

## BRIEF REPORT

## Morbidity and Mortality Conference

## A Survey of Academic Internal Medicine Departments

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**This study sought to determine the prevalence and characteristics of morbidity and mortality conferences (M&MCs) in U.S. internal medicine training programs. Two hundred ninety-five of 416 (71%) surveys were returned. Ninety percent of programs have an M&MC. Most meet monthly, have a designated leader, and entail case discussions of 3 or fewer patients. Cases are selected on the basis of unexpected bad outcomes, teaching value, and to a lesser extent, suspected medical error. Two thirds of the sites use M&MCs to meet administrative requirements for quality assurance. M&MC, while prevalent in internal medicine training programs, has a heterogeneity of focus. Hence, the goals and role of the conference, as judged by this survey, do not appear to be well defined and may warrant further clarification.**

**KEY WORDS:** graduate medical education; medical error; internal medicine training; survey.

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The name morbidity and mortality conference (M&MC), is universally familiar to physicians, yet a precise definition, format, or goals for this conference do not exist. Literature on the M&MC comes exclusively from the disciplines of surgery and anesthesiology.<sup>1–5</sup> Our objective was to determine whether M&MC is in fact present in current internal medicine training through a survey of internal medicine residency programs. Our modest goal in this initial effort was to determine the frequency of M&MC and, if prevalent, to identify some of the characteristics of its current format, such as how cases are selected, who moderates discussions, and whether explicit procedures exist for discussion of error.

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## METHODS

A confidential survey was mailed to all internal medicine program directors in the spring of 1998. The survey was to be completed by the program director or a faculty member knowledgeable about the department's teaching conferences.

The questionnaire was designed to determine the prevalence of M&M-like conferences. We asked if there was a conference named "Morbidity and Mortality" or one in which "the goal is to discuss cases in which there is unexpected morbidity, mortality, or suspected medical error." If so, answers to the survey questions were based on this conference. The survey instrument was pilot tested on assistant program directors from the Boston University training program for clarity and face validity. No rigorous reliability testing was performed. The final survey contained 19 items and took 5 to 7 minutes to complete.

Statistics were generated using SPSS Version 6.1 statistical software (SPSS, Inc., Chicago, Ill).

## RESULTS

Of 416 questionnaires, 295 were returned (71%). Of these, 264 (90%) reported having either a conference named Morbidity and Mortality ( $n = 219$ ) or met our definition of the equivalent ( $n = 45$ ). There were no statistically significant differences between these 2 groups when compared on 12 questions that we chose on the basis of importance (e.g., the percent of cases in which error was identified). Hence, we have aggregated them for the purpose of analysis.

Programs self-identified as Community Teaching 140 (53%), University 102 (39%), and "Other" 22 (8%). Geographically, they were located in the Northeast (36%), Midwest (24%), South (13%), West (11%), Southwest (7%), mid-Atlantic (6%), and other (3%).

## Description of the Conference

Table 1 summarizes the characteristics of current M&MCs. Conferences are held monthly in most programs (69%), with 22% meeting more frequently. The audience at these sessions is composed mostly of housestaff (99% of programs), attendings (95%), and students (88%). In 80% of programs attendance is mandatory for some attendees, most commonly housestaff (97%), and students (61%). Fifty-one percent of respondents rate attendance at this

**Table 1. Characteristics of Morbidity and Mortality Conferences**

	Percent of Conferences
Frequency (N = 264)*	
Monthly	69 <sup>†</sup>
More often	22
Less often	8
Leadership (N = 258)	
Chief resident	36
Program director	14
Chief of medicine	14
Faculty member	14
Other	22
Audience (N = 264)	
House staff	99 <sup>‡</sup>
Attendings	95
Students	88
PAs or NPs	20
Nurses	12
Case presenter (N = 209)	
House officer	43
Moderator	21
Chief resident	10
Attending of record	2
Other	23
Case selection (N = 264)	
Unexpected mortality	27
Unexpected morbidity	20
Likelihood of error	13
Other	34
Conference is part of QA program (N = 254)	69

M&MC, morbidity and mortality conference; PA, physician's assistant; NP, nurse practitioner; QA, quality assurance.

\* N = the number of respondents answering the question. Reasons for differences are discussed in the text.

<sup>†</sup> Percents were expected to add up to 100 except for Audience; when they do not, it is due to missing data or to rounding.

<sup>‡</sup> These numbers represent the percent of programs that stated such individuals attended their M&MC.

conference above average or excellent compared to other Department of Medicine conferences, with 6% rating attendance below average.

At 53% of locales a single case is discussed, while 35% of sites discuss 2 to 3 cases, and the remaining 12% review 4 or more patients. Nearly all sites (98%) assign a leader or moderator to the session, with 77% assigning the same individual to that role each session. Conferences are most often led by chief residents (36%), followed in equal frequency by faculty members, program directors, or chiefs of medicine. At two thirds of sites, the conference serves the purpose of meeting administrative requirements such as that for quality assurance.

### Case Selection

The questionnaire asked, "Of all cases selected for this conference, approximately what % are selected for the following primary reasons?" There were 4 possible answers: unexpected mortality, unexpected morbidity, suspected

medical error, and "other," which provided space for write-in responses. The mean response for each category was: unexpected mortality, 27%; unexpected morbidity, 20%; suspected error, 13%; and "other," 34%. (A portion of respondents only partially answered this question by filling in percentages that equaled less than 100%; hence, the sum of the means presented does not equal 100%.) In 90 (34%) programs, suspected error was never a primary factor in case selection.

A total of 153 surveys (58%) identified 168 "other" primary reasons for selecting cases. These were sorted into categories by consensus of the authors. The majority of responses were categorized as "providing teaching value," which constituted 68% of all the "other" reasons cases were selected. Availability of pathological or autopsy data was the next most common reason, but constituted less than 10% of responses.

Eighty-five percent of programs have a convention regarding who presents the case. A house officer involved in the care of the patient presents at 67% of these sites, and the conference leader at 21%. Members of the patient care team participate by discussing patient management (70%) and serving as an information resource (82%).

Spontaneous discussion from the audience is invited in 98% of reporting institutions. The amount of time dedicated to open discussion is variable, over 20 minutes in 27% of places and under 10 minutes in 20%.

We asked if there was a formal procedure for handling the discussion of medical error and how successful these discussions were perceived to be. Eighty-six percent of programs reported that, when present, medical error was discussed most or all of the time. Of these sites, 88% reported moderate to high success in addressing medical error, but only half had an established method or procedure for handling the discussion of errors.

Overall, 66% of respondents rated their M&MC as above average or excellent compared to other conferences in the department; 5% rated it below average to very poor.

Using one-way analysis of variance, we found no differences comparing responses from community hospitals to those from university-based programs on factors used to select cases, degree of spontaneous discussion, or satisfaction with how discussion of error is handled. Using  $\chi^2$  analysis, there was no significant difference in the frequency with which programs used their conference to meet administrative requirements such as quality assurance. University programs were marginally more likely than community programs to have a defined procedure for handling error when it is encountered during the conference ( $P = .06$ ).

### DISCUSSION

If frequency is a barometer, then M&MC is alive and well in academic departments of internal medicine. Most of these conferences are well attended, highly regarded, and include elements of open discussion from an audience consisting mostly of internists and trainees. Given this high

prevalence, it is surprising that M&MC has received so little attention in the medicine literature.

The historical roots of M&MC appear to spring from attempts to address medical error in departments of surgery and anesthesia.<sup>6</sup> Our findings suggest that its role in internal medicine is more ambiguous. We have found it to be heterogeneous in format and diverse in focus. In particular, its role in relation to medical error is unclear. For example, cases often are chosen for teaching value, a substantial number of programs never use the likelihood of medical error in case selection, and only 50% of programs have an established approach for dealing with error when it is encountered. This variability probably reflects unclear goals due to lack of discussion in our literature.

Confusion about the place and purpose of M&MC may be related to the language of the Accreditation Council on Graduate Medical Education regarding the types of conferences that must be offered by internal medicine training programs. The Residency Review Committee (RRC) for internal medicine requires that, "Conferences correlating current pathological material, including material from autopsies, surgical specimens and other pathology material, with the clinical course and management of patients must be held at least monthly." While some may claim that this defines the M&MC, we believe the description applies best to a case-conference or clinical pathological correlation conference. Although such conferences may encounter error and serve as part of a quality assurance program, they are not explicitly designed to detect or address medical mistakes. This is evident in the absence of case selection criteria in the RRC standards that would increase the likelihood of finding error. In this regard, it also is noteworthy that the Internal Medicine RRC does not make reference to the concept of Morbidity and Mortality Conferences.

This brief survey has many limitations. The information is self-reported and lacks validation. We have no information on the actual content of M&MCs, success in relation to locally articulated goals, processes used to address medical error, or any measure of impact on attendees.

Still, the widespread use of the label M&MC within departments of Internal Medicine raises the question of

whether goals and objectives should be delineated, as has been done for surgical M&MC.<sup>2,7</sup> We believe that an Internal Medicine M&MC should focus on medical error while serving to manage the consequences of medical error for providers.<sup>8</sup> We have recently fully articulated these views and proposed guidelines to address the complex process issues.<sup>6</sup> We acknowledge a recent focus on medical error and patient safety within our profession,<sup>9,10</sup> and accept that others may prefer a different focus to a Medical M&MC.

As educators, we understand that it is unfair to attempt an evaluation without regard to explicit goals. Our departments have many overlapping educational and administrative requirements. The data we present raise more questions than they answer. Given its lack of definition, M&MC is just as likely to be a mandated pathologically-oriented conference as it is to be a quality assurance activity or an institution's attempt to assist its staff in learning about medical fallibility. If greater clarity about its goals can be achieved, then identification of effective models for running the Medical M&MC can follow.

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