The evolution of morbidity and mortality conferences

Darlene Tad-y, Heidi L Wald

Morbidity and mortality conferences (MMCs) have become a vital element of patient care, sitting at the intersection of medical education, quality improvement and risk management. MMCs may have increased in importance as a staple of safety education since the Accreditation Council for Graduate Medical Education has identified that the discussion and analysis of adverse events in a structured fashion promotes the learning of key quality and safety concepts.1–3 Groups across specialties and disciplines have implemented innovative models of MMCs as a vehicle to engage clinicians in discussions to learn from adverse events and to identify opportunities to improve care. In studying these new models, it has become clear that deliberate attention to the structure, processes and content of the conference yields the greatest opportunity for improving the quality of patient care beyond just learning the concepts of quality and safety.4 5 We now face the next iteration of the MMC and are tasked with describing the facets that will best allow MMCs to drive learning and improved outcomes.

In this issue, Kwok and colleagues highlight the impact of implementing a structured MMC, the Ottawa M&M Model (‘OM3 model’), at their acute care tertiary centre across multiple specialties.6 The model consists of five key elements, including appropriate case selection, structured case analysis, the creation of and dissemination of bottom-line summaries, the development of effective pathways for action items and interprofessional and multidisciplinary participation. The authors conducted a yearlong study of 16 clinical groups implementing the OM3 model. The investigators provided an OM3 toolkit that included relevant educational materials, dedicated coaching to the teams, encouraged the groups to establish a quality committee for subsequent action items and identified a specific champion for the MMC.

The authors primarily sought to assess the improvement in the quality of MMCs as measured by the overall OM3 index, a scoring system they created based on the key elements of the OM3 model.6 They applied the index to the MMCs of the participating groups prior to and after the intervention. Their secondary outcomes included awareness of the principles by attendees, changes in clinical policy and procedures as a direct result of the MMCs, perception of effectiveness of MMCs on quality of care, perception of the impact of the OM3 structure on the group environment, culture, existing processes and finally identification of success factors and barriers to implementation.

Their study demonstrated a significant improvement in the OM3 scoring index for participating teams. The median index increased from 12/24 to 20/24 for teams, with a greater degree of improvement for the surgical versus non-surgical teams. All elements of the score improved, except for the frequency of MMCs. Both online and in-person survey results showed participants generally felt that the elements of the OM3 restructure were implemented and were well received. Importantly, attendees felt that having the structure provided the opportunity to have improved discussions. Barriers identified through the surveys included lack of time, like a formal training in patient safety, and persistent cultural resistance to the change.

The work presented by these authors highlights both the progress and the opportunities in the evolution of the MMC. While demonstrating that a structured model for MMCs can be successfully deployed across specialties, the work also exposes some of the areas that still need to be developed.

First, it is difficult to measure the quality of MMCs. The authors recruited
relevant experts to devise the OM3 index, based on the
the discrete elements of the structure that they
propose. While a scoring system is useful in consider-
ing the success of MMCs, it begs the question: what
are the measures of success for MMCs? Some have
suggested that having a formalised structure and the
subsequent discussion and analysis of adverse events
as processes can improve patient safety.4–7

One group examined 42 MMCs at their institution
and using an effectiveness index based on the number
and completion of improvement initiatives deriving
from MMCs. They identified that more effective
MMC are associated with the presentation of cases in a
standardised fashion, using visual aids and literature and
the thorough analysis of adverse events. Importantly,
this also included the monitoring of previously decided
actions.9 It is then logical to conclude that a structured
MMC, including in-depth analysis of adverse events
would lead to a greater number of action items, ultim-
ately leading to the completion of novel improvement
initiatives derived specifically from that MMC.

Taking this one step further, it would be important
to study the degree to which these initiatives lead to
policy changes and ultimately to improved patient
outcomes. Even when MMCs succeed in identifying
important system problems or latent errors in need of
attention, there remains the far more difficult task of
solving these problems. As with any safety monitoring
strategy, identifying safety problems is the relatively
easy part, the real work begins with following up on
these cases with meaningful improvements. Long-term
attention to the final impact on patients’ outcomes
related to initiatives arising from well-executed ana-
lyses in MMCs is required and would be the best
measure of an MMC’s success.

Second, the authors of this paper and many other
published works describing MMCs continue to high-
light the critical role of culture as both a promoter and
a barrier to a successful MMC contributing to patient
safety. Indeed, a culture of safety has been thought to
be the bedrock for high-reliability organisations, asso-
ciated with safety—promoting behaviours such as
error reporting, reductions in adverse events and
reduced mortality.9 10 Two recent studies examined
this question more precisely. One found no association
between the patient safety culture as measured by the
Hospital Survey on Patient Safety Culture and success-
ful collaboratives focused on improving catheter-
associated infection rates and central-line-associated
bloodstream infections rates.11 And, a systematic
review of the literature conducted showed a statistically
significant relationship between patient safety culture
and adherence to standard precautions.12 It is worth
noting that the instruments used in all of these studies
to measure patient safety culture differed across the
studies.

Again, we face the challenge of objectively measur-
ing something as complex as patient safety culture.
Furthermore, we need a better understanding of the
relationship between MMCs and patient safety culture
—is it the lack of a patient safety culture that prevents
MMC from success? At the Department of Medicine,
University of Colorado, we have used the develop-
ment and dissemination of a revamped MMC model
as a key component in our strategy to become a learn-
ing organisation with a strong safety culture. After a
2.5-year MMC initiative, faculty disagreement with
the statement ‘staff feel like their mistakes are held
against’ them increased from 13% to 60%. And, faculty
agreement with the question ‘we are given feedback about
changes put into place based on event reports’ increased
from 7% to 29%.13 These preliminary results raise an interesting possibility that a suc-
cessful MMC process could drive improvements in
patient safety culture.

Finally, beyond just the discussion and analysis of
adverse events, MMCs should help guide the deter-
mination of accountability for medical error. Despite
more than a decade of work in patient safety, there
remains a good deal of work to be done.14 While
MMC traditionally focused on assigning blame to
individuals, discussions about ‘collective accountabil-
ity’ have emerged, consistent with the concept that
systems factors play a large role in the provision of
unsafe care.15 The shift towards focusing on systems
factors has led MMCs away from considering more
deeply the role of individual clinicians. The account-
ability for the group versus individuals for medical
errors needs to be balanced well,16 and MMCs should
therefore provide ample investigation of the thought
process of individual clinicians as well as the systems
factors. In addition to identifying the types of cogni-
tive errors as part of a structured analysis, MMCs
could also incorporate instruction on metacognition,
awareness of heuristics and discussing strategies for
mitigating cognitive errors.17–19

MMC have evolved beyond just an educational
conference to an important tool in the broader strat-
egy for improving patient safety and quality improve-
ment. Looking ahead, the utility of the MMC lies in
disseminating what works well and by better defining
successful MMCs, understanding the relationship
between MMCs and patient safety culture and incor-
porating more investigation of cognitive processes.

Competing interests None declared.
Provenance and peer review Commissioned; internally peer
reviewed.

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