Number/type of SBP issues discussed at each conference
Encourage a nonpunitive, blame-free environment	Use nonjudgmental and objective language in PowerPoint slides and questions to consultants Ensure conference is "peer-protected" and emphasizes SBP issues and solutions	Audience members may seek to allocate blame	Draft questions 1 week in advance; review with planning committee/discussants to assure nonjudgmental language and focus on SBP	End-of-year survey to all participants assessing degree of blame
Balance medical and SBP learning objectives	Include prescribed questions related to patient care and medical knowledge in addition to SBP questions	With multiple levels of learners (students to faculty), objectives may not match all learners	Use questions of varying complexity throughout conference	End-of-year survey regarding educational value
Provide multidisciplinary learning environment	Invite discussants from various disciplines to participate Explain goals to attendees before and at the start of each conference	Providers directly involved in the patient care event may be apprehensive to attend or participate	Inform all discussants about the goals/objectives of conference Share PowerPoint slides with discussants 1 week in advance	Total attendance from different divisions and departments for each conference

Abbreviation: SBP, systems-based practice.

assessed if any blame was ascribed during each M&M conference (none, “implicit” if blame suggested but individual not identified, “explicit” if specific individual blamed). Additionally, 2 investigators independently documented whether the M&M conference involved an adverse event. Interrater reliability was determined for each endpoint.

Total Attendance, Multidisciplinary Participation, and Interns’ Perceptions

We recorded the attendance at each M&M conference via electronic card swipe and tracked the specialties/disciplines of the discussants. To determine interns’ perceptions before and after experiencing the M&M conference, we developed and administered an electronic survey in August 2010 (preimplementation) and May 2011 (postimplementation). Survey items included perceptions of the purpose of M&M conferences, attitudes regarding SBP issues, and transparency of adverse event reporting. Respondents rated their agreement by using a Likert scale (strong disagreement to strong agreement).

Resident and Faculty Perceptions of Systems-Focused M&M Conferences

One year after implementation of the new M&M conference, we administered a cross-sectional survey (similar items on interns’ perceptions survey) to all trainees and faculty who attended at least 1 M&M conference throughout the year, with the intent of assessing overall perceptions of the new conference series. The surveys were pilot tested before dissemination (but no validity evidence was obtained) and managed through SurveyMonkey (www.surveymonkey.com).

The Institutional Review Board deemed the project as quality improvement and exempt from further review.

Statistical Analysis

We analyzed data by using Stata version 8 (StataCorp LP, College Station, TX). We calculated weighted and unweighted Cohen κ to assess interrater reliability in evaluating the presence of SBP content and allocation of blame, respectively. We used the Wilcoxon rank-sum test to compare interns’ Likert scale responses before and after M&M conference implementation. For the analysis of perceptions of the multidisciplinary, systems-focused M&M conferences, we dichotomized Likert scale responses and reported the percentage “somewhat” or “strongly” agreeing with each statement, stratified by level of training (trainees and faculty).

Results

Adverse Events, SBP Discussion, and Allocation of Blame

We analyzed all 9 M&M conferences presented during the 2010–2011 academic year. All 9 cases presented an adverse

event and included SBP topics, with 6 of 9 cases resulting in system-wide changes (TABLE 2). The percentage of questions asked by the moderator and audience relating to SBP issues was 58% and 74%, respectively. The percentage of comments stated by the moderator and audience members relating to SBP issues was 87% and 80%, respectively. Interrater reliability among the 2 reviewers for the distinction of SBP from non-SBP content was high ($\kappa = 0.81$). Reviewers determined that explicit blame of an individual occurred in 0 of 9 M&M conferences, while implicit blame occurred in 3 of 9 M&M conferences (33%, $\kappa = 1.0$).

Total Attendance and Multidisciplinary Participation at M&M Conferences

The average total attendance for each of the 9 M&M conferences was 71 individuals (46 students/residents and fellows and 25 faculty/staff). A broad range of specialties was represented by the discussants, spanning 16 disciplines/specialties. The most commonly represented specialties of discussants were nursing (7), general internal medicine (5), surgery (5), pulmonary/critical care (4), cardiology (2), pharmacy (2), pathology (2), and radiology (2).

Interns’ Pre-M&M and Post-M&M Conference Assessment

Sixty-four percent (43 of 67) completed the preacademic year assessment survey and 56 (84%) completed the postacademic year assessment survey (TABLE 3). Compared to the preacademic year assessment, on the postacademic year survey, interns felt more strongly that the purpose of an M&M conference was to improve hospital systems (4.35 versus 4.71, $P = .02$); complications and deaths were discussed objectively without blame (3.81 versus 4.34, $P = .01$); they were more able to identify systems failures (3.70 versus 4.04, $P = .01$); and faculty discussants provided good role models for dealing with medical errors (3.91 versus 4.43, $P = .001$). Additionally, significantly fewer interns felt that identifying systems failures is solely the task of quality improvement/patient safety personnel (4.02 versus 3.64, $P = .05$).

Faculty and Trainee Perceptions of Systems-Focused M&M Conferences

The end-of-year survey produced 166 responses from 226 invitations (73% response rate; 46 of 66 faculty and 120 of 160 residents/fellows; TABLE 4). Most respondents “somewhat” or “strongly” agreed that the purpose of the M&M conference is to improve hospital systems (95%), discussion of complications or adverse events at M&M conferences are without “blame” (93%), the M&M conference is important for their education (97%) and leads to a better understanding of SBP (88%), and the M&M conference is effective at improving patient safety and reducing errors (87%). Eighty-six percent of

TABLE 2 INTERNAL MEDICINE MORBIDITY AND MORTALITY CONFERENCE TOPICS, SYSTEMS ISSUES DISCUSSED, AND HOSPITAL IMPROVEMENTS OCCURRING AS A RESULT OF CASE PRESENTATIONS IN 2010–2011 AT THE UNIVERSITY OF PITTSBURGH MEDICAL CENTER

Conference	Adverse Event	Description of Adverse Event	Systems Issues Discussed	Systems Improvements Made Following Conference
1	Yes	Arterial placement of central venous line	■ Policy on sitters and restraints ■ Policy and procedures for arterial cannulation during central venous line placement ■ Team handoffs ■ Format of electronic health record consult notes	Restructuring of electronic health record consult note format
2	Yes	Delayed diagnosis of postoperative bleeding	■ Outside hospital transfer policies ■ Process of obtaining hospital autopsies	...
3	Yes	Postdischarge pulmonary embolism	■ Online order entry ■ Guidelines for deep venous thrombosis prophylaxis	...
4	Yes	DKA diagnosis with delay in insulin treatment	■ Protocols for laboratory draws ■ Sign-out processes for medical residents staff ■ Insulin order sets ■ Medicine resident staffing on wards ■ Role of hospital phlebotomy teams	Computerized order entry order set modification to improve the transition from intravenous insulin to subcutaneous insulin for the management of DKA
5	Yes	Perforation of upper airway during NGT placement	■ Utilization of NGT service on medicine wards ■ Institutional training of providers in NGT placement	...
6	Yes	Delay in treatment of pulmonary embolism	■ Institutional policy/treatment guidelines of submassive pulmonary embolism ■ Policy for moonlighting trainees to discuss cases with attending faculty members	Developed protocol for the initial treatment and evaluation of patients with submassive pulmonary embolus (intensive care unit transfer, bedside echocardiogram, with possible vascular surgery consult if right ventricular strain)
7	Yes	Delay in diagnostic testing of bowel perforation	■ Handoff protocol between hospitals during transfers ■ Process of radiology to internal medicine floor transfers	Developed novel workflow for patient transport between internal medicine and radiology in the off-hours (automatic involvement of the administrator on duty and intensive care unit nurses in times of low staffing)
8	Yes	Thoracentesis performed on incorrect side	■ Policies for bedside procedures in internal medicine department ■ Institutional policy for procedure “time-outs” ■ Education of residents and nursing on protocols	Redesign of hospital procedure kits
9	Yes	Immunosuppressive medication overdose causing iatrogenic pancytopenia	■ Medication reconciliation procedures on inpatient wards ■ Institutional policies for error disclosure to families/patients	Modified electronic order entry system to highlight discrepancies between home medications and medications ordered at admission to reduce medication reconciliation errors

Abbreviations: DKA, delayed diabetic ketoacidosis; NGT, nasogastric tube.

respondents “somewhat” or “strongly” agreed they would refer a case involving an adverse event to be discussed at the M&M conference.

Discussion

Using a well-established M&M conference as a model, we implemented a multidisciplinary, systems-focused M&M conference at a large academic medical center with a focus on adverse events and improving the health care system rather than assigning individual blame. This M&M

conference model is among the first published since the ACGME and IOM recommendations for educational reform in SBP. To our knowledge, this is the first assessment of trainee and faculty perceptions regarding systems-focused M&M conferences. Our successful implementation highlights strategies in adapting such conferences more widely.

Several elements of the implementation process were crucial in achieving our objectives. First, we systematically identified and documented our program’s deficiencies and need for a change in systems-focused education.²⁰ Secondly,

TABLE 3 INTERNS' PERCEPTIONS BEFORE AND AFTER 1 YEAR OF SYSTEMS-FOCUSED INTERNAL MEDICINE MORBIDITY AND MORTALITY (M&M) CONFERENCES IN 2010–2011 AT THE UNIVERSITY OF PITTSBURGH MEDICAL CENTER^{a,b}			
Characteristics	Pre (n = 43)	Post (n = 56)	P Value ^c
Female, No. (%)	20 (47)	25 (45)	...
Attended an M&M conference in the past, No. (%)			
Yes, in internal medicine setting	18 (42)	...	...
Yes, in non-internal medicine setting	28 (65)	...	...
No	5 (12)	...	...
Category ^d	Mean (SD)	Mean (SD)	
The purpose of an M&M conference is to identify mistakes made by the physician(s) in a given clinical scenario	3.60 (1.00)	3.50 (1.21)	.80
The purpose of an M&M conference is to improve the systems of the hospital	4.35 (0.97)	4.71 (0.68)	.02
In medicine M&M conferences, complications/deaths are discussed objectively without blame	3.81 (1.14)	4.34 (0.94)	.01
Faculty discussants at medicine M&M conferences provide good role models for dealing with medical errors	3.91 (0.81)	4.43 (0.60)	.001
Residents, nurses, attending physicians, others are blamed for poor outcomes at M&M conference	2.30 (1.08)	2.13 (1.10)	.38
A medicine M&M conference is important for my education	4.47 (0.67)	4.77 (0.43)	.01
If involved with a case involving an adverse event, I would be willing to refer the case to be discussed at the M&M conference	3.91 (1.02)	4.05 (0.96)	.48
Identifying systems failures is the task of quality improvement/patient safety personnel	4.02 (0.91)	3.64 (1.00)	.05
I am able to identify the systems failures associated with an adverse event	3.70 (0.67)	4.04 (0.57)	.01
I play a pivotal role in identifying systems failures in the hospital	3.56 (1.05)	3.64 (0.98)	.75
Learning about systems-based issues is important for my education	4.40 (0.79)	4.45 (0.66)	.95

^a Not all respondents answered every question. The maximum number of missing data points per question was 2.
^b Blank cells indicate no applicable data.
^c The Wilcoxon rank-sum test was used to compare median Likert scale responses on preperception and postperception data.
^d Values are means for Likert scale responses, which were reported on a scale of 1 (strong disagreement) to 5 (strong agreement).

we relied on an M&M conference model that had already demonstrated significant inclusion of SBP principles and adapted it to our environment.¹⁰ Additionally, at the outset of our planning process, we identified goals that informed our educational strategies, anticipated challenges, and strategies to overcome those challenges. While these elements contributed to successful implementation, the full impact of a systems-focused M&M conference on the patient safety culture would have been limited without multidisciplinary involvement. The literature includes many descriptions of how departmentalized work silos prevent communication in shared systems and impact the quality of care delivered.^{21–26} By inviting discussants from multiple specialties, providing CME credit, and assuring a blame-free environment, we facilitated and achieved

multidisciplinary participation in our M&M conference. Ultimately, a multidisciplinary approach promotes a positive safety climate that results in improved hospital performance.²⁷

Faculty members were active participants in our M&M conferences, contributing significantly to the educational value of the conferences for both faculty and trainees. Although trainees' knowledge and skill development in SBP rely largely on teachers' skills sets, many academic faculty physicians were not trained in an educational system that highlighted SBP, which has limited the ability to propagate these important principles to trainees.^{22,28–30} Targeting an audience of not just trainees but also faculty allowed us to address documented difficulties in teaching SBP for CME.^{31,32} The discussion-based approach of M&M

TABLE 4

TRAINEE AND FACULTY CHARACTERISTICS AND PERCEPTIONS OF 2010–2011 MEDICINE MORBIDITY AND MORTALITY (M&M) CONFERENCES AT THE UNIVERSITY OF PITTSBURGH MEDICAL CENTER^a

Characteristics	Total (n = 166)	Trainee (n = 120)	Faculty ^b (n = 46)
Female, No. (%) ^c	77 (46)	49 (41)	28 (61)
Category, Somewhat or Strongly Agree	No. (%)	No. (%)	No. (%)
The purpose of an M&M conference is to identify mistakes made by the physician(s) in a given scenario	85 (51)	71 (59)	14 (30)
The purpose of an M&M conference is to improve the systems of the hospital	158 (95)	115 (97)	43 (93)
In medicine M&M conferences, complications and deaths are discussed objectively without blame	154 (93)	111 (93)	43 (93)
Faculty discussants at M&M conferences provide good role models for dealing with medical errors	156 (94)	114 (95)	42 (91)
Residents, nurses, attending physicians, or others are blamed for poor outcomes at medicine M&M conferences	14 (8)	12 (10)	2 (4)
A medicine M&M conference is important for my education	161 (97)	118 (98)	43 (93)
If involved with a case involving an adverse event, I would be willing to refer the case to be discussed at the M&M conference	143 (86)	101 (84)	42 (91)
As a result of experiencing the medicine M&M conference(s), I better understand systems issues as they are related to adverse events and medical errors	146 (88)	103 (86)	43 (93)
The medicine M&M conference is effective at improving patient safety and reducing errors in our hospital	144 (87)	105 (88)	39 (85)

^a Not all respondents answered every question. The maximum number of missing data points per question was 4.

^b Faculty is any individual attending a conference who was not identified as a medical resident/fellow or medical student.

^c Three respondents did not answer the sex of participant question.

conferences is also consistent with recommendations that CME on SBP topics be delivered in an interactive format.³³

Our approach builds on other M&M conference models that include SBP principles, including one that incorporated the ACGME competencies, another that focused on quality improvement in a developing nation, and another that incorporated root cause analyses into the M&M conferences.^{15–17} All resulted in an increased emphasis on systems failures and interventions. However, these models were not designed to explicitly address a culture of individual blame that can arise when adverse events are scrutinized. We directly measured SBP content in our conferences and evaluated our ability to focus on systems improvement rather than individual blame by assessing the participants' perceptions of the tone of these conferences. To our knowledge, this study is the first to describe a model for implementing a systems-focused M&M conference and verify the prevalence of SBP content and absence of explicit individual blame.

The implementation of a new M&M conference depends on numerous factors. As with any initiative, buy-in

from key leadership was crucial in promoting active participation by faculty and specialty discussants. We increased attendance by providing CME credit. We recognized that although financial costs were minimal, preparation time was significant and had to be considered in the moderator's job description. We did not record moderator preparation time but estimate this to be at least 10 hours per conference, with special attention paid to the crafting language to ensure subsequent discussion of patient events was free of blame. Also, finding appropriate cases that contain systems failures is integral to conference success, as is expertise in identifying and implementing possible system-based solutions. The challenges we encountered in fulfilling our main objectives and strategies used to overcome these barriers are highlighted in TABLE 1.

Our study has several limitations. First, the single-center implementation calls into question how well this can be replicated in other settings, and modifications may be necessary when implementing such a conference elsewhere. Although the surveys were pilot tested for content validity, the construct validity was not rigorously assessed. Lastly,

we assessed trainee and faculty perceptions of the M&M conferences and did not measure more objective educational outcomes or changes in their behavior.

Conclusion

We implemented a new systems-focused M&M conference and achieved success in promoting multidisciplinary participation, presenting cases that included adverse events, and highlighting and discussing systems issues in a nonpunitive manner.

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