

Special Communication

The Medical Liability Climate and Prospects for Reform

Michelle M. Mello, JD, PhD, MPhil; David M. Studdert, LLB, ScD, MPH; Allen Kachalia, MD, JD

 Editorial

For many physicians, the prospect of being sued for medical malpractice is a singularly disturbing aspect of modern clinical practice. State legislatures have enacted tort reforms, such as caps on damages, in an effort to reduce the volume and costs of malpractice litigation. Attempts to introduce similar traditional reform measures at the federal level have so far failed. Much less prominent, but potentially more important, are proposed alternative approaches for resolving medical injuries; a number of these efforts are currently being tested in federally sponsored demonstration projects. These nontraditional reforms have considerable promise for addressing some of the system's most challenging issues, including high costs and barriers to accessing compensation. In this Special Communication, we review recent national trends in medical liability claims and costs, which indicate a sharp reduction in the rate of paid claims and flat or declining levels in compensation payments and liability insurance costs over the last 7 to 10 years. We discuss a number of nontraditional reform approaches—communication-and-resolution programs, presuit notification and apology laws, safe harbor legislation, judge-directed negotiation, and administrative compensation systems—and we conclude by describing several forces likely to shape change in the medical liability environment over the next decade.

JAMA. doi:10.1001/jama.2014.10705
Published online October 30, 2014.

Author Affiliations: Stanford Law School, Stanford, California (Mello, Studdert); Stanford University School of Medicine, Stanford, California (Mello, Studdert); Brigham and Women's Hospital, Harvard Medical School, Boston, Massachusetts (Kachalia).

Corresponding Author: Michelle M. Mello, JD, PhD, MPhil, Stanford Law School, 559 Nathan Abbott Way, Stanford, CA 94305-8610 (mmello@law.stanford.edu).

Efforts to curb medical liability costs have been an enduring feature of the policy and political landscapes over the past 4 decades. At both the state and federal levels, policy makers have experienced pressure from organized medicine to act to modulate volatility in malpractice insurance prices. The prospect that reforms might reduce defensive medicine, offsetting growing health care costs, has added further incentive for action.

As members of Congress press their alternatives to the Affordable Care Act and malpractice reform is prominently featured,¹ it is timely to review the liability climate. In this article, we present recent trends in malpractice claims and insurance costs in order to provide a context for the reform approaches being used to stabilize them and we conclude with a discussion about the future of liability reform.

Methods

Data from the National Practitioner Data Bank (NPDB) and the American Medical Association's (AMA's) Physician Masterfile were combined to describe trends in the rate of paid claims against doctors of medicine (MDs) and doctors of osteopathy (DOs) between 1994 and 2013. This time interval was selected to capture most of the period over which the NPDB has collected data on closed claims. Claims counts were extracted from the NPDB, then divided by the estimated total number of active physicians recorded in the Masterfile to calculate rates.² To examine trends in indemnity amounts (that is, compensation paid to plaintiffs), the 50th, 75th, and 90th percentiles of payments in NPDB claims each year between 1994 and 2013 were graphed. All payments were converted to 2013 dollars using the consumer price index.³

Poisson regression was used to test for the significance of changes over time in claim frequency. The outcome variable was the number of claims, the explanatory variables were the report year and physician type (MD or DO), and an offset term was included to account for the number of active physicians in each year. To test for trends in claim severity, a linear regression model was constructed in which the outcome was the natural logarithm of indemnity payment and the explanatory variable was the report year.

To describe trends in liability insurance premiums, data from the *Medical Liability Monitor's* Annual Rate Survey were used.⁴⁻¹³ This 50-state survey of liability insurance carriers elicits information on premiums charged to physicians in internal medicine, general surgery, and obstetrics-gynecology. Most carriers report state-level averages, although some are county-level.

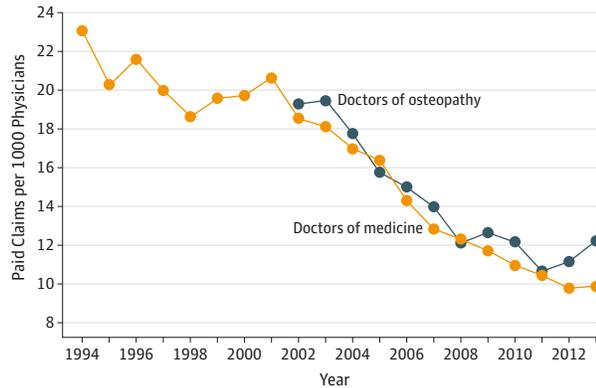
Average annual premiums charged over the period 2004 through 2013 in 5 geographic areas were analyzed: Los Angeles, Orange, Kern, and Ventura counties, California; Nassau and Suffolk counties, New York; Cook, Madison, St Clair, and Will counties, Illinois; and the states of Tennessee and Colorado. These locations were selected because of geographic diversity and because each has one insurer with a dominant market share. The rate survey extends to 1991, but we confined the observation period to the most recent decade to reduce the influence of market and business changes on premium levels.

Results

Trends in Claims

Rates of paid claims against physicians have decreased since the early 2000s (Figure 1). For MDs, the rate decreased from 18.6 to 9.9 paid

Figure 1. Rates of Paid Medical Malpractice Claims Against Doctors of Medicine and Doctors of Osteopathy, 1994-2013



Authors' analysis of National Practitioner Data Bank data. Because data on the number of physicians for 2013 are not yet available, the 2013 data shown are extrapolated from 2012.

claims per 1000 physicians between 2002 and 2013. Regression analyses estimate an annual average decrease of 6.3% (95% CI, 6.2%-6.5%) for MDs and 5.3% (95% CI, 4.8%-5.9%) for DOs over this 12-year period.

The median indemnity amount among paid claims increased by 63% in 2013 adjusted dollars between 1994 (\$133 799) and 2007 (\$218 400), an average annual increase of 5% per year (Figure 2). Since 2007, median indemnity has declined slightly, reaching \$195 000 in 2013, an average annual decrease of 1.1% (95% CI, 0.6%-1.6%). Only 3.4% of payments made during the 20-year period shown in Figure 2 resulted from jury verdicts, a proportion that varied little from year to year; the rest were settlements.

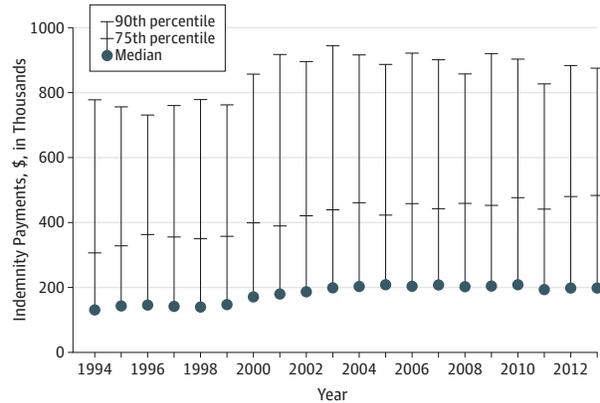
High-end awards were analyzed because they cause particular concern among clinicians and could have destabilizing effects on liability insurance markets. The 75th percentile of annual payment distributions increased by 50% between 1994 and 2004 (from \$306 150 to \$461 250), then plateaued. The 90th percentile increased by 18% through 2001 (from \$777 150 to \$917 400) and has since plateaued.

Trends in Insurance Costs

Trends in liability insurance premiums in the 5 locations present a mixed picture (Figure 3). In California, Illinois, and Tennessee, premiums charged by each state's largest medical malpractice insurer to internists and obstetrician-gynecologists decreased by 36% from 2004 to 2013, and premiums charged to general surgeons decreased by 30%. In Colorado, there were decreases for internists (20%), but modest increases for general surgeons (13%) and obstetrician-gynecologists (11%). In Nassau and Suffolk counties, New York, where insurance carriers report some of the highest rates in the country, the largest insurer increased rates by 12% for obstetrician-gynecologists, 16% for internists, and 35% for general surgeons.

The levels shown in Figure 3 provide an indication of the microclimates that exist within specialties and locations. These variations, however, are not the extremes; in 2013, obstetrician-

Figure 2. Indemnity Amounts in Paid Claims Against Doctors of Medicine and Doctors of Osteopathy, 1994-2013^a



Based on National Practitioner Data Bank data.

^a Based on analysis of 263 099 reported payments. All monetary values are shown in 2013 dollars.

gynecologists in Miami and Dade counties, Florida, paid more than \$190 000 in premiums, substantially more than the \$3000-\$5000 charged to internists in Minnesota.¹³

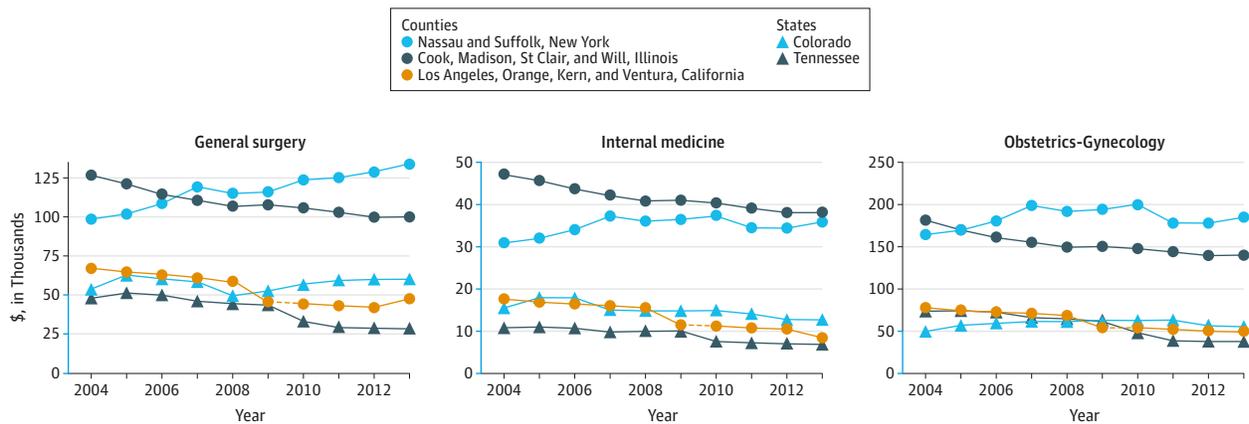
Discussion

Consistent with other recent reports,¹⁴⁻¹⁸ our analyses suggest large decreases in the rates of paid claims over the last decade. To the best of our knowledge, the proportion of claims that receives payment has not decreased substantially over time; hence, this trend probably extends to overall claims rates as well (that is, paid and unpaid claims together). Previous reports based on data on all lawsuits filed in selected states indicate that these filings decreased by approximately a third over the 2001-2010 period.¹⁴ Our analyses show that payment amounts have been unchanged in real terms for at least the last 7 years at both the middle and the upper end of the distribution.

Although the trends in insurance premiums that we report are based on data from a limited number of markets, they likely reflect national patterns. None of the locations we examined showed large increases over the last decade, and most showed flat or declining premiums. These findings are consistent with other reports in the insurance trade literature, as well as the *Medical Liability Monitor's* synopsis of the broader market, which suggests a majority of insurers have either held rates steady or reduced rates since 2006.¹³ Physicians and their insurers point out that insurance premium rates for many practitioners remain unacceptably high. However, volatility in these rates has decreased: the data suggest a recent period of stability following the turbulence that characterized liability insurance markets in the early 2000s.¹⁹

Our analysis has limitations. First, generalizations about national trends in medical liability claims and costs are difficult to make because there is substantial variation in liability environments across clinical specialties and geographic locations. Second, the AMA

Figure 3. Liability Insurance Rates Charged to General Surgeons, Internal Medicine Physicians, and Obstetrician-Gynecologists in 5 Locations, 2004-2013



Medical Liability Monitor Annual Rate Survey data. Rates shown are in 2013 dollars and indicate those charged by the dominant insurer in the local market. Dashed line between 2009 and 2010 in California indicates the shift from Los

Angeles and Orange counties (2004-2009) to Los Angeles, Orange, Kern, and Ventura counties (2010-2013). Blue segment on each y-axis corresponds to the range \$0 to \$50 000.

Masterfile may not accurately report the number of physicians in active practice, although there is no reason to suspect that the degree of any such bias varies over time. Finally, we report national trends in claim frequency only for claims that resulted in a payment on behalf of a physician because there is no centralized collection of data on all claims filed in the United States. The NPDB is considered the best source of national data on trends in claims but only includes an estimated 30% of all claims filed.²⁰

Traditional Liability Reforms

The factors contributing to the apparent relative stabilization in insurance premium rates are unclear and debated. Tort reform is the explanation favored by organized medicine,²¹ a perception that likely explains stakeholders' persistent interest in pursuing damages caps and other conventional tort reforms.²²

The primary objective of traditional tort reforms is to reduce the volume and cost of malpractice litigation. This is done through measures that focus on 3 different strategies (Box). One group of reforms imposes barriers to bringing suits or reaching trial, a second group limits the amount of compensation that plaintiffs may recover, and a third group changes how damages awards are paid.

Several states have enacted traditional tort reforms in recent years.^{26,27} Last year, for instance, Oklahoma,²⁸ Florida,²⁹ and Virginia³⁰ imposed new requirements concerning the qualifications of expert witnesses for medical liability cases. In 2011, Tennessee and North Carolina introduced caps on noneconomic damages, bringing to nearly 30 the number of states that have done so. States' cap amounts range from \$250 000 to \$1 million (or more, in some circumstances).³¹ In California, a ballot initiative in November 2014 seeks to keep a damages cap in place but increase it from \$250 000 to more than \$1 million.³² Some courts, however, have struck down tort reform laws: most recently, the highest courts in Missouri³³ and Florida³⁴ ruled noneconomic damages caps in those states unconstitutional.

Despite the intuitive appeal of conventional tort reforms and advocates' strong claims regarding their efficacy, the best available empirical evidence does not provide a strong basis for crediting these reforms with the relatively stable environment that has occurred over the past decade. Controlled studies encompassing all 50 states suggest that, on average, these approaches are associated with reductions in claims payment levels by 20% to 30% but have only a modest relationship with insurance premiums.^{24,25,35-37} Most studies evaluating the relationship of other traditional reforms with claim frequency, payouts, or insurance premiums have not demonstrated positive findings.^{24,25,37} In general, malpractice crises may relate as much to cycles in insurance markets as to changes in claims costs.³⁸

Regardless of their ability to achieve their stated goals, traditional reforms do not address problems with the malpractice system's 2 core functions—compensating negligently injured patients and deterring substandard care. The weight of evidence suggests that the system's effectiveness as both a compensation and a deterrence mechanism is mediocre at best,³⁹ and there is little to suggest it has improved over the past decade. Thus, "stable but still dysfunctional" might describe today's liability environment. What has changed, however, is a welcome influx of creative initiatives that transcend traditional reforms and attempt to fix some of the system's deeper failings. These approaches have broader aims than traditional reforms: they seek to improve patients' access to compensation and create a more favorable environment for improving the safety of care while reducing liability-related burdens for physicians.^{23,40}

Testing Nontraditional Approaches to Reform

In recent years, reform models have expanded to include private as well as public policy approaches. These models appear promising because they address the underlying problems in the liability system: barriers to filing claims, expensive battles of the experts, the protracted litigation process, and the chilling effects that a highly

Box. Traditional Medical Liability Reforms Grouped by Primary Objective**Raise Barriers to Bringing Lawsuits or Reaching Trial****Statutes of Limitation and Repose**

These statutes limit the amount of time that a patient has to file a malpractice claim after discovering an injury or being injured

Pretrial Screening Panels

Expert panels review malpractice cases at an early stage and provide opinions about whether claims have sufficient merit to proceed

Typically, a negative opinion does not bar a case from going forward, but to proceed a plaintiff may be required to post a bond and the negative opinion will be admissible evidence at the trial

Certificate of Merit Requirements

The plaintiff must present, at the time of filing a malpractice claim or soon thereafter, an affidavit certifying that a qualified medical expert believes that there is reasonable and meritorious cause for the suit

Expert Witness Certification Requirements

Expert witnesses in malpractice suits must have certain credentials, such as licensure in the state where the suit is brought, board certification in a specialty relevant to the lawsuit, or training in the same specialty as the defendant

Limits on Attorneys' Fees

A limitation is typically expressed as a percentage of the award, but it may also incorporate a maximum dollar value

Limit the Compensation Plaintiffs May Recover in Lawsuits**Caps on Damages**

Limitations are placed on the monetary compensation that can be awarded in a malpractice trial for noneconomic losses ("pain and suffering"), economic losses, or both

A cap may apply to the plaintiff, limiting the amount that the plaintiff may receive, or to a defendant, limiting the total amount that the defendant may be required to pay

Collateral-Source Rule Reform

This reform eliminates a traditional rule stipulating that even if an injured plaintiff has received compensation from other sources (eg, health insurance), the amount of that compensation should not be deducted from the amount that a defendant who is found liable must pay

Change How Damages Awards Are Paid**Periodic Payment**

Insurers are allowed or required to pay malpractice awards over a long period of time rather than in a lump sum

Insurers may be able to retain any amount that is not collected during a plaintiff's lifetime

Joint-and-Several Liability Reform

In malpractice trials involving multiple defendants, the financial liability of each defendant is limited to the percentage of fault that the jury allocates to that defendant

Without this statutory reform, a plaintiff may collect the entire judgment from one defendant, regardless of that defendant's extent of fault in the case

Adapted with permission from the *New England Journal of Medicine* (Kachalia and Mello²³) and exhibits in Mello²⁴ and Mello and Kachalia.²⁵

adversarial and stigmatizing process has on medical error transparency. Nontraditional approaches are also more politically and ethically appealing because they stand to benefit not just physicians and insurers but also patients.

The Obama administration has supported research on nontraditional malpractice reforms. In 2009, President Obama announced the allocation of up to \$25 million to test innovative approaches that would simultaneously control liability costs and improve safety. The following year, the Agency for Healthcare Research and Quality (AHRQ) awarded 7 three-year demonstration project grants and 13 planning grants to test a variety of approaches,^{41,42} many of which are described below and in the **Table**. The results of these projects are beginning to be reported and some early findings merit discussion.

Communication-and-Resolution Programs

Several AHRQ projects tested communication-and-resolution programs, in which health care facilities and their liability insurers discuss unanticipated care outcomes with patients and families, conduct an expedited investigation, provide the patient and family with an explanation of why the harm occurred, and offer an apology and acceptance of responsibility appropriate to the circumstances.^{23,43,44} For cases in which the facility and insurer determine that the harm was caused by substandard care, they also proactively elicit and address the patient's needs and offer compensation without waiting for the patient to file a claim. In cases in which the care was not substandard, they explain why and indicate that they will defend the

involved practitioners and institutions in any subsequent suit. In addition, hospitals actively use information from investigated cases to improve safety.

The rationales for communication-and-resolution programs are 3-fold. First, the traditional deny-and-defend approach is often costly and particularly wasteful in meritorious cases in which it is likely the plaintiff will eventually receive some compensation.⁴⁴ The approach also breeds ill will among the parties, which can prolong litigation and increase settlement demands. Second, communication-and-resolution programs reinforce the shift in health care toward greater transparency about adverse outcomes. Third, research has identified poor communication, lack of candor, and a need for information as major reasons patients sue.^{45,46}

The communication-and-resolution approach was pioneered by the Lexington, Kentucky, Veterans Affairs hospital and the University of Michigan Health System^{44,47} and has been adopted by other institutions over time. These early programs, typically implemented at well-resourced academic medical centers, have reported substantially lower malpractice claims and costs.⁴⁸⁻⁵⁰ The reductions seen have exceeded the effects of any public-law reform, including damages caps. Specifically, in the 6 years after implementing its communication-and-resolution program, the University of Michigan Health System reported that the mean amount it spent monthly on patient compensation decreased by 59%, from \$16.64 to \$6.90 per \$1000 in operating revenue. Its average monthly rate of new claims decreased by 36%, from 7.03 to 4.52 claims per 100 000 patient encounters compared with

Table. Nontraditional Approaches to Medical Liability Reform

Approach	Description	Rationale
Communication-and-resolution programs	Programs in which health care practitioners and institutions openly discuss adverse outcomes with patients and proactively seek resolution, including offering an apology, an explanation of what happened, and, if the standard of care was not met, compensation	Candor and expressions of remorse and responsibility for an injury may address misunderstandings, build trust, and defuse emotions that prompt patients to sue; proactively offering compensation early may reduce litigation expenses, lead to lower settlements, and avoid the need for lawsuits and trials
Mandatory presuit notification laws	Laws requiring plaintiffs to give defendants advance notice (typically ranging from 1 to 6 months) that they intend to sue	Receiving notice of a patient's intention to sue creates a window for health care practitioners and institutions and insurers to investigate what happened and attempt to resolve the matter before it progresses to a lawsuit
Apology laws	Laws protecting statements of regret, apology, or fault, or all 3, made to patients by health care practitioners and preventing those statements from being used in malpractice suits	Knowing that their statements cannot be used against them in a malpractice suit may encourage care health care practitioners to communicate candidly with patients and apologize, which can address misunderstandings and emotions that lead to litigation
State-facilitated dispute resolution laws	Laws allowing voluntary filing by patients or health care practitioners or institutions with a state agency that will then assist the parties through a communication and resolution process Conversations are generally protected from use in trial If initial negotiations fail, the state will help find a mediator	Providing a protected, structured mechanism for communication and resolution may facilitate settlement and reduce the number of lawsuits
Safe harbors	Laws giving health care practitioners and institutions a defense to a malpractice claim if they can show they followed an applicable guideline or protocol in caring for a patient	Adherence to protocols or guidelines in appropriate circumstances can represent evidence-based care, so it should serve as strong evidence that the health care practitioner or institution was not negligent Safe harbors can also encourage adherence to guidelines, promoting greater standardization and high-quality care
Judge-directed negotiation	A court policy requiring malpractice litigants to meet early and often with the judge to discuss settlement The court system employs an attorney with clinical training to help judges understand clinical issues Judges assertively move parties toward settlement and retain responsibility for cases through trial	Most malpractice claims settle late in the litigation High sunk costs (legal expenses and effort invested) may inflate plaintiffs' settlement demands or dispose defendants to risk a jury verdict A skilled, well-informed mediator with power over the case can restrain these dynamics
Administrative compensation systems	Laws routing medical injury claims into an alternative adjudication process that uses specialized adjudicators, evidence-based guidelines for liability determinations and damages, neutral experts, and (under most proposals) a compensation standard that is broader than the negligence standard	Experienced adjudicators, assisted by decision guidelines and neutral clinical experts, may decide cases more reliably than juries Compared with the tort system, administrative processes are more accessible to claimants Eliminating the negligence standard reduces the potential stigma for health care practitioners and expands opportunities for compensation for patients

the preceding 5 years.⁵⁰ These results outperformed both internal actuarial predictions, which were based on the institution's historical experience, and state and national trends. Stanford University reported a 36% decrease in claim frequency and a 32% average annual reduction in insurance premiums in the first 3.5 years of its program.⁴⁸

The AHRQ-funded projects have investigated several questions about the generalizability of the communication-and-resolution model to other settings. First, can communication-and-resolution programs work in hospitals that do not self-insure? Such hospitals have less control over how their insurer deals with malpractice claims and adverse events than those that own their insurance entity.

Second, can communication-and-resolution programs work in hospitals that do not employ most of their physicians? These hospitals may have less ability to influence nonemployee physicians' responses to adverse events. Additionally, nonemployee physicians

typically carry separate liability insurance, so coordinating a resolution with an outside insurer can be difficult.

Third, can communication-and-resolution programs be effective in states that lack strong tort reforms, such as damages caps? Physicians and insurers in those states may be especially cautious due to the risk that disclosure and early offers of compensation may lead patients to sue for higher damages. Fourth, are communication-and-resolution programs too labor- or resource-intensive to succeed in institutions without sizeable risk-management departments?

Initial reports from 3 communication-and-resolution program demonstration projects and the experiences of early adopters suggest several conclusions.^{48,51-53} First, communication-and-resolution programs appear to be effective in improving communication with patients and families. Disclosure reportedly became more routine and robust in implementing hospitals after clinicians were given disclosure training and risk managers began more

closely monitoring whether and how disclosures were carried out. Other mechanisms linked to improved disclosure included adopting clear disclosure protocols, creating rapid-response teams that help clinicians prepare for disclosure conversations immediately following an adverse event, and having the liability insurer and clinical leaders communicate their expectation that disclosure must occur.⁵²

A second important finding is that the proactive compensation component of communication-and-resolution programs may be more difficult for institutions to consistently execute than the communication component.⁵¹ Offering compensation is appealing to insurers when a patient has been seriously harmed and is openly contemplating litigation but less so when a lawsuit does not seem to be in the offing—for example, when a patient seems satisfied with an explanation and apology for the error. Insurers are accustomed to making compensation decisions based on not only whether the standard of care was violated but also the likelihood that the patient will find legal representation and prevail in a lawsuit. Particularly for smaller injuries, insurers may conclude that it is economically rational to do nothing. Communication-and-resolution programs require insurers to make principled compensation decisions—that is, compensation should be offered whenever substandard care caused harm—that may diverge from standard procedures based on cost-benefit analyses.

A third finding is that organizations implementing communication-and-resolution programs must exert considerable effort to inform physicians about the program and encourage them to adopt its philosophy.^{48,51,52} It can be difficult to reassure physicians that disclosure and early offers of compensation will not spur lawsuits and to address anxieties about the effects of reporting malpractice settlements to the NPDB.

Finally, and perhaps most importantly, communication-and-resolution programs require a strong commitment by the senior leadership of the implementing institution and its liability insurer.^{48,51,52} Without their visible involvement, institutions will struggle to achieve the necessary culture change.

Laws Facilitating Communication and Resolution

Even though communication-and-resolution programs appear to be increasingly adopted, there remains a healthy skepticism about whether they will actually reduce liability risk⁴⁸ and whether patients' interests can be adequately protected within them.⁵⁴ Nevertheless, the appeal of an approach that reduces the prolonged, expensive, and inconsistent process of litigation has moved policy makers to act. In recent years, several states have passed laws aimed at fostering presuit resolution.

Mandatory Presuit Notification Laws | One approach is to create notice requirements, also known as cooling-off periods, for filing lawsuits.⁵⁵ At least 11 states currently have presuit notification laws that require plaintiffs to notify potential defendants of their intention to sue, with a typical required lead time of 1 to 6 months.^{56,57} The objective is to create a window for liability insurers and their insured clinicians and institutions to attempt to resolve the claim with the plaintiff.

Cooling-off periods are attractive from a patient's-rights perspective because, unlike some conventional reforms, they

do not limit a patient's ability to recover damages through litigation. Because malpractice claims take, on average, 3 years from filing to resolution,⁵⁸ the additional waiting time is arguably a minor impediment—particularly if it facilitates early settlement.

Despite states' interest in presuit notification laws, only limited data exist on the laws' effects. One study found no effect on the number of liability claims filed or paid,⁵⁹ but stronger effects might be found when a cooling-off period coexists with well-functioning communication-and-resolution programs, which can put the time window to good use.

Apology Laws | About two-thirds of states have adopted apology, or "I'm sorry," laws.⁶⁰⁻⁶² These statutes protect expressions of regret, expressions of sympathy, and admissions of fault from being admitted into evidence in a lawsuit. Their purpose is to encourage clinicians to apologize for injuries in the hope of facilitating reconciliation. As a relatively new reform, apology laws' effects have not been empirically studied,⁶⁰ but experts have noted a number of factors that may limit their success.⁶²

First, only a minority of states protect more than a mere expression of sympathy (for example, "I'm sorry this happened."). Explanations and statements of fault are often not protected, which may leave physicians anxious about the potential legal ramifications of disclosing those pieces of information.⁶¹⁻⁶³ Second, statutes sometimes allow protected statements to be introduced in a malpractice trial to show that a defendant made inconsistent statements over time, and physicians' awareness of this possibility may limit candor.⁶⁴ Third, applying a legal privilege to certain statements precludes only their use as direct evidence at trial; the information can still help patients and attorneys build a case by alerting them to whether and how an error occurred. Notwithstanding these limitations, apology laws could be useful in assuaging physicians' fears about the consequences of honesty and openness in the immediate aftermath of an adverse event.⁵⁵

State-Facilitated Dispute Resolution | In 2013, Oregon enacted a novel law aimed at encouraging private communication-and-resolution program processes.⁶⁵ As of July 2014, a patient, clinician, or health care facility may file a notice with the Oregon Patient Safety Commission stating that an adverse event occurred, thereby initiating a state-facilitated communication-and-resolution process known as early discussion and resolution. The process consists of voluntary participation by patients and physicians or health care organizations in confidential discussions of the reported event, with the goal of reaching resolution.⁶⁶ If conversations prove unsuccessful, the commission can connect the parties with a qualified mediator. Patients retain the right to file a lawsuit at any time before a settlement is reached, and physicians or health care organizations must advise patients of their right to seek legal advice. The commission tracks the parties' progress and may disseminate to other providers and the public any lessons learned that may help prevent similar injuries.

The Oregon law contains 2 provisions intended to foster the participation of physicians or health care organizations in the process. The first is that communications and documents prepared specifically for use in the early discussion and resolution process

are not admissible in court except to show that a statement made at trial contradicts something said during the process.⁶⁵

The second is that payments made through early discussion and resolution are deemed not to result from a written demand. This provision was an attempt to exempt compensation payments made via early discussion and resolution from the federal requirement that payments made in connection with a written malpractice claim or judgment be reported to the NPDB.⁶⁷ This requirement poses an impediment to physician participation in early settlement programs because physicians are reluctant to have settlements listed on their professional record.^{55,68,69} The Department of Health and Human Services (DHHS) recently clarified that early discussion and resolution cases are not exempt from NPDB reporting requirements when the patient makes a written demand for compensation, regardless of Oregon's attempt to specify otherwise.⁷⁰

How well Oregon's new process works remains to be seen. It is theoretically appealing for the same reasons that communication-and-resolution programs are appealing. However, the DHHS decision keeps in place the barrier that NPDB reporting requirements pose to physician participation in early settlement processes like Oregon's.

Safe Harbors for Adherence to Practice Guidelines

The Obama administration also expressed some early interest in the safe harbor concept,⁷¹ that is, that physicians who adhere to a pre-approved clinical practice guideline should be able to use compliance as a strong, if not impenetrable, shield against malpractice claims. Safe harbors continue to attract attention⁷²⁻⁷⁵ because they offer a potential two-for-one policy benefit: they address physicians' concerns over nonmeritorious lawsuits, and by providing an incentive to follow evidence-based guidelines, they may address current gaps in guideline adherence and improve health care quality.

Although the concept has been around for decades, little is known about the effectiveness of safe harbors.^{25,72} Four states conducted demonstration projects in the 1990s, but limited physician participation and other shortcomings prevented evaluators from drawing strong conclusions.^{25,72,73,76}

A recent AHRQ-funded closed-claims analysis used a simulation approach to evaluate the potential outcomes related to safe harbors.⁷³ Expert reviewers applied practice guidelines to 907 closed claims to determine how the presence of safe harbors might have influenced liability and safety outcomes. The study reported that safe harbors would have changed payments in physicians' favor in less than 1% of the claims examined. The key constraint for safe harbors was that existing guidelines covered only a minority (<15%) of the clinical situations at issue in the claims. A second constraint stemmed from a ceiling effect: even without a formal safe harbor, physicians usually prevailed in claims in which they adhered to a guideline. The researchers also found, however, that physicians adhered to guidelines in only half the cases in which a guideline was applicable, and the researchers determined that higher adherence might have prevented injuries and lawsuits in a number of these cases. The study's authors concluded that safe harbors present a promising opportunity for driving improvements in quality of care, but that effects on liability costs and outcomes may be modest.

Judge-Directed Negotiation

One AHRQ demonstration project based in New York City is testing a reform known as judge-directed negotiation. Inspiration for the

project came from the success that a single judge has demonstrated in settling malpractice lawsuits at an early stage by leading the parties through an intensive series of settlement conferences.⁷⁷

The judge-directed negotiation process is triggered when a lawsuit is filed against a hospital participating in the demonstration project.²³ A participating judge convenes private settlement conferences early and often, which attorneys for both sides must attend, empowered by their clients with full authority to settle. The judge takes an active role in the negotiations, offering a frank assessment of the strengths and weaknesses in each party's case, privately ascertaining each party's financial resources, and carefully moving the parties toward settlement. The judge retains responsibility for the case from filing to settlement.

All malpractice cases against participating hospitals are routed to a small group of judges, enabling the judges to build expertise. Judges benefit from training in mediation skills, patient safety concepts, and "medicine for judges," and they arrive at conferences well informed about cases after careful preparation and consultation with a nurse-attorney who works for the court system.

Judge-directed negotiation holds theoretical promise as a cost-control strategy because improving settlement rates can reduce litigation expenses for both parties. It is also appealing because it is implemented by the judiciary, bypassing the difficulties of enacting legislation, although this may be unacceptable to some groups. Judge-directed negotiation neither abridges litigants' legal rights nor requires a large appropriation of funds.

Although litigation outcome data from the New York judge-directed negotiation project will not be available for several months, early data suggest the program is popular with attorneys whose cases have reached a disposition (based on responses received from 64 of 88 attorneys surveyed) (M.M.M., unpublished data, 2013). Majorities of plaintiff and defense attorneys reported that the judge treated them and their client fairly and that the program was helpful in reaching settlement.

Judge-directed negotiation faces some barriers to successful wide-scale implementation, one of which is identifying sufficient numbers of judges with the talent and inclination to lead such programs. Although success in negotiating settlements can be bolstered by training, innate qualities such as charisma and emotional intelligence play an important role in successful negotiation and cannot be taught. Another challenge is resources: some state court systems may be unable to bear even the modest expense associated with judge-directed negotiation programs. For these reasons, the generalizability and effectiveness of judge-directed negotiation remain uncertain.

Administrative Compensation Systems

More than 40 years ago, Sweden and New Zealand recognized that their negligence-based tort systems were creating significant physician dissatisfaction while inadequately compensating patients.^{78,79} Through national legislation, these 2 countries replaced malpractice litigation with administrative compensation systems. These systems, sometimes called *health courts* in the United States, may be structured in different ways, but all versions share some common features.⁸⁰ Claims are filed through a nonjudicial process, are handled by an administrative agency, and do not require an attorney. Investigations are aided by neutral experts retained by the adjudicator and are informed by records from similar past cases. Noneconomic dam-

ages are awarded according to a preset schedule of amounts that vary according to injury severity. Also, in most systems, the negligence standard is replaced by a pure no-fault standard or one that asks whether the injury would have been avoided had care conformed to best practice.

Administrative compensation systems have theoretical appeal because the model addresses some of the most important problems with the US medical malpractice system, including the difficulty that patients have filing and prevailing in claims, the duration of litigation, the substantial overhead costs, the unpredictability of damages awards, and the punitive effect felt by physicians. Evaluations of the systems in Scandinavia and New Zealand have shown that they compensate greater proportions of claimants, resolve claims much more quickly, and involve lower compensation and overhead costs than tort-based approaches.^{81,82}

Administrative compensation system proposals have been periodically promoted in the United States over the years, but have never gained sufficient traction to win legislative passage.⁸³ They face substantial political and legal barriers. For administrative compensation systems to work, they probably need to be an exclusive remedy, but reducing access to the courts can raise constitutional concerns.⁸⁴ Chief among the political challenges is overcoming insurers' fears that broadening the compensation standard will significantly increase the number of new claims, causing system costs to increase substantially. Some experts do not believe that lower overhead costs and more modest and predictable damages awards would offset the increase in volume. Another political challenge is assuring the public that a system without lay juries would be trustworthy and unbiased, and that scheduled noneconomic damages are a fair trade for simpler, surer, faster, and expanded access to compensation.

Administrative compensation systems have been proposed in several congressional and state bills—most recently in Georgia in 2013⁸⁵—but, to date, none have passed. Pointing to the successful experience of systems in other countries has limited political sway in the United States; domestic experimentation and evaluation are needed. Except for 2 highly circumscribed state systems for neurological birth injury,⁸⁶ there is little experience with this model in the United States, and none of the AHRQ projects tested administrative compensation models. Fully fledged pilot projects probably require authorizing legislation that modifies tort rules, which would require considerable political capital.

The Forecast

Six developments are likely to shape the medical liability policy scene in the next decade. First, debates and disagreement about traditional tort reforms, especially damages caps, will continue in the courts, in legislatures, and on ballot initiatives. The importance of these disputes extends beyond the fate of caps. They sap political energy and divert attention from alternatives that may achieve what caps will never deliver: a more just, reliable, and accessible liability system that promotes patient safety.

A second predictable development is the continued expansion of communication-and-resolution programs. Although the generalizability of early adopters' success remains uncertain, AHRQ is planning to support a nationwide scale-up of the communication-and-resolution approach. To that end, the agency recently awarded

a contract for the development of a communication-and-resolution program implementation toolkit and training modules. Policy advocates will also continue to address the chilling effect that the reporting requirements imposed by the NPDB and state disciplinary bodies can exert on communication-and-resolution programs.

Third, there will be greater emphasis on laws that facilitate rapid private resolutions of medical injury disputes. Presuit notification, apology, and state-facilitated mediation laws can be adopted without vitiating traditional remedies to patients, and may encourage rapid dispute resolution.⁵⁵

Fourth, notwithstanding the limited evidence base currently supporting them, safe harbors will continue to garner attention. Even if they change outcomes in few lawsuits, safe harbors may reduce defensive medicine by combating perceptions that outcomes in the liability system are random and reducing uncertainty about what standard of conduct the law requires. The potential for safe harbors to improve safety and reduce cost through greater standardization of care will likely also keep them in the mix of attractive policy options. In February 2014, safe harbor legislation was introduced in Congress as part of the Saving Lives, Saving Costs Act.⁷⁵

Fifth, interest will grow in leveraging the national movement toward consolidation in health care to improve resolution of medical injuries. Specifically, the increasing prevalence of physician employment by hospitals and health systems⁸⁷ and the growth of accountable care organizations create better prospects for organizations to assume a more prominent role in injury and claim resolution. Tighter relationships between physicians and organizations enhance organizations' ability to affect physicians' behavior in ways that promote safety, transparency, and early resolution of injuries. These relationships also make it sensible to unify liability insurance under a single policy offered through the organization, which may reduce physicians' vulnerability to fluctuations in premiums and create stronger incentives for organizations to improve patient safety.³⁹ Furthermore, they may revive interest in enterprise liability,^{69,88} a legal doctrine under which organizations are assigned liability for injuries caused by their clinical staff affiliates and the individual liability of those affiliates is reduced or eliminated.²⁵ Enterprise liability is consonant with the broader push to hold organizations accountable for the quality of care and promotes fairness in that systems failures are not blamed on individual practitioners.⁸⁹

Finally, the lack of volatility in liability insurance costs may not last; it is reasonable to expect another increase in insurance premiums within the next few years. Liability insurance crises have recurred in regular cycles since the expansion of malpractice litigation in the 1960s: first in the mid-1970s, then in mid-1980s, and again in the early 2000s.³⁸ Another may well be in the near future.

During malpractice crises, interest in liability reform intensifies, but one lesson of the last 40 years is that an atmosphere of crisis is not conducive to thoughtful and enduring solutions. Action now to reduce the amplitude of the next medical liability cycle is both prudent and feasible. Further testing of nontraditional reforms, followed by wider implementation of those that work, holds the most promise. Prospects for permanent improvement in the medical liability climate depend on it.

ARTICLE INFORMATION

Published Online: October 30, 2014.
doi:10.1001/jama.2014.10705.

Author Contributions: Dr Studdert had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

Study concept and design: All authors.

Acquisition, analysis, or interpretation of data: All authors.

Drafting of the manuscript: All authors.

Critical revision of the manuscript for important intellectual content: All authors.

Statistical analysis: Studdert.

Administrative, technical, or material support: Studdert, Kachalia.

Conflict of Interest Disclosures: All authors have completed and submitted the ICMJE Form for Disclosure of Potential Conflicts of Interest. Drs Mello and Kachalia reported that they served as investigators on several of the demonstration and planning projects described in this article that tested communication-and-resolution programs, judge-directed negotiation, and safe harbors. Dr Mello also reported that she is an investigator on the AHRQ implementation toolkit project described herein, and Drs Mello and Kachalia reported that they have served as consultants to the State of Oregon on medical liability issues.

Disclaimer: The content is solely the responsibility of the authors and does not necessarily represent the official views of the AHRQ.

Funding/Support: Dr Mello's work on this article was supported by grants from the AHRQ (grant numbers 1R18HS019531-01 and 1R18 HS019505-01).

Role of the Funder/Sponsor: The AHRQ had no role in the design and conduct of the study; collection, management, analysis, and interpretation of the data; preparation, review, or approval of the manuscript; and decision to submit the manuscript for publication.

Additional Contributions: The authors thank Simon Walter, LLB, Stanford University, for assistance with data analysis and figure preparation, and Mike Matray, BA, *Medical Liability Monitor*, for sharing the *Monitor's* rate survey reports, neither of whom received compensation for their contributions.

REFERENCES

- Hultgren R. No Republican alternatives to Obamacare? think again. Fox News website. <http://www.foxnews.com/opinion/2014/04/03/why-am-co-sponsoring-save-american-workers-act>. April 4, 2014. Accessed July 16, 2014.
- American Medical Association. *Physician Characteristics and Distribution in the US*. Chicago, IL: American Medical Association; 1994-2013.
- Bureau of Labor Statistics. Table 24. Historical consumer price index for all urban consumers (CPI-U): US city average, all items. In: *CPI Detailed Report*. <http://www.bls.gov/cpi/cpid1309.pdf>. Published October 16, 2013. Accessed July 16, 2014.
- Annual Rate Survey. *Medical Liability Monitor*. 2004;29(10):1-24.
- Annual Rate Survey. *Medical Liability Monitor*. 2005;30(10):1-28.
- Annual Rate Survey. *Medical Liability Monitor*. 2006;31(10):1-27.
- Annual Rate Survey. *Medical Liability Monitor*. 2007;32(10):1-38.
- Annual Rate Survey. *Medical Liability Monitor*. 2008;33(10):1-27.
- Annual Rate Survey. *Medical Liability Monitor*. 2009;34(10):1-38.
- Annual Rate Survey. *Medical Liability Monitor*. 2010;35(10):1-43.
- Annual Rate Survey. *Medical Liability Monitor*. 2011;36(10):1-43.
- Annual Rate Survey. *Medical Liability Monitor*. 2012;37(10):1-47.
- Annual Rate Survey. *Medical Liability Monitor*. 2013;38(10):1-47.
- Paik M, Black B, Hyman DA. The receding tide of medical malpractice litigation, I: national trends. *J Empirical Leg Stud*. 2013;10(4):612-638.
- Public Citizen. Medical malpractice payments sunk to record low in 2011. <http://www.citizen.org/npdb-report-2012>. Published July 2012. Accessed July 16, 2014.
- Bishop TF, Ryan AM, Casalino LP. Paid malpractice claims for adverse events in inpatient and outpatient settings. *JAMA*. 2011;305(23):2427-2431.
- Rubin JB, Bishop TF. Characteristics of paid malpractice claims settled in and out of court in the USA: a retrospective analysis. *BMJ Open*. 2013;3(6):e002985.
- Saber Tehrani AS, Lee H, Mathews SC, et al. 25-Year summary of US malpractice claims for diagnostic errors 1986-2010: an analysis from the National Practitioner Data Bank. *BMJ Qual Saf*. 2013;22(8):672-680.
- Mello MM, Studdert DM, Brennan TA. The new medical malpractice crisis. *N Engl J Med*. 2003;348(23):2281-2284.
- Mello MM, Chandra A, Gawande AA, Studdert DM. National costs of the medical liability system. *Health Aff (Millwood)*. 2010;29(9):1569-1577.
- Sorrel AL. AMA analysis reaffirms—tort reforms work. *American Medical News* website. <http://www.amednews.com/article/20080303/profession/303039964/4/#exli>. Published March 3, 2008. Accessed October 15, 2014.
- American College of Physicians. Medical liability reform: innovative solutions for a new health care system. http://www.acponline.org/acp_policy/policies/medical_liability_reform_2014.pdf. Published 2014. Accessed July 16, 2014.
- Kachalia A, Mello MM. New directions in medical liability reform. *N Engl J Med*. 2011;364(16):1564-1572.
- Mello MM. *Medical Malpractice: Impact of the Crisis and Effect of State Tort Reforms*. Princeton, NJ: Robert Wood Johnson Foundation; 2006. [http://www.rwjf.org/content/dam/supplementary-assets/2006/05/15168.medmalpracticeimpact_report.pdf](http://www.rwjf.org/content/dam/farm/reports/dam/supplementary-assets/2006/05/15168.medmalpracticeimpact_report.pdf). Accessed July 16, 2014.
- Mello MM, Kachalia A. Evaluation of options for medical malpractice system reform. Washington, DC: MedPAC; 2010. http://www.medpac.gov/documents/Apr10_MedicalMalpractice_CONTRACTOR.pdf. Accessed July 16, 2014.
- Avraham R. *Database of State Tort Law Reforms (DSTLR 5th)*, 1980-2012. <http://www.utexas.edu/law/faculty/ravraham/dstlr.html>. Accessed July 16, 2014.
- National Conference of State Legislatures. Medical liability/medical malpractice laws. <http://www.ncsl.org/research/financial-services-and-commerce/medical-liability-medical-malpractice-laws.aspx>. Updated August 15, 2011. Accessed July 16, 2014.
- S 6A, 54th Leg, 1st Extraordinary Sess (Okla 2013).
- HR 7015, 2013 Leg, 115th Sess (Fla 2013).
- HR 1545, 2013 Leg, Reg Sess (Va 2013).
- Abraham R. Database of state tort law reforms (5th). http://papers.ssrn.com/sol3/papers.cfm?abstract_id=902711. Accessed Oct 15, 2014.
- Mason M. Backers of malpractice cap ballot measure submit signatures. *Los Angeles Times*, March 24, 2014. <http://www.latimes.com/local/political/la-me-pc-micra-initiative-signatures-20140324,0,5362494.story#axzz2z3Nm6WHF>. Accessed July 16, 2014.
- Watts vs Lester E. Cox Med. Ctrs*, 376 SW3d 633 (Mo 2012).
- Estate of McCall vs United States*, 134 So 3d 894 (Fla 2014).
- Mello MM, Kachalia A, Goodell S. *Medical Malpractice—Update*. Princeton, NJ: Robert Wood Johnson Foundation; 2011. <http://www.rwjf.org/content/dam/farm/reports/reports/2011/rwjf70017>. Accessed July 16, 2014.
- Nelson LJ III, Morrissey MA, Kilgore ML. Damages caps in medical malpractice cases. *Milbank Q*. 2007;85(2):259-286.
- Greenberg MD, Ridgely MS. *Change Medical Liability Laws to Reduce the Frequency and Severity of Claims*. Santa Monica, CA: RAND Corp; 2009. http://www.rand.org/pubs/technical_reports/TR562z17/analysis-of-medical-malpractice.html. Accessed July 16, 2014.
- Mello MM. *Understanding Medical Malpractice Insurance: A Primer*. Princeton, NJ: Robert Wood Johnson Foundation; 2006. <http://www.rwjf.org/content/dam/farm/reports/reports/2006/rwjf17974>. Accessed July 16, 2014.
- Mello MM, Brennan TA. Deterrence of medical errors: theory and evidence for malpractice reform. *Tex Law Rev*. 2002;80(7):1595-1637.
- Mello MM, Gallagher TH. Malpractice reform—opportunities for leadership by health care institutions and liability insurers. *N Engl J Med*. 2010;362(15):1353-1356.
- Medical liability reform and patient safety: demonstration grants. Agency for Healthcare Research and Quality website. <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/liability/demogrants.html>. Updated June 2010. Accessed July 16, 2014.
- Medical liability reform and patient safety: planning grants. Agency for Healthcare Research and Quality website. <http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/liability>

- /planninggrants.html. Updated June 2010. Accessed July 16, 2014.
43. Boothman RC, Blackwell AC, Campbell DA Jr, Commiskey E, Anderson S. A better approach to medical malpractice claims? the University of Michigan experience. *J Health Life Sci Law*. 2009;2(2):125-159.
 44. Boothman RC, Imhoff SJ, Campbell DA Jr. Nurturing a culture of patient safety and achieving lower malpractice risk through disclosure: lessons learned and future directions. *Front Health Serv Manage*. 2012;28(3):13-28.
 45. Hickson GB, Clayton EW, Entman SS, et al. Obstetricians' prior malpractice experience and patients' satisfaction with care. *JAMA*. 1994;272(20):1583-1587.
 46. Hickson GB, Clayton EW, Githens PB, Sloan FA. Factors that prompted families to file medical malpractice claims following perinatal injuries. *JAMA*. 1992;267(10):1359-1363.
 47. Kraman SS, Hamm G. Risk management: extreme honesty may be the best policy. *Ann Intern Med*. 1999;131(12):963-967.
 48. Conway J, Federico F, Stewart K, Campbell MJ. *Respectful Management of Serious Clinical Adverse Events*. 2nd ed. Cambridge, MA: Institute for Healthcare Improvement; 2011. <http://www.ihf.org/resources/Pages/IHIWhitePapers/RespectfulManagementSeriousClinicalAEsWhitePaper.aspx>. Accessed July 16, 2014.
 49. Mello MM, Boothman RC, McDonald T, et al. Communication-and-resolution programs: the challenges and lessons learned from six early adopters. *Health Aff (Millwood)*. 2014;33(1):20-29.
 50. Kachalia A, Kaufman SR, Boothman R, et al. Liability claims and costs before and after implementation of a medical error disclosure program. *Ann Intern Med*. 2010;153(4):213-221.
 51. Mello MM, Senecal SK, Kuznetsov Y, Cohn JS. Implementing hospital-based communication-and-resolution programs: lessons learned in New York City. *Health Aff (Millwood)*. 2014;33(1):30-38.
 52. Hendrich A, McCoy CK, Gale J, Sparkman L, Santos P. Ascension health's demonstration of full disclosure protocol for unexpected events during labor and delivery shows promise. *Health Aff (Millwood)*. 2014;33(1):39-45.
 53. Etchegaray JM, Ottosen MJ, Burrell L, et al. Structuring patient and family involvement in medical error event disclosure and analysis. *Health Aff (Millwood)*. 2014;33(1):46-52.
 54. Teninbaum GH. How medical apology programs harm patients. *Chapman Law Rev*. 2011;15(2):307-342.
 55. Sage WM, Gallagher TH, Armstrong S, et al. How policy makers can smooth the way for communication-and-resolution programs. *Health Aff (Millwood)*. 2014;33(1):11-19.
 56. DeVito S; Illinois State Medical Society. Health courts and other alternative medical liability solutions. *Dis Mon*. 2011;57(6):291-312.
 57. Mass Gen Laws ch. 231, §60L.
 58. Studdert DM, Mello MM, Gawande AA, et al. Claims, errors, and compensation payments in medical malpractice litigation. *N Engl J Med*. 2006;354(19):2024-2033.
 59. Waters TM, Budetti PP, Claxton G, Lundy JP. Impact of state tort reforms on physician malpractice payments. *Health Aff (Millwood)*. 2007;26(2):500-509.
 60. McDonnell WM, Guenther E. Narrative review: do state laws make it easier to say "I'm sorry?" *Ann Intern Med*. 2008;149(11):811-816.
 61. American Medical Association Advocacy Resource Center. Apology inadmissibility laws: summary of state legislation. <http://www.ama-assn.org/resources/doc/arc/apology-inadmissibility-state-laws-charts.pdf>. Published 2012. Accessed April 1, 2014.
 62. Mastroianni AC, Mello MM, Sommer S, Hardy M, Gallagher TH. The flaws in state "apology" and "disclosure" laws dilute their intended impact on malpractice suits. *Health Aff (Millwood)*. 2010;29(9):1611-1619.
 63. Studdert DM, Richardson MW. Legal aspects of open disclosure: a review of Australian law. *Med J Aust*. 2010;193(5):273-276.
 64. Mass Gen Laws ch. 233, §79L.
 65. S 483, 77th Leg, Reg Sess (Ore 2013).
 66. Early discussion and resolution. Oregon Patient Safety Commission website. <http://oregonpatientsafety.org/discussion-resolution/>. Accessed April 8, 2014.
 67. Requiring reports on medical malpractice payments. 42 USC §11131 (2011).
 68. Waters TM, Studdert DM, Brennan TA, et al. Impact of the National Practitioner Data Bank on resolution of malpractice claims. *Inquiry*. 2003;40(3):283-294.
 69. Kachalia A. Improving patient safety through transparency. *N Engl J Med*. 2013;369(18):1677-1679.
 70. Sebelius K. Memorandum decision. May 22, 2014. <http://www.citizen.org/documents/2211%20Enclosure.pdf>. Accessed October 14, 2014.
 71. Lizza R. The Obama memos: the verdict on malpractice. *New Yorker*. 2012;(January):27. <http://www.newyorker.com/news/news-desk/the-obama-memos-the-verdict-on-malpractice>. Accessed July 19, 2014.
 72. Bovbjerg RR, Berenson RA. *The Value of Clinical Practice Guidelines as Malpractice "Safe Harbors."* Princeton, NJ: Robert Wood Johnson Foundation; 2012. <http://www.rwjf.org/en/research-publications/find-rwjf-research/2012/04/the-value-of-clinical-practice-guidelines-as-malpractice--safe-h.html>. Accessed July 16, 2014.
 73. Kachalia A, Little A, Isavoran M, Crider L-M, Smith J. Greatest impact of safe harbor rule may be to improve patient safety, not reduce liability claims paid by physicians. *Health Aff (Millwood)*. 2014;33(1):59-66.
 74. Emanuel E, Tanden N, Altman S, et al. A systemic approach to containing health care spending. *N Engl J Med*. 2012;367(10):949-954.
 75. Saving Lives, Saving Costs Act, HR 4106, 113th Cong, 2nd Sess (2014).
 76. Mello MM. Of swords and shields: the role of clinical practice guidelines in medical malpractice litigation. *Univ Pa Law Rev*. 2001;149(3):645-710.
 77. Glaberson W. To curb malpractice costs, judges jump in early. *New York Times*. June 12, 2011. http://www.nytimes.com/2011/06/13/nyregion/to-curb-malpractice-costs-judges-jump-in-early.html?pagewanted=all&_r=0. Accessed July 16, 2014.
 78. Espersson C. *The Swedish Patient Insurance—A Pragmatic Solution*. Stockholm, Sweden: Swedish Patient Insurance Assoc; 2000.
 79. Manning JM. Treatment injury and medical misadventure. In: Skegg PDG, Paterson R, eds. *Medical Law in New Zealand*. Wellington, NZ: Thomson Brookers; 2006.
 80. Mello MM, Studdert DM, Kachalia AB, Brennan TA. "Health courts" and accountability for patient safety. *Milbank Q*. 2006;84(3):459-492.
 81. Mello MM, Kachalia A, Studdert DM. The Commonwealth Fund. Administrative compensation for medical injuries: lessons from three foreign systems. http://www.commonwealthfund.org/-/media/Files/Publications/Issue%20Brief/2011/Jul/1517_Mello_admin_compensation_med_injuries.pdf. Published July 2011. Accessed July 16, 2014.
 82. Kachalia AB, Mello MM, Brennan TA, Studdert DM. Beyond negligence: avoidability and medical injury compensation. *Soc Sci Med*. 2008;66(2):387-402.
 83. Barringer PJ, Studdert DM, Kachalia AB, Mello MM. Administrative compensation of medical injuries: a hardy perennial blooms again. *J Health Polit Policy Law*. 2008;33(4):725-760.
 84. Mello MM, Studdert DM, Moran P, Dauer EA. Policy experimentation with administrative compensation for medical injury: issues under state constitutional law. *Harvard J Legis*. 2008;45(1):59-106.
 85. S 141, 152nd Leg, Reg Sess (Ga 2013).
 86. Siegal G, Mello MM, Studdert DM. Adjudicating severe birth injury claims in Florida and Virginia: the experience of a landmark experiment in personal injury compensation. *Am J Law Med*. 2008;34(4):493-537.
 87. Kirchoff SM. *Physician Practices: Background, Organization, and Market Consolidation*. Washington, DC: Congressional Research Service; 2013. http://digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=2007&context=key_workplace. Accessed July 16, 2014.
 88. Harvey HB, Cohen IG. The looming threat of liability for accountable care organizations and what to do about it. *JAMA*. 2013;310(2):141-142.
 89. Mello MM, Studdert DM. Deconstructing negligence: the role of individual and system factors in causing medical injury. *Georgetown Law J*. 2008;96(2):599-623.