M & M Task Force Report

Summary

In the spring of 2011, the Department of Medicine (DOM) convened a taskforce to explore perceived deficiencies in the content and quality of Morbidity and Mortality (M & M) conferences in the Department. The Task Force was chaired by Heidi Wald, Vice Chair for Quality, and was attended by representatives from the clinical divisions in the DOM, the Medicine chief residents, and University of Colorado Hospital (UCH) representatives from risk management, clinical effectiveness and patient safety, and pharmacy.

The Task Force activities proceeded in two phases. Phase 1 included an inventory of current M & M activities in the DOM, the analysis of opportunities and challenges, and the identification of best practices and analytic tools. Phase 2 included the piloting of new conference formats, the development of an M & M toolkit, and development of a dissemination plan. Based on the Task Force’s work, it adopted the following recommendations and report.

Recommendations:

1. All DOM divisions and/or clinical units are encouraged to provide opportunities for M & M participation for all clinical faculty and trainees. For divisions/clinical units that do not have an existing M &M series, such an offering may be incorporated into an ongoing conference series or combined with a related division/clinical unit. For divisions or clinical units that already have an M & M series, attempts to incorporate the best practices in Recommendation 2 below should be made to optimize those offerings. Each M & M series should have a designated faculty coordinator who will liaise with the Vice Chair for Quality. Affiliate faculty are encouraged to participate in and/or provide cases to division-based M & M where appropriate. Affiliate faculty should consider incorporating these recommendations as they pertain to ongoing or new series based at their clinical units.

2. All M & M series should routinely incorporate best practices with respect to: processes to capture unexpected M & M and near misses; standardized analysis of cases; inter-professional participation; development of performance improvement (PI) projects; and reporting to risk management and to graduate medical education (GME). The M & M faculty coordinator shall work with the Vice Chair for Quality to implement the best practices in a phased approach as necessary. M & M coordinators shall not be personally responsible for completing each of the best practices, but shall work to identify and coordinate the division’s and/or clinical unit’s activities.

3. To support these activities, the DOM shall:
   - Short term (Fall 2012-Spring 2013): Disseminate the task force report and recommendations; identify steering committee of division/clinical unit faculty coordinators; provide a toolkit and consultation for M & M facilitators and/or faculty coordinators; develop project team (including analyst, coordinator, and QI RN from UCH); monitor and develop metrics; standardize and simplify reporting to risk management and GME.
   - Intermediate term (Spring 2013-through 2014): Establish a database for tracking cases reviewed and monitoring trends; establish a prioritization scheme for PI activities identified in M &M that are best
coordinated by the DOM; Support development of new processes to capture unexpected M & M and near misses with divisions/clinical units (e.g. use of IHI global trigger tool, PR campaign to increase MD reporting, UCH outcomes and event reports to DOM); work with larger divisions/clinical units to develop more robust peer review activities; monitor M & M activities to track process and outcomes.

Resources:

Given the current state of M & M peer review in the DOM, the incorporation of the above best practices across divisions is a significant undertaking that will require resources from the DOM and/or UCH. These include, most notably, DOM analyst and project coordinator support for establishment of a database for monitoring, identifying trends, reporting to GME and risk, and establishing a DOM performance improvement docket. The DOM is additionally committed to developing a shared resource with UCH for assistance with case identification, QI RN support for quality review process and PI activities stemming from this process.

Conclusions:

M & M conferences are a core component of a robust and ongoing peer review process. The dissemination and implementation of all of the recommendations across the DOM will require a 1-2 year timeframe and increased resources, but promises to result in improved patient safety culture, enhanced learning opportunities, and most importantly, an improved ability to identify and mitigate potential harms to our patients.
M & M Task Force Report

Chair: Heidi Wald, MD, MSPH


Background:

In the spring of 2011, the Department of Medicine (DOM) convened a taskforce to explore perceived deficiencies in the content and quality of Morbidity and Mortality (M & M) conferences in the Department. The task force was chaired by Heidi Wald, Vice Chair for Quality, and was attended by representatives from the clinical divisions in the DOM, the Medicine chief residents, and University of Colorado Hospital (UCH) representatives from risk management, clinical effectiveness and patient safety, and pharmacy. The mission of the task force was to inventory, examine, and standardize and disseminate an approach to M & M conferences in the DOM.

The focus on M & M stemmed from the new Quality Improvement and Patient Safety (QIPS) program in the DOM. It was felt that robust M & M conferences would logically form the cornerstone of such a program with important contributions to the departmental culture and to the clinical enterprise. Potential cultural benefits include improved faculty and trainee perceptions of patient safety culture and increased engagement in related activities; promotion of event reporting; the creation of a learning environment in which adverse events and errors are discussed; and, enhanced relationships with interdisciplinary team members. Potential clinical benefits include the increased capture of events; the identification of cognitive and systems factors contributing to adverse outcomes; direct linkages between occurrences and performance improvement activities; and, enhanced patient outcomes through educational program and systems improvements.

In addition to meeting the DOM’s own QIPS goals, there were several other compelling reasons to address M & M activities. First, M&M is not an optional activity. The participation in M & M conferences is a requirement of Internal Medicine Residency Programs. Furthermore, DOM proceduralists must comply with regulatory requirements to review adverse outcomes—often in an M& M format. UCH, our major teaching affiliate, has an interest in M & M as part of their required Quality Assurance and Performance Improvement activities for accreditation and as part of their risk management activities in conjunction with the University of Colorado Trust. The University of Colorado School of Medicine’s Clinical Leadership Council (CLC’s) considers the occurrence of high quality M & M activities to be a priority and will be looking to the Departments to develop robust programs. Finally, activities such as M&M, which are systematically and consistently performed, are more likely to be considered part of a “quality management program” and protected from disclosure under Colorado statute. (Appendix 1)

Definitions:
M & M has been defined as a forum in which “members of a multidisciplinary health care team…engage in objective, non-judgmental review of adverse outcomes and commit to systematic process change.” For some Departments, M & M is synonymous with the peer review process. Given the clinical volume in the DOM and the educational needs of DOM trainees, this is unlikely to be true except for the smaller divisions or clinical units.

For the purposes of this document, the term “M & M” will refer to the classic presentation and analysis of a carefully selected case or cases. This will be differentiated from the “clinical outcomes conference” at which all outcomes for a given clinical unit are reviewed for a set time period (e.g. monthly). Both of these activities are consistent with the above definition of M & M.

Mission:
To inventory, examine, standardize, and disseminate the approach to M & M conferences in the DOM.

Vision:
All clinically active faculty and trainees in the DOM will have access to and participate in high quality M & M on a regular basis. Based on a review of the literature, and the CLC’s stated goals, the characteristic of high quality M & M conferences are identified below:

1. Processes in place to capture unexpected morbidity, mortality, and near misses
2. Incorporation of standardized analysis of systems issues on a regular basis
   - Fishbone or Cognitive-systems fishbone (Appendix 2)
   - Vanderbilt Matrix (Appendix 3)
3. Routine interprofessional participation (nursing, pharmacy, therapists, radiology, pathology, other departments)
4. Routine identification of areas for systems improvement with development into performance improvement activities of faculty and trainees
5. Routine reporting to risk management and GME (as part of standardized, web-based data collection)

Activities:
To fulfill the mission and vision of the DOM M & M Task Force, we identified the following goals:

1. Inventory current activities
2. Review and recommend best practices
3. Provide support to individuals leading M & M activities (facilitator’s guide, forms, access to QI specialists, database, website)
4. Request needed resources and infrastructure
5. Promote M & M activities in all divisions
6. Monitor outcomes – such as quality and quantity of activities, number of cases discussed, use of GME form, interdisciplinary participation, identification of systems problems, development of QI projects from these activities

Phase 1: Inventory and Examine M & M Conferences in the DOM
An inventory of DOM M & M conferences in June 2012 revealed a significant amount of activity of varying format and quality. There were 14 M & M conferences in all, some incorporating case review across all affiliate hospitals. Four of the reported conferences are in the clinical outcomes conference format (see definition above) and form a complete peer review process for a given clinical unit. Three of the reported conferences function as clinical-pathological correlation (CPC) conferences, not M & M. There were divisions without reported activity at UCH (GIM, Geri, Endo, Pulm), although pulmonary had a clinical outcomes conference at Denver Health. There were two additional cross departmental M & M conferences (Emergency Medicine and Transplant) that were not counted in the totals. There were several high functioning conferences noted: the gastroenterology proceduralist M & M has been ongoing for over 10 years, and has been a model nationally. (Hasan, 2008) The General Internal Medicine M & M Conference at the VA meets nearly all best practice standards. Clinical outcomes conferences in Electrophysiology at the VA and across the affiliates, the Denver Health ICU, and Renal meet most of the best practices. However, this is a broad perception that the M & M for the DOM residency at UCH is poorly functioning. Many faculty and fellows do not avail themselves of M & M at all. Table 1 displays the attributes of the 14 reported conferences.

Table 1: Attributes of M & M Conferences in the DOM, Summer 2012 (n=14)

<table>
<thead>
<tr>
<th>Best Practice</th>
<th>N (%)</th>
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<tr>
<td>Interdisciplinary</td>
<td>6 (42%) always</td>
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<tr>
<td></td>
<td>2 (14%) sporadically</td>
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<tr>
<td>Standardized case finding</td>
<td>4 (29%)</td>
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<tr>
<td></td>
<td>10 (71%) selected by CMR or faculty</td>
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<tr>
<td>Standardized analysis</td>
<td>4 (28%)</td>
</tr>
<tr>
<td>Leads to PI Projects</td>
<td>5 (42%) routinely</td>
</tr>
<tr>
<td></td>
<td>3 (21%) ad hoc</td>
</tr>
<tr>
<td>Use of GME form</td>
<td>2 (14%)</td>
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</table>

Opportunities:

In defining the ideal state of M & M and the current state, several opportunities for improvement were identified. While there is a lot of M & M activity in the department, the primary opportunity exists to disseminate best practices to improve upon ongoing M & M activities across the divisions. As most practice is specialized, faculty and trainees are most likely to benefit from M & M activities in smaller, more specialized units. As a first step, we chose to focus on enhancing the format and the stature of the DOM-wide residency-run M & M at UCH. Several practical suggestions were identified, including providing lunch, using Grand Rounds slots to present a variety (up to 3) cases quarterly, providing increased support to the chief residents, providing support to the divisions’ representatives regarding how/what to present, enhanced advertising, and offering CME credit. This conference would provide more M & M opportunities for non-procedure based faculty and trainees.

Given the sensitive nature of discussions of medical error, there exists the opportunity to provide enhanced protections for discussing and learning from M & M activities by employing a systematic and documented approach. To facilitate the documentation, the creation a secure, HIPAA-compliant database for record-keeping so that trends in case review and performance improvement opportunities can be tracked. In addition, robust,
inter-professional M & M can lead to improved relationships with other departments, providers, and the hospital and our affiliates through inclusive and transparent processes.

The final opportunity identified is to consider and request the resources that will be required for strengthening these activities from our stakeholders – the Department and UCH. Such resources might include faculty effort, food, and QI RN support for case identification support and case review.

**Challenges:**

Despite the clear opportunity presented to improve upon DOM M & M activities, there are several challenges to overcome if the goals of the Task Force are to be realized. The primary barrier is the existing culture in the DOM. There are large numbers of providers who have not participated in regular examination of practice and outcomes, there is fear of a punitive culture and suspicion of the risk management process at UCH, and there is a cynicism that systems issues that are broken will remain broken. For the Task Force to succeed, this culture must undergo a substantial change.

As an example, systems for case identification are lacking in most divisions/clinical units. In an ideal situation, providers would self-report cases of care concern through existing mechanisms. However, there is a perception that the UCH incident reporting system is primarily for hospital staff and generally results only in punitive action aimed at specific providers. Augmented strategies to identify cases for review must be developed. While some clinical units may have such strategies, particularly the procedure units, others have no mechanism. The use of QI personnel to pull mortalities and other cases with adverse outcomes may be of assistance. The Institute for Healthcare Improvement has a Global Trigger Tool used to review a randomly selected sample of cases, rather than rely on voluntary reporting. However, the resources required to identify cases and then review them, select appropriate cases for presentation, prepare them (chart review, interview of providers, preliminary analysis, prepare the presentation), invite discussants is significant, and likely to be a burden on the faculty and trainees who undertake these activities without additional support.

The case-finding challenge highlighted a particular problem in the DOM. For some clinical units, M & M is the entirety of peer review activities, performed in a clinical outcomes conference format. For other clinical units in which the traditional M & M formats is used (often to meet educational needs as much as the peer review mission), M & M is seen as an adjunct to or offshoot of peer review. Given the confusion this raised, several SOM stakeholders created a conceptual model of peer review to inform future work (Appendix 4).

Finally, a one-size-fits-all approach to M & M will not succeed, given the size and diversity of the DOM. Finding the balance between the autonomy of clinical units and the economies and oversight afforded by centralized processes will be important, as DOM providers will need to take ownership of these processes if they are to be successful.

**Phase 2: Standardize and Disseminate Approach to M & M**

**Review of best practices**
Informed by a literature review, the guidance of the UCH counsel and the CLC, the Task Force endorsed the best practices identified in the vision statement. These best practices highlight that peer review is a comprehensive process that goes well beyond the presentation of a particular case, involving standardized case finding and requiring follow-through for identified systems or provider issues. (Appendix 4) The Task Force provisionally endorsed the use of the cognitive-systems fishbone diagram (Appendix 2) and the Vanderbilt matrix (Appendix 3) for case analysis, realizing that there are several additional tools available. A redesign of the residency-led M & M provided the best opportunity to gain experience with these best practices.

M & M Pilot

A subcommittee of the task force was convened to address the residency program–led M & M for the DOM at UCH. Subcommittee members were: Darlene Tad-y, Jon Pell, Noelle Northcutt, Heidi Wald, and Suzanne Brandenburg. A new format for this conference was introduced in August 2012:

1. Introduction (5 min) – set stage, provide context, review feedback from earlier cases;
2. Timeline (20-25 min) highly curated case presentation with limited discussion of specific clinical pearls;
3. Analysis (30-35 min): moderated discussion using cognitive-systems fishbone diagram

Residents are asked to complete a reflection sheet that contains worksheet space to sketch the timeline and complete the fishbone diagram and a series of questions meant to stimulate reflection: 1. Did an error occur? What contributed? Was there a cognitive error? What one course of action would you recommend? What ACGME competency was addressed?

After 3 conferences in the revised format, we have been impressed with the exceptional support from faculty and trainees. Despite early successes, there has been a clear learning curve for our team for the preparation and presentation phases. Regarding preparation, it cannot be stressed enough that the pre-conference preparation is significant and begins nearly as soon as the prior conference ends. The case selection is critical and the role of the preparer is to curate the case to focus in on the adverse event or near miss of interest. The preparer must interview the providers, find and prepare discussants, create a timeline, and complete a preliminary case analysis. While the DOM has used a rotation of divisional representatives to provide cases, this has proved to be very difficult logistically and is a model we plan to move away from. Going forward, the subcommittee is committed to piloting a peer review process with the Hospitalist group as a more robust and comprehensive mechanism for case identification.

To be successful, the case presentation is a highly orchestrated event. The chief resident cannot be expected to run this conference without significant support from faculty co-moderators. Currently the chief presents the case, and a faculty member runs the discussion. It is important not to spend too much time in the details of the case, so that sufficient time is left for analysis. It has been useful to provide a list of definitions of common patient safety terms to facilitate discussion. In addition, the discussants need to limit their remarks so as not to get lost in the minutia of a case. Finally, the moderators need to balance the need for a safe environment with the need for frank discussion of care.

The subcommittee has prioritized identification of action items and an expectation for follow-up. At our first conference, the attendees identified a missed positive troponin as a systems concern. The subcommittee then
worked with multiple stakeholders and was successful in obtaining buy in for the lab to call out positive troponins in the same way a critical value would be handled. To continue, this type of activity will need to be supported by with analytics and QI expertise.

Task Force Recommendations for Standardization and Dissemination

1. All DOM divisions and/or clinical units are encouraged to provide opportunities for M & M participation for all clinical faculty and trainees. For divisions/clinical units that do not have an existing M &M series, such an offering may be incorporated into an ongoing conference series or combined with a related division/clinical unit. For divisions or clinical units that already have an M & M series, attempts to incorporate the best practices in Recommendation 2 below should be made to optimize those offerings. Each M & M series should have a designated faculty coordinator who will liaise with the Vice Chair for Quality. Affiliate faculty are encouraged to participate in and/or provide cases to division-based M & M where appropriate. Affiliate faculty should consider incorporating these recommendations as they pertain to ongoing or new series based at their clinical units.

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Implementation plan for Standardization and Dissemination

We present a plan and timeframes for implementation:

1. Disseminate task force report (DOM Quality Symposium, Division Chiefs, Newsletter, other)
2. Develop and disseminate M & M toolkit for facilitators (Tad-y and Wald) FALL 2012
dom m and m steering committee. revised on 7-1-2013

i. instructions for case selection; case analysis; case presentation
ii. case presentation template
iii. glossary of terms
iv. case analysis tools

3. Identify cohort of division coordinators; develop steering committee and metrics (wald and division chiefs) winter 2012

4. Revamp case review form with som and uch and create secure web-based database for data entry fall-winter 2012 (wald and som committee)

5. Develop project team (wald and dom) winter-spring 2013

6. Enhance case finding for non-procedural cases – hospitalist group pilot. winter 2013 goal is to review mortalities, other cases of care concern identified from ihi global trigger tool. pre-review proceeds committee meeting which will either close case, refer to risk, refer to pi docket (see below) and/or refer to m & m

7. Facilitate performance improvement (pi) projects – create docket that will prioritized and assign pi tasks and/or delegate where appropriate. summer 2013-2014

8. Monitor progress – metrics might include: number of m & m conferences in dom meeting the recommended best practices (annually); number of faculty and fellows in the dom who attend m & m conferences (annually), number of cases reviewed as part of quality review (quarterly); number of pi projects initiating from m & m process (annually). ongoing

conclusions:

m & m conferences are a component a robust and ongoing clinical quality review process. the dissemination and implementation of all of the recommendations across the dom will require a 1-2 year timeframe and increased resources, but will result in improved patient safety culture, enhanced learning opportunities, and most importantly an improved ability to identify and mitigate potential harms to our patients.
Selected Literature:


O’Rourke PT. Morbidity and Mortality Conferences/Confidentiality. Memorandum to the Dean, University of Colorado School of Medicine. 2012.

Pierluissi E, Fischer MA, Campbell AR, Landefeld CS, MD Discussion of Medical Errors in Morbidity and Mortality Conferences. JAMA. 2003;290:2838-2842.

Appendix 1 Legal Protections and Risk Management

The CO statute protecting “quality management functions” (C.R.S. §25-3-109) was reauthorized in the summer of 2012 for an additional 7 years. Per UCH’s legal counsel, Patrick O’Rourke:

The statute itself does not provide any set format for “quality management programs” that fall within the scope of the privilege. To the contrary, a “quality management program” means a program that includes “quality assurance and risk management activities, the peer review of licensed health care professionals not otherwise provided for in [the Medical Practice Act] and other quality management functions which are described by a facility in a quality management program approved by the department of public health and environment.” I believe that M&M Conferences fit comfortably within the description of a “quality assurance and risk management activity.” C.R.S. §25-3-109(2)

For these activities, “any records, reports, or other information of a licensed or certified health care facility that a part of a quality management program designed to identify, evaluate, and reduce the risk of patient or resident injury associated with care shall be confidential information. . . ” C.R.S. §25-3-109(3). Subject to some important exceptions, the “records, reports and [other documentation generated in the quality management program] shall not be subject to subpoena or discoverable in any civil or administrative proceeding.” C.R.S. §25-3-109(4).

As a result, all communications stemming from the peer review process are protected from discovery, with the possible exception of patient who might live out of state, as there is no federal protection for such activities. Risk management at UCH and affiliates should be seen as partners in peer review activities and as such should be informed of all ongoing peer review activities and should receive regular reports of cases of concern. It is not a requirement that risk management be present for all activities. The DOM is concerned about the current risk management reporting form and will work with a SOM group and UCH to simplify reporting and classification of harm and provider responsibility in alignment with validated scoring systems.
Figure 1a Fishbone diagram illustrating categories of latent failures with examples:

- **Environment**: Economic pressures\(^1\), Care delivered along specialized service lines\(^2\), Physician coverage system\(^3\).
- **Information Technology**: Patient scheduling system\(^4\), Protocol for sending patients for procedures\(^5\).
- **People**: Patient Provider Communication\(^7\), Design of cardiac EP suite\(^6\).
- **Processes**: Physician coverage system\(^3\), Protocol for sending patients for procedures\(^5\).
- **Equipment**: Patient Provider Communication\(^7\), Design of cardiac EP suite\(^6\).
- **Organization**: Economic pressures\(^1\), Care delivered along specialized service lines\(^2\), Physician coverage system\(^3\).

Appendix 2b Cognitive-Systems Fishbone Diagram:

- **Communication**: Medical Decision-making.
- **Medical Decision-making**: Communication, Professionalism.
- **Professionalism**: Communication, Medical.
- **Medical**: Communication, Professionalism.

DOM M and M Steering Committee. Revised on 7-1-2013
## Appendix 3 Vanderbilt Matrix

### Healthcare Matrix: Care of Patient(s) with....

<table>
<thead>
<tr>
<th>ACGME Competencies</th>
<th>SAFE</th>
<th>TIMELY</th>
<th>EFFECTIVE</th>
<th>EFFICIENT</th>
<th>EQUITABLE</th>
<th>PATIENT-CENTERED</th>
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<tbody>
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<td>Assessment of Care</td>
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<td>Patient Care</td>
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<tr>
<td>(Overall Assessment)</td>
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<td>Yes/No</td>
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<td>Medical Knowledge &amp; Skills</td>
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<td>(What must we know?)</td>
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<td>Interpersonal &amp; Communication Skills</td>
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<td>(What must we say?)</td>
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<td>Professionalism</td>
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<tr>
<td>(How must we behave?)</td>
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<td>System-Based Practice</td>
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<td>(What is the process? On whom do we depend? Who depends on us?)</td>
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<tr>
<td>Improvement</td>
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<td>Practice-Based Learning &amp; Improvement</td>
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<tr>
<td>(What have we learned? What will we improve?)</td>
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Step 1 Identification of Cases: Standardized identification of cases is essential to a non-punitive, learning environment. Mortalities are commonly reviewed, morbidities can be selected based on predetermined criteria (e.g. ICU transfers), or using sampling methodologies such as the IHI trigger tool (Griffin, 2009), or through other mechanisms such as reporting from referring docs, institutional benchmarks (e.g readmissions) or other indicators (e.g. HAI rates).

Step 2 Peer Review Process: Designated providers should pre-review cases and classify harm and errors using a standard review methodology. A physician-led committee reviews and recommends the disposition of each reviewed case. Standing committee membership should include nursing, pharmacy, and other disciplines as appropriate. M & M conferences (such as those in the clinical outcomes conference format) can constitute the entirety of peer review or an educational opportunity stemming from peer review (see disposition below).

Step 3 Disposition: Based on the harm and errors identified in the peer review process, cases can be referred to risk, M & M, performance improvement or closed.

Step 4 Reporting: All cases should be recorded in the DOM database for identification documentation of quality management activities and reporting of trends. Additional reporting of activities to GME and Risk should be carried out as appropriate.

Smaller units may combine steps 2 and 3 into the clinical outcomes conference format that is used in some DOM divisions/unit.