

# Reporting medical errors:

Variables in the system  
shape attitudes  
toward reporting

adverse  
events

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**S**urgeons are seriously concerned about the prevalence of medical mistakes. Medical errors can injure or kill patients, ruin professional reputations and careers, endanger the trust that patients have in medical care professionals, and are costly.<sup>1</sup> Two large studies, one in New York and one in Colorado and Utah, found that adverse events occurred in 3.7 percent and 2.9 percent of hospitalizations, respectively.<sup>2-3</sup> The results of these studies imply that between 44,000 and 98,000 patients die each year as a result of medical errors, which exceeds the eighth leading cause of death (suicide) in the U.S.<sup>4</sup>

These retrospective studies most likely relied on medical chart review by physicians and nurses and, therefore, may have significantly underestimated the magnitude of the problem.<sup>5</sup> A report by Dr. Krizek in the July 2000 *Bulletin* anticipated and reviewed this situation and detailed the data from a study performed earlier at the University of Chicago.<sup>6</sup> Those data were derived from a prospective observational study, which found that 46.9 percent of 1,047 patients in surgical intensive care units experienced an adverse event; 17.7 percent of the patients experienced a serious event that was defined as threatening either to life or limb.<sup>7-8</sup>

While medical error may be a prevalent and serious problem, medical mistakes may also be the best source of data about how systems may be improved to avoid them. Most medical errors are described as “organizational accidents,” because they most often result from problems within complex organizational systems, not from individual mistakes.<sup>9-10</sup> A recent Institute of Medicine report about medical errors and patient safety included a recommendation that, in addition to the mandatory reporting of patient deaths and serious injuries attributable to error, hospitals establish voluntary reporting systems for tracking errors that may expose patients to risk but do not necessarily result in serious injury (“near-misses”).<sup>11</sup>

The success of voluntary reporting systems that track a full range of adverse events depends on the willingness of health care professionals to identify and report such events. When errors are discovered the most likely response is to punish the individual most directly associated with the error, even though errors generally result from interactive causes rather than from individual negligence.<sup>12</sup> The entire culture of surgeons and of sur-

gery has been challenged by these recommendations, and concerns about surgeon reaction were raised by Dr. Krizek in his Ethics and Philosophy Lecture at the 2001 Clinical Congress of the College.<sup>13</sup> Thus, while it appears that voluntary reporting of errors and near-misses may provide the data needed for system-wide improvements, resistance to such voluntary error reporting systems may be grounded in fears that such data would be misused or would result in litigation.

This pilot study sought to assess surgeon characteristics and case-specific circumstances that may influence the voluntary reporting of adverse events. The specific aims of this project were: (1) to assess surgeons’ attitudes about reporting adverse events; and (2) to determine the individual characteristics and situational factors that may influence whether errors are reported or concealed.

## Study methods

A total of 783 surveys were sent to a random sample of surgeons listed in the American College of Surgeons 1998 *Yearbook* with the only exclusion criteria being that those selected had to be listed as practicing medicine in the U.S. A total of 218 completed questionnaires were returned and analyzed (yielding a response rate of 28%). The questionnaire was three pages long and required about 15 minutes to complete.

Participants were asked to read about two scenarios in which an adverse event occurred during the surgical management of a patient and were asked to respond to a series of yes-or-no questions. The scenarios varied in terms of the harm to the patient, the relative ease with which the error could be concealed, the age of the patient, and how directly the surgeon was involved in the medical mistake. Participants were asked to respond to both cases regardless of whether the case situations were reflective of their particular practice pattern.

Participants also were asked to indicate their age, their gender, the state in which they practice, their specialty, and whether they currently supervise medical students and/or residents. Two open-ended questions sought opinions on whether surgical protocols lessen the chance that errors will occur during surgical management of patients (in-

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cluding preoperative, intraoperative, and postoperative), and what effect mandatory reporting systems may have on reducing the incidence of surgical errors.

The average age of respondents was 50.5 years (minimum 38, maximum 85), and 91 percent were male. When the 5 percent of respondents who indicated that they were retired were excluded, the average age was 49.2 years (minimum 38, maximum 68). Participants were in surgical practice in 41 states, with 10 percent from Florida and 10 percent from New York. The majority of respondents indicated that they were general surgeons (36%), with 12 percent specializing in plastic surgery and 8 percent in otolaryngology.

Nearly half of the respondents were in specialty group practices (44%), 31 percent were in solo practice, 18 percent were associated with academic health centers, and 7 percent practiced in HMOs or the Veterans Affairs system. Sixty percent of respondents supervised medical students and/or residents.

## The findings

The first case presented to the respondents was as follows:

An 80-year-old woman has an indurated area in her breast at the site of a breast biopsy (negative for cancer) performed six months ago. During your exploration, under local anesthesia, in your own office surgical facility, you discover that a 4 x 4 sponge had been left in the site and represents the cause of the firmness. There is no evidence of cancer in the breast. Since your assistant was distracted at the time you discovered the foreign body, there are no witnesses.

Most respondents (99%) believed that the discovery of the sponge should be shared with the patient, and 90 percent believed that they had a responsibility to report the finding of the sponge to the facility where the biopsy was originally performed. Only 1 percent of the respondents reported that the age of the patient was a factor in whether or not they would report the adverse event, with the comment that older patients may be less likely than younger patients to pursue litigation against physicians.

A quarter of respondents (26%) indicated that they believed reporting the incident to the patient would result in litigation against them, regardless of where the initial surgery was performed. Two-thirds of respondents (62%) believed that reporting such events would result in improved patient care in the future.

The second case presented to the respondents was as follows:

A 45-year-old man had closed fractures of the tibia and fibula of the same lower extremity and multiple other injuries. The cast you applied has become too tight as swelling occurred over the last 12 hours. Since the patient was not conscious, any changes in sensation could not be determined, and the nurses and residents did not recognize the changes in the color of the foot. Despite release of the cast pressure by you, the patient has subsequently shown a persistent peroneal nerve palsy on that side; months later it appeared that his foot-drop would be permanent.

The majority of respondents (84%) felt that as “captain of the ship” they were most responsible for the complication described in this scenario, and 86 percent felt that the incident should be reported to the hospital and other agencies responsible for the quality of patient care. Three-quarters of respondents (75%) indicated that having strict protocols for the management of patients with multiple injuries would lessen the occurrence of complications such as the one described in the case study, and 66 percent felt that surgeons caring for patients with apparently similar problems should follow the same protocol.

## Impact of surgical protocols

In addition to offering their responses to the two cases just described, study participants were asked whether they believe surgical protocols lessen the chance that errors will occur during the surgical management of patients and whether they think mandatory reporting systems would help to reduce the incidence of errors.

Approximately 75 percent of respondents indicated that they believe that the use of surgical protocols would lessen the incidence of errors. Many qualified their comments with statements such as,

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“protocols best fit straightforward procedures,” “errors will occur in spite of protocols,” and “there needs to be room for individualization depending on circumstances.”

Participants who believed that protocols would not affect error rates commented that errors typically result from lack of training and personnel shortages, rather than the absence of protocols or standard procedures, and that the use of protocols may encourage staff to “stop thinking.” Several respondents indicated that protocols may be a two-edged sword: while they may reduce errors, they also may encourage litigation if they are not precisely followed, regardless of whether adverse circumstances result. Further, surgeons may assume that protocols are being followed because they exist, while their existence may not be obvious to substitute or “float” personnel.

## Mandatory reporting systems

Nearly half of the respondents felt that mandatory reporting would affect errors. Some respondents supported their views with statements such as: “There will always be errors when humans are involved”; “mandatory reporting systems only make it easier for lawyers to gain access to data”; and “mandatory reporting is no substitute for a good relationship between doctor and patient.”

Approximately one quarter of the respondents said they believed that mandatory reporting of errors would have a positive effect and may reduce errors. Respondents indicated that reporting systems may make physicians more vigilant, adding that “anytime that a process is monitored or measured, it tends to improve,” and mandatory reporting “makes patients feel that the institution and physicians are interested in their well-being and are making an attempt to reduce errors.”

About 15 percent of the respondents indicated that they didn’t know how reporting systems would influence errors. Some respondents indicated that the impact would depend on the establishment of entirely new systems and would be unlikely to be effective if they were “added on” and nothing else was changed.

The remaining 10 percent of respondents indicated that they believe that instituting mandatory reporting systems may have a negative effect on the handling of medical errors. Common objec-

tions to mandatory reporting cited in the study included: (1) it may increase the pressure to conceal, rather than analyze, errors; (2) reporting is unworkable given the current legal system; and (3) it may not result in constructive solutions, just more punishment or censure, which ultimately fail to reduce errors.

## Conclusions

Patient safety and the reduction of errors in medical care are important issues. The results of this survey indicate that these issues are important to surgeons, and that the majority of surgeons feel a responsibility to report adverse events to patients and to their institutions, as well as to assume personal responsibility for the safety of their patients.

Yet there is evidence that medical errors occur at epidemic levels and that the current system in most hospitals and clinics requires that blame be

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placed and punitive sanctions be imposed on those most closely associated with the mistake. Punishments range from mortification in front of one's peers at a morbidity and mortality conference to more lasting hardships, such as the loss of one's license to practice medicine.

These results begin to clarify that opposition or reluctance to report errors is not likely due to deficiencies in the character, values, or competence of individual surgeons, but rather due to the systems-level variables and conditions that constitute current medical care delivery systems. The way in which medical care is provided, particularly in the operating room, makes it unfair to assign blame to the surgeon only. By the time the surgeon enters the operating room to remove a diseased limb, for example, many other decisions have been made, such as which limb to expose and how the plan of care has been documented in the medical chart. If the wrong limb is operated on, the entire system is at fault, not solely the individual surgeon. Blaming and punishing the surgeon most closely associated with the error is not a substitute for analyzing the entire work flow, from patient admission to discharge, to uncover procedures that should be modified and changed to prevent further similar incidents.

The current culture of blame and litigation also works against the use of voluntary error reporting. As several respondents indicated, until the legal system is changed to protect physicians' rights and hospital administrators' rights to maintain private data on errors and near-misses, it is less likely that such data will be collected and analyzed.



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Yet these data provide the best opportunity available for addressing the system-wide weaknesses or latent errors that may pose greater recurring threats to patient safety than singular incidents of personal incompetence.

The analysis of trends in medical errors and of repeated mishaps, as well as the development of protocols and the implementation of standard procedures, may lead to safer patient care. As one respondent said of the first scenario, "What OR doesn't count sponges? If your standard procedure is to count sponges, such mistakes cannot occur." It is a sad fact that even though almost all institutions may now monitor OR equipment and materials on a routine basis, sponges and instruments continue to be left in surgical patients, even when the count was either reported as "correct" or the report of "incorrect" was ignored. Factors such as the critical shortage of nurses, temporary or float personnel in high-risk areas such as the operating or emergency room, and even cost pressures may be factors that influence the ability of committed medical professionals to limit errors.

While overall these results support that surgeons are motivated by professional values such as responsibility, duty, and altruism, surgeons must be willing to identify colleagues who are careless with patients, whether due to substance abuse, outdated skills, or indifference. Systems problems in no way absolve from blame or censure individuals who are negligent or incompetent.

Respondents had reservations about mandatory reporting systems and about the development and implementation of surgical protocols as ways to reduce the rates of adverse incidents. Both approaches have limitations, some of which were highlighted in comments from survey respondents. Mandatory reporting systems may expose individuals to censure instead of being used to understand system-wide patterns. Surgeons may not be willing to follow protocols, and protocols may be less useful in some surgical procedures or at some hospitals or surgical facilities than at others.

This pilot study methodology also has limitations that must be addressed before generalizing these results to other populations. A response rate of 28 percent is acceptable for this type of "unofficial" study; a study sponsored, for instance, by the American College of Surgeons would no doubt encourage a broader response. When cases similar

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to this were used at ethics colloquia at the Clinical Congress, a larger percentage of surgeons indicated they may have been tempted to conceal the finding of the sponge. The use of hypothetical scenarios to elicit opinions about controversial subjects was supported; the response rate was acceptable and the resulting data yielded meaningful results.

This pilot survey of practicing surgeons was conducted to elicit their approach to two hypothetical situations in which error led to adverse consequences. Almost all surgeons believe that issues of error need to be shared with patients and, to a somewhat lesser degree, with the institution. A majority of surgeons support more widespread use of protocols, particularly on the more common procedures. There is widespread concern about the legal consequences of mandatory reporting and the conflict between an ethical duty to address adverse events and the punitive consequences from reporting. □

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