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Processes for Identifying and Reviewing Adverse Events and Near Misses at an Academic Medical Center

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Background: Conferences, processes, and/or meetings in which adverse events and near misses are reviewed within clinical programs at a single academic medical center were identified.

Methods: Leaders of conferences, processes, or meetings—"process leaders"—in which adverse events and near misses were reviewed were surveyed.

Results: On the basis of responses from all 45 process leaders, processes were classified into (1) Morbidity and Mortality Conferences (MMCs), (2) Quality Assurance (QA) Meetings, and (3) Educational Conferences. Some 22% of the clinical programs used more than one of these three processes to identify and review adverse events and near misses, while 10% had no consistent participation in any of them. Explicit criteria for identifying and selecting cases to be reviewed were used by 58% of MMCs and 69% of QA Meetings. The explicit criteria used by MMCs and QA Meetings varied widely. Many MMCs (54%, 13/24), QA Meetings (54%, 7/13), and Educational Conferences (70%, 7/10) did not review all the adverse events or near misses that were identified, and several MMCs (46%, 6/13), QA Meetings (29%, 2/7), and Educational Conferences (57%, 4/7) had no other process within their clinical program by which to review these remaining cases.

Conclusions: There was wide variation regarding how clinical programs identify and review adverse events and near misses within the MMCs, QA Meetings, and Educational Conferences, and some programs had no such processes. A well-designed, coordinated process across all clinical areas that incorporates accepted approaches for event analysis may improve the quality and safety of patient care.

Since the 1999 release of the Institute of Medicine's report *To Err Is Human*, numerous health care organizations have called for increased reporting and analysis of adverse events and near misses as a means of improving systems of care and making health care safer.[1–3] For this to happen, adverse events and near misses need to be identified, reported, and analyzed effectively, and lessons learned need to be translated into practice and systems improvements.

However, establishing an organizational culture and procedures to accomplish these aims has proved challenging.[4,5] To facilitate improvement in care, patient safety experts have developed tools for analyzing systems contributions to adverse events and near misses, but these tools are underutilized.[6,7] In an attempt to promote transparency and improvements in care, many medical centers have implemented error disclosure policies that mandate disclosure and apology to patients[3,8,9] and require reporting of specific errors,[10] yet underreporting and a lack of disclosure persists.[11,12]

For decades, Morbidity and Mortality Conferences (MMCs) have been one of academic medicine's most time-honored forums for the discussion and analysis of adverse events.[13] However, historically these conferences have not emphasized systems contributions or the discussion of disclosure and apology to patients.[7,14,15] Despite the prominent place of MMCs in academic medicine, guidelines for their structure and content are lacking, particularly outside of the surgical setting where the conference has its deepest roots.[14,16] In recent years, several authors have noted opportunities to improve MMCs by using them to promote a culture of safety through the discussion of errors and a focus on improving communication and systems of care.[17–22] These opportunities for improvement have included broadening attendance to include all stakeholders (for example, pharmacy, nursing, environmental services, risk management, patient services), prospective standardized incident recording (for example, the American College of Surgeons National Surgical Quality Improvement Program 30-day complication proforma), structured analysis of events, administrative pathways for acting on issues identified, and communication with patients and families.[17–23]

In addition to MMCs, over the last decade many medical centers have established patient safety reporting systems to identify risks to patients that can be used to improve patient safety.[24] Promoting, monitoring, and effectively acting on these reports remains challenging.[24,25] The last decade has also seen a raise in Quality Assurance (QA) committees and quality and safety officers within medical centers that are charged with ensuring some combination of the safety, effectiveness, and patient-centeredness of the medical care delivered.[26–29] More recently, the psychological consequences and emotional suffering of clinicians involved in serious medical errors and the need for supportive interventions that achieve a healthy recovery have been increasingly recognized.[30,31] Ideally, all

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processes used to identify and review adverse events and near misses, as well as processes used to implement systems improvement and support learning and coping among involved clinicians, would be integrated and coordinated across an institution to maximize effectiveness of these processes in improving the quality and safety of patient care.

In the absence of clear standards, it is unknown how different clinical programs within an academic medical center approach the identification and review of adverse events and near misses within their clinical area and how the findings are disseminated to improve the quality and safety of medical care. Thus, we identified conferences, processes, and/or meetings in which adverse events and near misses are reviewed within clinical programs at a single academic medical center to (1) describe and compare their procedures for identifying, selecting, and evaluating adverse events and near misses and disseminating findings to affect change, and (2) Explore how these procedures may be modified to improve the quality and safety of patient care.

METHODS

Setting

This study was performed at a 747-bed tertiary care academic medical center affiliated with an accredited US medical school. There are approximately 52,000 inpatient admissions and 950,000 outpatient visits annually. The hospital employs more than 12,000 people, of whom approximately 3,000 are physicians. The hospital is organized into 17 clinical departments with several divisions within each department. There are 110 clinical residency and fellowship programs that encompass nearly all clinical programs. The hospital has a fully integrated electronic health record and computerized order entry system. In addition, there is a computerized patient safety reporting system accessible to all staff to document and share patient safety events. The hospital has a dedicated Department of Quality and Safety responsible for collecting, reporting, and analyzing all quality and safety data throughout the hospital and applying patient safety concepts that incorporate human factors and systems-based solutions to reducing medical errors. The hospital also offers a peer support program with trained clinician peer supporters that are available to all clinicians involved in any critical event, such as an adverse event, with the goal of providing a safe environment to share the emotional impact and foster open communication and recovery. To facilitate transparent and compassionate disclosure conversations with patients and their families, the institution deploys a disclosure coach (the senior author [J.S.]), who works in conjunction with risk management and patient relations to prepare clinicians for engaging with patients and their families after adverse events.

Sample

Our sample was constructed using a multistep process. We first contacted 97 residency and fellowship program directors representing 105 clinical programs within our institution. Eight program directors led more than one clinical training program (for example, Anesthesiology Residency and Obstetrical Anesthesia Fellowship). We excluded clinical training programs in oncology because they are based at an affiliated institution with unique leadership and processes. Program directors were asked (1) whether their clinical program participates in an MMC and/or other conferences, processes, or meetings in which adverse events and near misses are reviewed and (2) if so, to identify all of these conferences, processes, or meetings and their leaders. For simplicity and consistency, we will refer to the conference, process, or meeting leaders simply as "process leaders." This first sampling frame was chosen because within this large academic medical center, program directors are well positioned to know about these conferences, processes, and meetings, and nearly all clinical programs within the medical center have an affiliated residency or fellowship program. In the second step, we contacted the identified process leaders and asked them to complete a detailed questionnaire about their respective conference, process, or meeting. We chose to survey process leaders, rather than participants, because process leaders are uniquely positioned to describe the procedures used to identify, select, and review adverse events and near misses and to disseminate findings.

Questionnaire

The questionnaire (Appendix 1, available in online article) was designed to assess the structure and procedures of the conferences, processes, or meetings in which adverse events and near misses are reviewed. The questionnaire was developed on the basis of a review of the literature on MMCs,[7,13–21,32,33] quality assurance,[26,29,34–37] and adverse events and near misses,[1,22,30,38–50] as well as discussion with patient safety experts. The questionnaire was pilot tested for clarity and face validity prior to its use.

The introduction to the questionnaire provided respondents with the following definitions, which were repeated at the top of each section:

- *Adverse Events:* Harm, whether transient or permanent, caused by medical management rather than the underlying condition of the patient. Adverse events are not necessarily preventable. Not all adverse events are due to medical errors. Example: A patient is appropriately treated with antibiotics and has an allergic reaction for the first time.
- *Medical Errors:* The failure of a planned action to be completed as intended (error of execution) or the use of a wrong plan to achieve an aim (error of planning) in the course of managing a patient's medical condition. Example: A patient with a known history of anaphylaxis to penicillin mistakenly receives it.
- *Near Misses:* Medical errors that could have caused harm but did not either by chance or timely intervention. Example: A patient with a history of anaphylaxis to penicillin is prescribed penicillin, but prior to administering