SYMPOSIUM: CLINICAL RISK AND JUDICIAL REASONING

Apologies and Medical Error

Jennifer K. Robbennolt PhD, JD

Published online: 30 October 2008

© The Association of Bone and Joint Surgeons 2008

Abstract One way in which physicians can respond to a medical error is to apologize. Apologies-statements that acknowledge an error and its consequences, take responsibility, and communicate regret for having caused harm can decrease blame, decrease anger, increase trust, and improve relationships. Importantly, apologies also have the potential to decrease the risk of a medical malpractice lawsuit and can help settle claims by patients. Patients indicate they want and expect explanations and apologies after medical errors and physicians indicate they want to apologize. However, in practice, physicians tend to provide minimal information to patients after medical errors and infrequently offer complete apologies. Although fears about potential litigation are the most commonly cited barrier to apologizing after medical error, the link between litigation risk and the practice of disclosure and apology is tenuous. Other barriers might include the culture of medicine and the inherent psychological difficulties in facing one's mistakes and apologizing for them. Despite these barriers, incorporating apology into conversations between physicians and patients can address the needs of both parties and can play a role in the effective resolution of disputes related to medical error.

The author certifies that she has no commercial associations (eg, consultancies, stock ownership, equity interest, patent/licensing arrangements, etc) that might pose a conflict of interest in connection with the submitted article.

J. K. Robbennolt (⊠)
University of Illinois College of Law, 504 E Pennsylvania
Avenue, Champaign, IL 61820, USA
e-mail: jrobbenn@law.uiuc.edu



Introduction

Medical errors happen [24]. When they do, they can have lasting consequences for both the patient and the physician. There is growing awareness of the ways in which disclosing such errors and other adverse events to patients can be a central part of patient care and have relevance to issues of patient safety [12]. Indeed, ethical standards articulated by the American College of Physicians and the American Medical Association oblige the disclosure of errors, the Joint Commission on the Accreditation of Hospital Organizations requires the disclosure to patients of unanticipated outcomes, and many states now require hospitals or physicians to disclose adverse events to patients [12, 25, 45]. Recent research suggests one central component of effective disclosure is an apology.

An apology is a statement given by one who has injured another that includes recognition of the error that has occurred, admits fault and takes responsibility, and communicates a sincere sense of regret or remorse for having caused harm [53]. At their most complete, apologies may also include promises to refrain from engaging in similar conduct in the future and compensation for the harm that has been done [47]. The messages contained in an apology can have powerful effects for both the person offering it and the recipient. In particular, apologies influence the ways in which people make judgments of responsibilitydecreasing the blame that is attributed to another and decreasing the likelihood that the cause of the injury is viewed as something that is internal to and controllable by the other person [47, 51]. Similarly, apologies influence estimates of the likelihood that the injury-producing scenario will recur; the apology is interpreted as a signal that steps will be taken to avoid similar consequences in the future [16, 44, 46]. Apologies also have positive effects on expectations and intentions for a future relationship between the parties [38, 39, 44, 46], play a role in restoring trust [38, 39], reduce negative emotional reactions such as anger [16, 44, 46, 51], induce favorable physiological responses in both parties [59], and reduce antagonistic responses [16, 42, 44, 46].

Although there has been growing interest in the role of apologies in the resolution of disputes generally [7], apologies would seem to have particular relevance to the resolution of disputes in the context of health care and medical error. The relationship between the physician and patient is one that involves considerable intimacy, vulnerability, and trust. When a patient is injured by a medical error, this relationship can be injured as well, even as patients may be in need of continuing care [37]. Incorporating apology into conversations between physicians and patients can address the needs of both patients and physicians and is consistent with the ethics of the medical profession, ethics that focus on the necessity for trust between physician and patient.

Apologies and Patients

Patients, of course, worry about bad outcomes of medical treatment, including bad outcomes that result from medical error. Patients indicate they care about understanding what has happened to them, about receiving apologies, and about preventing similar errors in the future. Witman and colleagues [58] asked patients to evaluate a number of scenarios describing medical errors from the perspective of the injured patient. Almost all the patients (98%) indicated they "desired or expected the physician's active acknowledgement of an error. This ranged from a simple acknowledgement of the error to various forms of apology" [58]. In a similar survey, Mazor and colleagues [39] found most (88%) of the surveyed members of a healthcare plan "would want the doctor to tell [them] that he or she was sincerely sorry."

Focus groups with patients have indicated similar preferences. Gallagher and colleagues [13] found patients desire and expect to be informed promptly about a medical error; to be given information about what occurred, why and how it occurred, how their health will be affected, and what steps will be taken to prevent future harm; and to receive an apology that signals a sense of regret and a desire to do better going forward. Indeed, they found "[m]any patients said they would be less upset if the physician disclosed the error honestly and compassionately and apologized...[and]...that explanations of the error that were incomplete or evasive would increase their distress" [13]. Patients also prefer that such communication occur without a need for prompting on their part [13].

Consistent with what patients say they would expect after a medical error, studies of patients who file suit find litigants are motivated to find out what happened and to prevent future injury, motivations that implicate apologies. For example, Vincent and colleagues [54] surveyed medical malpractice claimants about the reasons they filed suit. Over 90% of respondents indicated they wanted to prevent the same thing from happening to someone else, to receive an explanation for what had happened, or for the doctors to realize what they had done. Of the respondents who thought something could have been done to prevent the lawsuit, approximately 40% reported that if they had received an explanation and apology, they would not have felt the need to file suit [54]. Similarly, among the reasons that claimants interviewed by Hickson and colleagues [18] gave as motivating their lawsuits were the belief that "the courtroom was the only forum in which they could find out what happened from the physicians who provided care" (20%), the belief "that physicians had failed to be completely honest with them about what happened, allowed them to believe things that were not true, or intentionally misled them" (24%), and a desire to "deter subsequent malpractice by the physician and/or to seek revenge" (19%) [18]. Other studies have similarly found failure to provide explanations and poor communication generally are associated with litigation [1, 19, 21, 34, 35, 48].

Experimental studies also provide evidence that apologies may serve to facilitate settlement of claims. For example, in several studies, Mazor and her colleagues [38, 39] asked members of a healthcare plan to take the role of a patient and to indicate how they would respond to an injury caused by medical error. They found patients were less likely to indicate they would seek legal advice when the physician assumed responsibility for the error, apologized, and outlined steps that would be taken to prevent recurrence [38, 39]. Similarly, Witman and colleagues [58] found patients were less likely to indicate they would file a lawsuit if they were informed of an error than if they were not informed. In addition, experimental studies in the nonmedical context have found injured persons are more likely to adopt a settlement posture that improves the prospects for settlement and more likely to accept a particular offer of settlement when they have received an apology than when they have not [27, 44, 46].

Apologies and Physicians

Physicians, like patients, are profoundly affected by medical errors; physicians worry about harm caused to patients; are anxious about the consequences of error for their reputations, fearing that patients and colleagues will no longer trust and respect them; experience distress, feelings of



guilt, and loss of self-confidence; and are anxious about the possibility of a lawsuit [6, 13, 20, 57]. Indeed, physicians describe the "sickening realization of making a bad mistake" [60] and the sense of dread on realizing that one has made an error [13].

Many physicians express the desire to apologize to patients when an error has occurred [13]. However, there is a disconnect between patients and physicians in their expectations and attitudes about the communication they will have after a medical error. In contrast to the desires and expectations of patients for disclosure and apology, there is evidence many physicians tend to provide minimal information about what happened, what led to the error, or what might be done differently in the future; to choose their words carefully so as to avoid being explicit about the error; and to believe patients who want more information will ask for it to be provided [13]. Similarly, there is evidence that providers are reluctant to make any offers of compensation for medical errors unless and until a lawsuit is filed [2, 15, 23, 43].

Despite the potential benefits of apologizing, apologies are not frequently given and there is wide variation in physicians' tendencies to offer apologies in the wake of medical error. For example, in one survey, only one-third of both physician and nonphysician respondents who had experienced a medical error in their family reported they had received an explanation or an apology for what had happened [3]. Another survey of patients who brought suit found 40% reported not receiving an explanation; in only 13% of cases did patients report responsibility for what had happened was accepted either in part or in full and in only 15% of cases did patients report receiving an apology [54].

Similarly, in a study of error disclosure by surgeons to standardized patients, the researchers found wide variation in disclosure practices [5]. Some surgeons (57%) explicitly referred to the error as an "error" or a "mistake"; others either described the event as a "complication" or "problem" (27%) or did not indicate the outcome was preventable (16%). Many, but not all, surgeons (65%) took responsibility for the error; some independently, but others only after pressed by the patient. Fewer than half of the surgeons (47%) offered some expression of apology or regret to the patient; these expressions ranged from explicit apologies for the error to much less direct statements of regret ("I'm sorry to have to tell you this..."). Very few, only 8%, assured the patient the error would be examined with an eye toward preventing harm in the future [5].

Another study examined both medical and surgical physicians' self-reported responses to error scenarios and found physicians reported wide variation in whether they would apologize after a medical error; almost two-thirds (61%) indicated they would express regret for the adverse outcome, one-third (33%) reported they would apologize in

a way that explicitly acknowledged the error, and a few (6%) would offer no apology at all [11]. The inclination to offer an apology was even smaller when the error was one that would be less apparent to the patient. Surgical specialists were considerably less likely than medical specialists to apologize [11].

Similar variation was apparent in physicians' inclination to discuss error prevention, with most (54%) providing general assurances that future errors would be prevented, some (37%) describing in more detail what steps would be taken, and a few (9%) providing no information about prevention. Again, surgical specialists were considerably less likely to report they would discuss with patients steps that would be taken to prevent future error [11].

Barriers to Apologies After Medical Error

Perhaps the most commonly cited barrier to disclosure and apology by physicians and risk managers is fear of litigation or legal liability [13, 30]. At the same time, however, the link between the risk of litigation and willingness to disclose has not been established. In particular, reluctance to disclose error does not appear to be correlated over time with the likelihood of litigation; "the historical evidence indicates that there was never much ex post communication with patients, even when liability risk was low" [22]. Similarly, one recent study found physicians practicing in different jurisdictions (the United States and Canada) reported a similar likelihood of having disclosed a serious error to a patient [14]. Although physicians across jurisdictions perceived differences in their chances of being sued, their beliefs about disclosure were similar [14]. Instead, variation in individual physicians' beliefs about the relationship between disclosure and litigation was related to the likelihood of disclosure [11, 14]. Comparisons of litigation and disclosure rates in the United States and the United Kingdom have reached similar conclusions [22].

Moreover, it is not at all clear that apologies pose the litigation risk that is often feared. First, as a general matter, empirical research has demonstrated both that most injured patients do not file lawsuits [23, 43] and that physicians tend to substantially overestimate the risk of being sued [31]. Second, as noted previously, there is evidence that apologies tend to diminish blame and make injured patients less likely to sue and more willing to settle when they do. Third, although there has been little empirical examination of how apologies play out at trial [4], imagine the consequences of an apology for cases that still result in a trial: "The long painful, shameful spectacle of the plaintiff lawyer trying to prove in public that the physician is negligent, a bad person, will not take place. The court's role will be limited to establishing just compensation. What is a



jury likely to do with a physician who has been honest and also apologized? Judgments will most likely be far less costly" [33].

Nonetheless, in part because physicians and other potential defendants fear their apologies might be interpreted as evidence tending to prove legal liability, over two-thirds of the states have enacted evidentiary rules that make some apologies inadmissible in court as evidence of liability. Many of these statutes are limited in their application to cases of medical error, whereas other versions more broadly encompass all civil cases (which would include cases involving medical error). These statutes vary in the scope of their coverage. Some statutes make inadmissible statements that express sympathy for the others' injuries while allowing the admission of statements that admit responsibility. Other statutes protect a wider range of statements, specifically making inadmissible statements that express "fault," "error," or "mistake" in addition to an expression of sympathy. A final category of statute protects "apologies" without further description [44, 46]. Because there has been little empirical examination of such statutes, it is not clear whether or in what ways these provisions will affect the apologizing for medical error.

Beyond the threat of litigation, then, there are a variety of barriers to disclosure and apology after medical errors. Gallagher and colleagues [14] suggest "the norms, values, and practices that constitute the culture of medicine" may play a greater role in encouraging or inhibiting disclosure and apologies than does the risk of liability. In particular, a desire for and history of self-regulation and an expectation (by self, peers, and patients) of perfection may make it difficult to apologize for errors [55].

More generally, to admit that an error has occurred and to apologize for it is embarrassing and injurious to one's pride and requires one to come to grips with a threat to one's self-esteem. Acknowledging an error conflicts with a striving for perfection and can result in a sense of vulnerability [26, 32]. Simply put, it is difficult to apologize. As Frenkel and Liebman [9] have noted, "Apologies have a potential for healing that is matched only by the difficulty most people have in offering them." Indeed, physicians are reluctant to conclude that iatrogenic injury has occurred [56] and three-fourths of physicians agree that disclosing a serious medical error would be difficult to do [14].

Making a mistake that harms a patient can lead to uncomfortable feelings of cognitive dissonance; that is, it is hard to have confidence in one's competence as a healer and to simultaneously accept that one has caused harm to another (or that the system of which one is a part has caused harm) [52]. Such feelings may be particularly difficult for physicians, because such "[d]issonance is bothersome under any circumstance, but it is most painful to people when an important element of their self-concept

is threatened—typically when they do something that is inconsistent with their view of themselves" [52].

Finally, lack of certainty and skill about how to go about disclosing errors and apologizing for them may prevent many physicians from engaging in such conversations [11, 22]. Many physicians have not been trained in how to effectively communicate with patients and, in particular, how to apologize after a medical error [10].

Effective Apologies

As noted previously, apologies have the potential to contribute to the process of addressing medical errors, in particular playing a role in disclosure conversations between the physician and the patient. However, not all apologies are created equal or are equally appropriate in all circumstances.

One of the central features of an apology—the feature that distinguishes it from other ways of accounting for harm done such as offering an excuse—is the acceptance of responsibility for having caused harm. Indeed, apologies that accept responsibility are more effective than similar expressions that simply express sympathy [44, 46]. Sincerely offered expressions of sympathy, however, can have many of the positive effects of apologies that accept responsibility, although not to the same degree [44, 46].

It is also the case that whether the apology is accompanied by an offer of compensation can influence its impact. The notion that appropriate compensation is relevant to apologies has been articulated by Bishop Desmond Tutu: "If you take my pen and say you are sorry, but don't give me the pen back, nothing has happened" [2]. Adapting this notion to the medical context, Berlinger has argued, "If a physician apologizes to an injured patient, if a physician genuinely fells remorse for having injured the patient, if a physician acknowledges that the mistake was her fault, but there are no provisions for fairly compensating the patient for the cost of medical care and lost wages resulting from the injury and no provisions for helping this physician to avoid injuring other patients, nothing has happened" [2].

Finally, any apology that is extended must be sincerely offered. Sincere apologies for errors that have occurred are likely to be beneficial to both the patient and physician. However, as Miller has argued, "[w]hen victims perceive apologies to be insincere and designed simply to 'cool them out,' they react with more rather than less indignation" [40].

Receptivity to Apologies in the Medical Profession

Several developments over the past few years signal an increasing receptivity within the medical profession to



apologizing to patients who have been injured by medical errors. First, a number of institutions have now had positive experiences with policies that entail disclosing and apologizing for medical errors. The most widely discussed example is the Veterans Affairs Medical Center in Lexington, KY. Under the hospital's policy, medical errors are disclosed to patients (whether or not the patient was already aware of the adverse event), apologies are offered, and a settlement is offered [29]. The hospital reports that the policy has resulted in improved relationships with patients, faster settlement of claims, and decreased litigation costs [28]. The hospital also reports that although it was in the top 20% of Veterans' Affairs hospitals in terms of the number of claims paid during the first 7 years of the policy, it was among the lowest 25% of Veterans' Affairs hospitals with regard to total payments made to patients [29]. This suggests that although disclosure and apology may result in an increased volume of claims [49], total costs may decrease. Other hospitals (for example, University of Michigan Health System, Johns Hopkins, Children's Healthcare of Atlanta, Boston's Dana Farber Cancer Institute, and Massachusetts' Sturdy Memorial Hospital) as well as private insurers (eg, COPIC) report similar experiences [12, 30, 61].

Two recent statements suggest a formal broadening of this receptivity. In 2006, the National Quality Forum put forward an evidence-based safe practice guideline regarding the disclosure of serious unanticipated outcomes [41]. In addition to recommending that disclosure include an explanation of what happened and the implications for the patient, a commitment to investigate, and feedback about such investigation, the guideline advises physicians to express regret to the patient when there is an adverse outcome and to apologize when there has been an error.

Similarly, the Full Disclosure Working Group of the Harvard Hospitals issued a consensus statement in 2006 that recommends caregivers "acknowledge the event, express regret, and explain what happened. If an obvious error has been made, the caregiver should admit it, take responsibility for it, apologize, and express a commitment to finding out why it occurred" [10].

Finally, some medical schools are now starting to incorporate training about error disclosure and apologies into the curriculum [17, 36]. Such training, both for medical students and practicing physicians, has the potential to effectively teach physicians the skills necessary for effective apologies. For example, one recent study using standardized patients to explore surgeons' disclosure skills and practices found 90% of the surgeons had no previous training in such skills, and the vast majority of them (93%) found the sessions to be a "very good or excellent educational experience" [5].



The existing research suggests incorporating apologies as part of the disclosure of medical errors can benefit both patients and caregivers. In the medical context, however, not every unfavorable outcome is the result of medical error [50]. Moreover, it may be the case that the cause of an unfavorable outcome is not immediately clear and investigation is necessary to ascertain what went wrong. Thus, the appropriate communication may differ depending on the circumstances.

For example, an apology that accepts responsibility for an error and the harm caused may be most appropriate when it is clear that an error has caused harm. This is true whether the outcome was completely or partially caused by the error and whether the error occurred at the individual or systemic level. When, however, it is clear the adverse outcome was not the result of an error, an explanation of the cause of the complication coupled with an expression of regret for the outcome and sympathy for the patient's condition seems more appropriate.

Finally, when it is not clear what the source of the problem was, the caregiver should express regret and sympathy along with the assurance that an investigation will take place. Once that investigation has occurred, additional information should be provided to the patient along with an apology if error is discovered. Although an apology should be made relatively soon after the error occurs, an apology that is deferred until an investigation has been completed can be effective (particularly if coupled with appropriate communication along the way). Specifically, experimental studies have found apologies can be most satisfactory when the apologizer has taken the time to be able to articulate the nature of the error and its impact [8].

Of course, these distinctions may not always be completely clear. The source of an adverse outcome may be difficult to ascertain or the outcome may be multiply determined. However, in dealing with this complexity, physicians should recognize they tend to be disinclined to recognize error even when it occurs [56] and that there is a tendency to avoid directly apologizing even for clear errors [3, 5, 11], and consciously attempt to counter these tendencies. In any case, a patient who sustains an adverse outcome should be provided with full information about the nature of the complication, his or her injuries and prognosis, and any resulting necessary treatment.

A thorough empirical examination of the role of apologies in addressing medical error and other adverse events has only just begun. Although the existing studies, drawing on data from the field and from experimental studies, demonstrate the potential for apologies to facilitate dispute resolution in this context, there is still much we do not



know. In particular, future research might examine physician decisions about whether and how to apologize; the effects of training about communication, disclosure, and apologies on physician apology and how such formal training interacts with the informal training physicians receive; and the effects of evidentiary rules on physician decisions to apologize.

Sincere apologies offered in the wake of a medical error may lead to a lessening of suffering for both patients and physicians in coping with the error and its consequences, contribute to improved relationships between physicians and patients such that these relationships are able to continue, and reduce costs by preventing lawsuits and facilitate the settlement of valid claims. Continuing empirical examination of the complexities of apologies in the context of medical error is a positive step and is likely to be a valuable contribution to the discussion.

Acknowledgments I thank David Hyman for his helpful comments on a previous version of this article.

References

- Beckman HB, Markakis KM, Suchman AL, Frankel RM. The doctor-patient relationship and malpractice: lessons from plaintiff depositions. *Arch Intern Med.* 1994;154:1365–1370.
- Berlinger N. After Harm: Medical Error and the Ethics of Forgiveness. Baltimore, MD: Johns Hopkins University Press; 2005;31:61–62.
- Blendon RJ, DesRoches CM, Brodie M, Benson JM, Rosen AB, Schneider E, Altman DE, Zapert K, Herrmann MJ, Steffenson AE. Views of practicing physicians and the public on medical errors. N Engl J Med. 2002;347:1933–1940.
- Bornstein BH, Rung LM, Miller MK. The effects of defendant remorse on mock juror decisions in a malpractice case. *Behav Sci Law*. 2002;20:393–409.
- Chan DK, Gallagher TH, Reznick R, Levinson W. How surgeons disclose medical error to patients: a study using standardized patients. Surgery. 2005;138:851–858.
- Christensen JF, Levinson W, Dunn PM. The heart of darkness: the impact of perceived mistakes on physicians. *J Gen Intern Med.* 1992;7:424–431.
- 7. Cohen JR. Advising clients to apologize. *South Cal Law Rev*. 1999;72:1009–1069.
- Frantz CM, Bennigson C. Better late than early: the influence of timing on apology effectiveness. J Exp Soc Psychol. 2005;41: 201–207.
- 9. Frenkel DN, Liebman CB. Words that heal. *Ann Intern Med*. 2004;140:482–483.
- Full Disclosure Working Group, Harvard University. When things go wrong: responding to adverse events. March 2006. Available at: www.macoalition.org/documents/respondingToAdverseEvents. pdf. Accessed August 14, 2008.
- Gallagher TH, Garbutt JM, Waterman AD, Flum DR, Larson EB, Waterman BM, Dunagan WC, Fraser VJ, Levinson W. Choosing your words carefully: how physicians would disclose harmful medical error to patients. *Arch Intern Med.* 2006; 166:1585–1593.
- Gallagher TH, Studdert D, Levinson W. Disclosing harmful medical errors to patients. N Engl J Med. 2007;356:2713–2719.

- Gallagher TH, Waterman AD, Ebers AG, Fraser VJ, Levinson W. Patients' and physicians' attitudes regarding the disclosure of medical errors. *JAMA*. 2003;289:1001–1007.
- Gallagher TH, Waterman AD, Garbutt JM, Kapp JM, Chan DK, Dunagan WC, Fraser VJ, Levinson W. US and Canadian physicians' attitudes and experiences regarding disclosing errors to patients. *Arch Intern Med.* 2006;166:1605–1611.
- 15. Gawande A. Better: A Surgeon's Notes on Performance. New York, NY: Picador; 2007:84–111.
- Gold GJ, Weiner B. Remorse, confession, group identity, and expectancies about repeating a transgression. *Basic Appl Social* Psych. 2000:22:291–300.
- Halbach JL, Sullivan LL. Teaching medical students about medical errors and patient safety: evaluation of a required curriculum. Acad Med. 2005;80:600–606.
- Hickson GB, Clayton EW, Githens PB, Sloan FA. Factors that prompted families to file medical malpractice claims following perinatal injuries. *JAMA*. 1992;267:1359–1363.
- Hickson GB, Federspiel CF, Pichert JW, Miller CS, Gauld-Jaeger J, Bost P. Patient complaints and malpractice risk. *JAMA*. 2002;287:2951–2957.
- Hobgood C, Hevia A, Tamayo-Sarver JH, Weiner B, Riviello R. The influence of the causes and contexts of medical errors on emergency medicine residents' responses to their errors: an exploration. *Acad Med.* 2005;80:758–764.
- Huycke LI, Huycke MM. Characteristics of potential plaintiffs in malpractice litigation. Ann Intern Med. 1994;120:792–798.
- Hyman DA, Silver C. The poor state of health care quality in the US: is malpractice liability part of the problem or part of the solution? *Cornell Law Rev.* 2005;90:893–993.
- Hyman DA, Silver C. Medical malpractice litigation and tort reform. Vanderbilt Law Rev. 2006;59:1085–1136.
- Institute of Medicine. To Err Is Human: Building a Safer Health System. Washington, DC: National Academy Press; 1999.
- Joint Commission on the Accreditation of Healthcare Organizations. Hospital Accreditation Standards. Standard RI.2.90. Oak Brook, IL: Joint Commission Resources; 2005.
- Kaldjian LC, Jones EW, Rosenthal GE, Tripp-Reimer T, Hillis SL. An empirically derived taxonomy of factors affecting physicians' willingness to disclose medical errors. *J Gen Intern Med*. 2006;21:942–948.
- Korobkin R, Guthrie C. Psychological barriers to litigation settlement: an experimental approach. *Mich Law Rev.* 1994;93:107– 102
- Kraman SS. A risk management program based on full disclosure and trust: does everyone win? *Comp Ther*. 2001;27:253–257.
- 29. Kraman SS, Hamm G. Risk management: extreme honesty may be the best policy. *Ann Intern Med.* 1999;131:963–967.
- Lamb RM, Studdert DM, Bohmer RMJ, Berwick DM, Brennan TA. Hospital disclosure practices: results of a national study. *Health Aff.* 2003;22:73–83.
- Lawthers AG, Localio AR, Laird NM, Lipsitz S, Hebert L, Brennan T. Physicians' perceptions of the risk of being sued. J Health Polit Pol Law. 1992;17:463–482.
- 32. Lazare A. *On Apology*. New York, NY: Oxford University Press; 2004:159–169.
- 33. Leape LL. Understanding the power of apology: how saying 'I'm sorry' helps heal patients and caregivers. Focus on Patient Safety: Newsletter of the National Patient Safety Foundation. 2005;8:1–3.
- 34. Lester GW, Smith SG. Listening and talking to patients: a remedy for malpractice suits? West J Med. 1993;158:268–272.
- Levinson W, Roter DL, Mullooly JP, Dull VT, Frankel RM. Physician-patient communication: the relationship with malpractice claims among primary care physicians and surgeons. *JAMA*. 1997;177:553–559.



- Mangan K. Acting sick: at medical schools, actors help teach doctors how to 'fess up' to mistakes—and how to avoid them. The Chronicle of Higher Education. Sept 15, 2006.
- 37. May ML, Stengel DB. Who sues their doctors? How patients handle medical grievances. *Law Soc Rev.* 1990;24:105–120.
- Mazor KM, Reed GW, Yood RA, Fischer MA, Baril J, Burwitz JH. Disclosure of medical errors: what factors influence how patients respond? J Gen Intern Med. 2006;21:704

 –710.
- Mazor KM, Simon SR, Yood RA, Martinson BC, Gunter MJ, Reed GW, Gurwitz JH. Health plan members' views about disclosure of medical errors. *Ann Intern Med.* 2004;140:409–423.
- Miller DT. Disrespect and the experience of injustice. Ann Rev Psychol. 2001;52:527–553.
- National quality forum, safe practices for better healthcare 2006 update: a consensus report. 2006:22. Available at: www.qualityforum.org/pdf/projects/safe-practices/AppealsDraft-Background-and-UpdatedSafePractices.pdf. Accessed August 14, 2008.
- Ohbucki K, Kameda M, Agarie N. Apology as aggression control: Its role in mediating appraisal of and response to harm. J Pers Soc Psychol. 1989;56:219–227.
- 43. Peters P. What we know about malpractice settlements. *Iowa Law Rev.* 2007;92:1783–1833.
- 44. Robbennolt JK. Apologies and legal settlement. *Mich Law Rev.* 2003;102:460–516.
- Robbennolt JK. What we know and don't know about the role of apologies in resolving health care disputes. *Georgia State Univ* Law Rev. 2005;21:1009–1027.
- 46. Robbennolt JK. Apologies and settlement levers. *J Empir Legal Studies*. 2006;3:333–373.
- 47. Scher SJ, Darley JM. How effective are the things people say to apologize? Effects of the realization of the apology speech act. *J Psycholinguistic Res.* 1997;26:127–140.
- Shapiro RS, Simpson DE, Lawrence SL, Talsky AM, Sobocinski KA, Schiedermayer DL. A survey of sued and nonsued physicians and suing patients. *Arch Intern Med.* 1989;149: 2190–2196.

- Studdert DM, Mello MM, Gawande AA, Brennan TA, Wang YC. Disclosure of medical injury to patients: an improbable risk management strategy. *Health Aff*. 2007;26:215–226.
- Studdert DM, Mello MM, Gawande AA, Gandhi TK, Kachalia A, Yoon C, Puopolo AL, Brennan TA. Claims, errors, and compensation payments in medical malpractice litigation. N Engl J Med. 2006;354:2024–2033.
- Takaku S. The effects of apology and perspective taking on interpersonal forgiveness: a dissonance-attribution model of interpersonal forgiveness. J Soc Psychol. 2001;141:494

 –508.
- Tavris C, Aronson E. Mistakes Were Made (but not by me): Why We Justify Foolish Beliefs, Bad Decisions, and Hurtful Acts. Orlando, FL: Harcourt; 2007:11–39.
- 53. Tavuchis N. Mea Culpa: A Sociology of Apology and Reconciliation. Stanford, CA: Stanford University Press; 1991:15–44.
- Vincent CA, Young M, Phillips A. Why do people sue doctors? A study of patients and relatives taking legal action. *Lancet*. 1994;343:1609–1613.
- 55. Wei M. Doctors, apologies, and the law: an analysis and critique of apology laws. *J Health Law.* 2007;40:107–159.
- Weiler PC, Hiatt H, Newhouse JP, Johnson WG, Brennan T, Leape L. A Measure of Malpractice: Medical Injury, Malpractice Litigation, and Patient Compensation. Cambridge, MA: Harvard University Press; 1993.
- West CP, Huschka MM, Novotny PJ, Sloan JA, Kolars JC, Habermann TM, Shanafelt TD. Association of perceived medical errors with resident distress and empathy: a prospective longitudinal study. *JAMA*. 2006;296:1071–1078.
- Witman AB, Park DM, Hardin SB. How do patients want physicians to handle mistakes? A survey of internal medicine patients in an academic setting. *Arch Intern Med.* 1996;156:2565–2569.
- Witvliet CV, Worthington EL, Wade NG. Victims' heart rate and facial EMG responses to receiving an apology and restitution. *Psychophysiology*. 2002;39:S88.
- 60. Wu AW. Medical error: the second victim. BMJ. 2000;320:726–727.
- 61. Zimmerman R. Doctors' new tool to fight lawsuits: saying 'I'm sorry.' Wall Street Journal. May 18, 2004:A1.

