

HEALTH POLICY REPORT

Medical Malpractice

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Few issues in health care spark as much ire and angst as medical-malpractice litigation. Physicians revile malpractice claims as random events that visit unwarranted expense and emotional pain on competent, hardworking practitioners. Commentators lament the “lawsuit lottery,” which provides windfalls for some patients, but no compensation for the vast majority of patients injured by medical care.^{1,2} Within the health care industry, there is a nearly universal belief that malpractice litigation has long since surpassed sensible levels and that major tort reform is overdue.

Yet the drive to litigate continues. Plaintiffs’ attorneys and some consumer groups interpret providers’ grievances as little more than predictable chafing on the part of a profession that is unaccustomed to external policing. They view litigation as an indispensable form of protection against medical carelessness. The response of trial attorneys to recent research on medical errors illustrates their perception of themselves as champions of patient safety: new knowledge of the burden of medical errors is seen as vindication of the battles fought on behalf of patients, and the imperative such findings announce is clear — more litigation.³

With a malpractice crisis spreading across the United States today, it is an opportune time to review the current situation in the light of the goals of the liability system, previous crises, and available evidence on the performance of the system. A survey of the field yields a picture of a system that has internal logic but falls far short of its social goals of promoting safer medicine and compensating wrongfully injured patients.

FRAMEWORK AND GOALS OF THE SYSTEM

Malpractice law is part of tort, or personal-injury, law. To prevail in a tort lawsuit, the plaintiff must prove that the defendant owed a duty of care to the plaintiff, that the defendant breached this duty by failing to adhere to the standard of care expected,

and that this breach of duty caused an injury to the plaintiff.⁴

The standard traditionally used to evaluate whether the breach in question rises to the level of negligence is medical custom — the quality of care that would be expected of a reasonable practitioner in similar circumstances. Custom is determined primarily through the testimony of experts in the same field as the defendant, although some encapsulations of expert opinion, such as practice guidelines, may also be used.^{5,6} In at least 20 states, there has been a discernible shift in recent years away from custom and toward a more independent determination by the court of whether the defendant deviated from “reasonable” conduct.⁷

There are three social goals of malpractice litigation: to deter unsafe practices, to compensate persons injured through negligence, and to exact corrective justice.⁴ Theoretically, lawsuits deter physicians by reminding those who wish to avoid the emotional and financial costs of litigation that they must take care.⁸ With respect to compensation, reasons of fairness and efficiency dictate that the party at fault for an injury should bear the associated costs, including lost earnings, medical bills, and “pain and suffering.”

Clinicians and health care facilities are well placed to bear the costs of injury because they are able to pool risk and resources through insurance.⁹ Nearly all hospitals and physicians carry deep coverage, usually through separate lines of insurance. The cost of insurance coverage for hospitals is typically linked to the history of claims from year to year, an arrangement known as “experience rating.” Physicians, on the other hand, generally are not risk rated unless they have been repeatedly sued, in which case they may be forced to obtain coverage from high-cost insurers or may have trouble obtaining any coverage.¹⁰ In recent years, anecdotal evidence suggests that some insurers in states experiencing tort crises are declining to renew policies for physicians with even a single claim.

Several factors have been linked to patients' decisions to bring malpractice claims, most notably patient dissatisfaction^{11,12} and physicians' communication and interpersonal skills.^{13,14} But once patients decide to sue, their attorneys become the pivotal players in determining the volume and type of malpractice lawsuits. The attorney acts as the system's gatekeeper because claims rarely move forward without the stewardship of counsel. Most plaintiffs' attorneys work on a contingency-fee basis, taking a percentage of the award as a fee (usually around 35 percent) and taking nothing if the defendant prevails. Because they must absorb the costs of managing litigation, whatever its outcome, plaintiffs' attorneys have an incentive to make careful decisions about which cases to take. The attorney evaluates the prospective plaintiff's story, gauges the costs of bringing the lawsuit, and estimates the probability of success and the likely award.¹⁵ If the contingency fee expected in the event of a win, discounted by the probability of losing, exceeds the expected litigation costs, the attorney will take the case.

In summary, the functioning of the malpractice system is efficient in theory: the courts step in to provide compensation and deterrence in cases in which self-regulation has failed to prevent a breach of accepted standards of care; plaintiffs' attorneys serve as gatekeepers, separating meritorious from unpromising claims; and liability coverage ensures that providers are not bankrupted by a single large payout and that resources are available to compensate patients. However, the actual operation of the system, as shown through its history and by empirical studies of litigation, is a much more complicated story.

THE EVOLUTION OF MALPRACTICE LITIGATION

Despite several bursts of malpractice litigation in the 1800s,^{16,17} suing physicians was an arduous undertaking until the latter half of the 20th century.^{18,19} At that time, the judiciary began dismantling barriers that plaintiffs faced in bringing tort litigation.²⁰ This change occurred in many areas of accident law but was particularly prominent in medical malpractice in the 1960s and early 1970s.^{21,22} Judges discarded rules that had traditionally posed obstacles to litigation. For example, most jurisdictions rolled back charitable immunity for hospitals. Courts also moved toward national standards of care and aban-

doned strict interpretations of the "locality rule," which had required plaintiffs to find expert witnesses within the defendant's immediate practice community.¹⁸ At the same time, expansion of doctrines such as informed consent and *res ipsa loquitur* (the rule that certain events, such as the retention of instruments after surgery, carry an inference of negligence) paved new pathways to the courtroom.²² The more plaintiff-friendly environment fostered by these changes altered the cost-benefit calculus for plaintiffs' attorneys, leading to a steady growth in litigation.

The synergistic effect of changes in legal doctrine, advances in medical science, and the development of more coherent and visible standards of care eventually began to show in surges of litigation and plaintiffs' victories. By the mid-1970s, many states were facing a malpractice crisis, although the situation varied considerably from state to state.²³ Using data from the height of the crisis, Danzon reported that claims rates and average payouts differed by a factor of almost 20 between low-activity states, such as Maine, and high-activity states, such as California and Nebraska.²⁴

As claims and insurance premiums soared, major insurers left the medical-malpractice market, and many physicians found themselves without coverage. Health care institutions and insurers clamored for policy changes to degrease the wheels of litigation. State legislatures responded with a mix of tort-reform measures. The exodus of insurers also forced a number of states to undertake insurance reform.²⁵ Legislatures established quasi-public bodies called joint underwriting associations to serve as insurers of last resort,¹⁸ special state patient-compensation funds were introduced to absolve commercial insurers of responsibility for specified dollar portions of malpractice payments, and public reinsurance mechanisms were established to fill gaps in the underwriting market. By the late 1970s, the malpractice crisis had abated.

But within several years, malpractice claims rates were climbing again, along with other types of personal-injury litigation. The spikes in the cost of premiums in the mid-1980s touched virtually every state, prompting an even more comprehensive round of tort reform.^{26,27} Legislators were drawn especially to caps on noneconomic and punitive damages. The diffuse nature of this crisis meant that many of the reforms affecting malpractice cut widely across tort litigation.²⁶ Calm returned by the end of the 1980s, but these successive crises led to

marked changes in the professional liability insurance industry. The historical market dominance of large property and casualty insurers was supplanted by the growth of institutional self-insurance arrangements and “bedpan mutuals” — insurance companies that were owned and managed by physicians, with medical malpractice as their sole line of business.

The 1990s saw little growth in claims rates and steady but generally manageable increases in average settlement amounts.²⁸ Approximately 70 percent of claims closed with no payment, and defendants won the majority of cases that went to trial.²⁹ For many insurers, the loss ratio — the ratio of payments and administrative costs to premiums collected — was favorable. Apprehensive that the troubles of the 1980s would continue, these insurers had set premiums at a high level, but in fact, the rates of claims and payouts remained relatively stable. In this favorable market, new entrants appeared, aggressively seeking business from all comers and setting off fierce competition on premiums.³⁰ As a result, premium growth was generally slow or nonexistent during this period. A distinct insurance cycle is thus apparent over the past quarter-century, in which trends in claims, reinsurance costs, interest rates, and other factors have caused premiums and insurers’ loss ratios to rise and fall.^{30,31}

EMPIRICAL RESEARCH
ON THE MALPRACTICE SYSTEM

Until 30 years ago, little was known about the epidemiology of medical malpractice or how well the system carried out its theoretical functions. In 1973, an influential government inquiry into medical malpractice³² led to the first efforts to evaluate the system’s efficacy from an epidemiologic perspective.

The Medical Insurance Feasibility Study reviewed nearly 21,000 medical records from 23 California hospitals.³³ The study showed that 4.6 percent of hospitalizations involved iatrogenic injury, and 0.8 percent (1 in 126 admissions) involved injuries that medicolegal experts thought would probably give rise to a finding of negligence in court.³³ A comparison of the negligent injuries with the frequency of malpractice claims in California showed a wide gulf: the former outstripped the latter by a factor of 10.²⁴ This key finding provided an explanation for episodic increases in claims rates. The existence of a huge reservoir of injuries meant that plaintiffs’ attorneys could raise or lower the rate of claims at any

given time, depending on their business decisions and the permissiveness of the legal environment.

Prompted by the malpractice crisis of the mid-1980s, a research team at Harvard University embarked on a review of medical records from over 30,000 hospital discharges and 3500 malpractice claims in New York.³⁴ The reviewers found rates of adverse events and negligent adverse events (3.7 percent and 1.0 percent, respectively) that were remarkably close to those in California.³⁵ Extrapolations from these rates produced alarming estimates of the burden of medical injury, including projections that negligent care caused approximately 20,000 disabling injuries and 7000 deaths in New York hospitals in 1984. Overall, there were 7.6 times as many negligent injuries as there were claims.

But it was the matching of specific claims to specific injuries in New York that threw the troubling relationship between malpractice claims and injuries into sharp relief. Only 2 percent of negligent injuries resulted in claims, and only 17 percent of claims appeared to involve a negligent injury.³⁶ Weiler et al. have suggested the analogy of a traffic cop who regularly gives out more tickets to drivers who go through green lights than to those who run red lights.² In a third study, conducted in Utah and Colorado in the late 1990s, the injury rates detected were similar to those in New York,³⁷ and the disconnections observed between injury and litigation were virtually identical,³⁸ suggesting that the core problems were neither regionally nor temporally idiosyncratic.

Assessments of the system’s capacity to compensate a plaintiff with a valid claim, once it has been filed, are not as bleak. A number of studies have concluded that the tort system does a reasonably good job of directing compensation to plaintiffs with meritorious claims.³⁹⁻⁴³ However, several other studies have shown fairly indiscriminate compensation of claims,^{44,45} including a 10-year follow-up of the Harvard data from New York, which showed that the key predictor of payment was the plaintiff’s degree of disability, not the presence of negligence.⁴⁵

The overall picture that emerges from these studies is disheartening. When all patients with negligent injuries are considered, not just those who manage to seek compensation as plaintiffs, the findings from the studies in California, in New York, and in Utah and Colorado are a searing indictment of the performance of the malpractice system. The data reveal a profoundly inaccurate mechanism for distributing compensation. It is also tremendously in-

efficient. Approximately 60 cents of every dollar expended on the system is absorbed by administrative costs (predominantly legal fees),⁴⁶ an amount that is twice the overhead rate for an average workers' compensation scheme.²

There has been less empirical scrutiny of the performance of the malpractice system as a means of deterring substandard care than there has been of its record as a mechanism for providing compensation. Legal deterrence is a notoriously difficult phenomenon to measure.⁴⁷ A few studies have attempted to model the relationship between claims experience and subsequent rates of adverse events, negligence rates, or quality-of-care indicators.^{34,48,49} These studies have yielded mixed findings and are vulnerable to methodologic criticism. Considered as a whole, the evidence that the system deters medical negligence can be characterized as limited at best.⁵⁰

Ironically, some of the more convincing evidence that tort law influences the behavior of health care providers comes from several studies suggesting that it may do so in undesirable ways⁵¹⁻⁵³ — namely, by encouraging the ordering of tests and procedures that are of marginal or no medical benefit, primarily for the purpose of reducing medicolegal risk. The field of obstetrics has attracted the most thorough search for evidence of so-called defensive medicine. The picture is actually murkier than conventional wisdom would suggest.⁵⁰ Some well-designed studies have shown that a higher liability risk (as measured by malpractice premiums, past claims, and perceived risk of being sued) increased the probability of delivery by cesarean section,^{51,52} others have shown the opposite,⁵⁴ and still others have shown no association.^{49,55} The magnitude of the costs associated with defensive medicine is also uncertain. One analysis estimated systemwide costs to be in the range of \$5 billion to \$15 billion in 1991 dollars,⁵⁶ but the methods used in this and other studies of the systemwide costs of defensive medicine have been roundly criticized.^{57,58} In any case, defensive medicine remains a perennial issue in policy debates about the malpractice system.⁵⁰

IS THE NEW CRISIS NEW?

The latest tort crisis is characterized by both the decreasing availability of insurance coverage, as insurers again leave the market in response to deteriorating loss ratios, and the decreasing affordability of policies offered by the remaining insurers. As we noted in an earlier report in the *Journal*,⁵⁹ the genesis of the current crisis is best characterized as multi-

factorial. Three factors that have almost certainly played a role are dramatic increases in payouts to plaintiffs since 1999,⁶⁰ moderate increases in the frequency of claims in some states,³¹ and the downturn in the economy, which tends to be reflected in lower stock values and bond interest rates, affecting insurers' investment returns.^{30,31} There is also some evidence that imprudent business decisions by insurers during the 1990s — for example, broadening their subscriber base too quickly and pricing their premiums too low — have contributed to their present difficulties.³¹

The causes of increases in the frequency of claims and the size of payouts are unclear, but plausible arguments can be made for at least five factors: greater public awareness of medical errors; lower levels of confidence and trust in the health care system among patients as a result of negative experiences with managed care; advances in medical innovation, particularly diagnostic technology, and increases in the intensity of medical services⁶¹; rising public expectations about medical care; and finally, a greater reluctance among plaintiffs' attorneys to accept offers that in the past would have closed cases. This last factor may be explained in part by the first two factors, if the public skepticism about medical errors has infiltrated jury attitudes and decision making.

As in past crises, the medical community asserts that it must adopt defensive practices to avoid lawsuits, such as ordering unnecessary tests and procedures and turning away high-risk cases.⁵⁷ A related claim is that rising insurance costs are endangering patient care by forcing physicians in high-risk specialties to leave their practices or move to more hospitable jurisdictions and by forcing hospitals to close high-risk services such as obstetrics and emergency departments.⁶² Plaintiffs' attorneys dispute the claims of compromised access and deny that defensive medicine imperils patient care. Thus, the malpractice debate at state and national levels proceeds along a well-worn path.

However, the familiar rancor should not lull observers into a sense of *déjà vu*. Two critical policy issues distinguish the current malpractice crisis from those of previous eras. First, the health care industry today has less capacity to absorb sudden increases in insurance premiums. In the 1980s, hospitals and physicians could generally pass along a significant portion of such costs to payers.⁶³ The spread of managed care, the introduction of strong price controls in Medicare, and the widespread adoption of fee schedules by private insurers have lowered net

incomes,⁶⁴ rendering physicians less able to cope with hikes in their practice costs than in earlier tort crises.

Second, the present crisis occurs in the shadow of the new patient-safety movement.⁶⁵ The Institute of Medicine's 2000 report on medical errors⁶⁶ galvanized public attention. Almost overnight, it catapulted medical injury from a relatively obscure topic in health services research to the forefront of the nation's health policy agenda. Although the report skirted the topic of liability, the interconnectedness of patient safety and malpractice is increasingly apparent.

THE TWO CULTURES: MALPRACTICE LAW AND PATIENT SAFETY

There is a deep-seated tension between the malpractice system and the goals and initiatives of the patient-safety movement. At its root, the problem is one of conflicting cultures⁶⁷: trial attorneys believe that the threat of litigation makes doctors practice more safely, but the punitive, individualistic, adversarial approach of tort law is antithetical to the nonpunitive, systems-oriented, cooperative strategies promoted by leaders of the patient-safety movement.

For example, consider disclosure and reporting requirements. Transparency has become the leitmotif of the patient-safety movement: to learn from errors, we must first identify them; to identify them, we must foster an atmosphere that is conducive to openness about mistakes.⁶⁸ Hospitals and physicians are urged to be honest with patients about medical errors, to report such events to one another and to regulators, and to address methods of prevention openly.⁶⁹ To nurture openness, experts stress that most errors arise from the faulty systems in which proficient clinicians work, not from clinicians' incompetence or carelessness.⁶⁶ In sharp contrast, tort law targets individual physicians, assigning blame and compensation on the basis of proof of negligence. Before, during, and after litigation, information about injuries and the circumstances surrounding them is kept hidden. Risk-management activities typically are divorced from quality-improvement activities.⁷⁰

The clash between tort law and the patient-safety movement undermines efforts to improve quality. Concern about exposure to malpractice litigation diminishes interest in patient-safety activities.⁷¹⁻⁷³ The reluctance of physicians to engage in such ac-

tivities stems from the belief that they are being asked to be open about errors with little or no assurance of legal protection at a time when litigation is on the rise, malpractice insurance is increasingly expensive and difficult to find, and having even one claim may make insurance coverage difficult to obtain. This reluctance is manifested in several ways, but two of the most important are underreporting to adverse-event reporting systems and lack of communication with patients about errors.^{74,75}

Thus, in spite of the mission of malpractice law to improve the quality of care through deterrence — indeed, perhaps because of it — the fear of litigation obstructs progress in ensuring patient safety. The harsh reality is that greater publicity about mistakes, disclosure to patients, and access to reported information probably would increase litigation. Such corroborative information promises reduced time and costs for initiating litigation, shifting the calculus of the plaintiffs' attorneys in the direction of more lawsuits. Proponents of malpractice litigation will applaud this, citing the prevalence of uncompensated negligent injuries and reiterating the importance of litigation as a deterrent. Critics will be apprehensive and will attempt to ensure that reporting systems are closed to the public. They may also seek to persuade providers that honest disclosure of errors actually decreases the probability of expensive litigation. Despite anecdotal reports of such positive experiences,^{75,76} the notion that disclosure reduces litigation is largely unproven and somewhat implausible.

TORT REFORM

Each tort crisis has stimulated enthusiasm for tort reform among policymakers. Conventional tort reforms can be divided roughly into three families (Table 1). Reforms in the first family focus on limiting access to court. Screening panels, for instance, force an evaluation of the merits of claims before they reach court. The goal of such a panel is to encourage settlement and stop nonmeritorious claims before they turn into protracted litigation. Another type of access constraint involves shortening statutes of limitation (the period within which a plaintiff is permitted to sue after discovering the injury) or enacting statutes of repose (time limits that start from the date of the allegedly negligent event rather than the discovery of the injury).

The second family of reforms modifies liability rules in an effort to reduce both the frequency of

Table 1. Options for Malpractice Reform.

Conventional Tort Reform		
Limitations on Access to Courts	Modification of Liability Rules	Damages Reform
Shorten statutes of limitations	Eliminate joint-and-several liability rules	Cap damages
Enact statutes of repose	Impose higher standards for proving breaches of informed consent	Limit attorney fees
Establish screening panels	Eliminate <i>res ipsa loquitur</i>	Mandate collateral source offsets
		Require periodic payments
System Reform		
Alternative Mechanisms for Resolving Disputes	Alternatives to the Negligence Standard	Relocation of Legal Responsibility
Encourage early offers for settlement	Compensate claims through a no-fault administrative system	Shift liability from individuals to organizations (enterprise liability)
Use medical courts	Implement predesignated compensable events	
Use private contracts		
Compensate claims through a fault-based administrative system		

claims and the size of payouts. For example, eliminating joint-and-several liability means that a plaintiff may recover from multiple defendants only in proportion to their respective contributions to causing the injury. Many states have enacted legislation reversing judicial expansions of liability.⁷⁷ Elimination of the doctrine of *res ipsa loquitur*, the establishment of new standards for expert witnesses, and the imposition of higher standards for establishing breaches of informed consent are all examples of such retrenchment.

The third family of reforms directly addresses the size of awards, with caps on damages awards being by far the most prominent measure. The cap may be applied to the award for total damages or only to the noneconomic (“pain and suffering”) component. More than half of the states already cap noneconomic damages, most of them at ceilings ranging from \$250,000 to \$700,000.⁷⁸ Caps make it possible for insurers to predict more accurately their exposure to losses. By making the most lucrative lawsuits worth less, caps on damages also indirectly limit the contingency fee and ensure that fewer cases hold the promise of a favorable return on the plaintiff attorney’s investment. An alternative for achieving the same end is to limit the return itself through direct regulation of attorneys’ fees, which is done in approximately a third of the states.

Other tort reforms directed at reducing the size of awards include rules mandating “collateral source offsets” and “periodic payments.” Collateral source

rules purport to stop plaintiffs from double-dipping by denying compensation for losses that can be recouped from other sources, such as health insurance. With periodic payments, instead of receiving an award in a lump sum, the plaintiff receives the part of the award that covers future losses in installments as the expenditures arise.

It is too soon to judge the effects of the most recent wave of reforms, but studies from earlier eras are informative. Most regression analyses^{25,79-82} that control for the presence of multiple tort reforms in a state, along with other characteristics of states or claims, have shown that caps on damages significantly reduce payouts (Table 2), but their effect on premiums is less clear. (Premium levels are responsive to a variety of factors besides litigation dynamics, including previous losses, past and expected investment returns, business strategies, and the degree of state regulation of rate changes.³¹) These studies showed that collateral source offsets reduce payouts and the frequency of claims (but not premiums). Findings concerning the effects of shorter statutes of limitations are inconsistent. Pretrial screening panels and regulation of attorneys’ fees generally do not have significant effects (Table 2). One study showed that insurers’ loss ratios improved after caps were adopted,⁸³ whereas another showed no significant effect.⁸⁴ In addition, one recent study showed that state legislation that caps damages is associated with higher growth over time in the supply of physicians in the state.⁸⁵

Critics of malpractice litigation frequently point out that it is unrealistic to expect that increased levels of malpractice litigation will promote patient safety or make compensation for injuries more accurate or fair. The weight of empirical data supports this charge. However, often lost in the current debate is the recognition that it is every bit as unrealistic to expect that decreasing the number of lawsuits or the amount of damages — the aims of conventional tort reform — will achieve these goals. Some conventional tort reforms appear to be effective in reducing litigation costs and stabilizing insurance markets, but they are not designed to remedy the fundamental failings of the malpractice system. Fulfillment of that objective requires more sweeping reform.

REFORM OF THE SYSTEM

Over the past 20 years, a growing sense that the tort system is broken has prompted the formulation of a number of alternatives for achieving compensa-

Table 2. Study Findings from Multivariate Analyses Showing the Impact of Tort Reforms of the 1970s and 1980s.

Reform	Significant Decrease in Claim Payouts?		Significant Decrease in Claim Frequency?		Significantly Lower Liability Insurance Premiums?	
	Yes	No	Yes	No	Yes	No
Damages cap*						
Cap on provider's liability		Zuckerman et al. ⁸²		Zuckerman et al. ⁸²	Zuckerman et al. ⁸²	Sloan ²⁵
Cap on plaintiff's recovery	Sloan et al., ⁸¹ Danzon ^{79,80}	Zuckerman et al. ⁸²		Zuckerman et al. ⁸²		Zuckerman et al., ⁸² Sloan ²⁵
Collateral source offset	Danzon ^{79,80}	Sloan et al., ⁸¹ Zuckerman et al. ⁸²	Danzon ⁸⁰	Zuckerman et al. ⁸²		Zuckerman et al., ⁸² Sloan ²⁵
Pretrial screening panels		Danzon, ^{79,80} Sloan et al., ⁸¹ Zuckerman et al. ⁸²		Danzon, ^{79,80} Zuckerman et al. ⁸²	Sloan ²⁵	Zuckerman et al. ⁸²
Shorter statute of limitations	Danzon ⁷⁹	Sloan et al., ⁸¹ Zuckerman et al. ⁸²	Danzon, ⁸⁰ Zuckerman et al. ⁸²	Danzon ⁷⁹	Zuckerman et al. ⁸²	Sloan ²⁵
Binding arbitration	Danzon ⁸⁰	Sloan et al., ⁸¹ Zuckerman et al. ⁸²		Danzon, ^{79,80} Zuckerman et al. ⁸²		Zuckerman et al., ⁸² Sloan ²⁵ †
Attorney-fee limits		Danzon, ^{79,80} Sloan et al., ⁸¹ Zuckerman et al. ⁸²		Zuckerman et al. ⁸²		Zuckerman et al., ⁸² Sloan ²⁵

* Studies used different definitions of the cap variable. Danzon^{79,80} used "cap on plaintiff's recovery"; Sloan et al.⁸¹ separately modeled "cap on total damages" and "cap on noneconomic damages." Zuckerman et al.⁸² used "cap on physician liability" and "cap on noneconomic damages."
† Sloan²⁵ found a significant increase in premiums.

tion and deterrence. The leading recommendations can be divided into three approaches (Table 1): using alternative mechanisms to resolve disputes, dispensing with negligence as the basis for compensation (no-fault), and locating responsibility for accidents at the institutional level (enterprise liability).

One alternative to litigation that is attracting much interest at the moment is an early-offer program in which the patients and the health care organization would have incentives to negotiate a private settlement immediately after an adverse event occurred.⁸⁶⁻⁸⁸ Other proposals would route malpractice claims through structured mediation,⁸⁹ administrative law hearings,⁹⁰ or medical courts.^{91,92} Several scholars have also paired alternative mechanisms for resolving disputes with an emphasis on private contracts, allowing patients to agree in advance with their providers or health plans to submit to specified procedures, such as arbitration, in the event of an injury.⁹³⁻⁹⁵

A more radical approach to system reform would emulate workers' compensation and remove negligence as the basis of eligibility for compensation.⁹⁶ One version of this approach would give an administrative body the power to judge compensation for

all medical-injury claims⁹⁷; another version would carve out from the tort system only certain classes of events — clinical outcomes that, by their very nature, are likely to have been preventable — and put them on a fast track for compensation.^{98,99}

The no-fault label traditionally given to administrative compensation proposals is misleading because these proposals actually replace a determination of negligence with a determination of avoidability, following the lead of other countries.^{100,101} The standard of avoidability is more permissive than that of negligence. For example, bleeding after a limited colectomy that necessitates reoperation, greater resection of the bowel, and ileostomy would always be considered avoidable, but determining whether this event was caused by negligence would require careful review of the facts of the surgery. Because avoidability criteria make a larger pool of injuries eligible for compensation, they have triggered concerns about costs.¹⁰¹ Proponents contend that cost increases could be offset by savings in other areas, including administrative and legal expenses. They also emphasize the prospect of fairer, more efficient compensation, and tout the close fit between the concept of avoidability and the

systems focus of the patient-safety movement as a major strength.⁷³

Finally, a number of commentators have proposed establishing hospitals or integrated delivery systems as the sole locus of legal responsibility.^{102,103} In so-called enterprise-liability models, the enterprise assumes primary responsibility for any claim brought against an affiliated clinician and covers affiliates' liability costs at rates that vary from year to year according to the enterprise's overall injury experience. It is argued that an organizational approach to compensation and deterrence along these lines would underscore the value of systemic approaches to quality improvement.⁸⁷

Sweeping reforms of the system, such as administrative compensation schemes and enterprise liability, have attracted some high-profile support in the current debate. Both the Institute of Medicine⁸⁷ and the blue-ribbon Governor's Select Task Force on Healthcare Professional Liability Insurance in Florida¹⁰⁴ have endorsed pilot projects. However, it seems politically unlikely that any of the most powerful voices in the debate will step forward to champion such initiatives. Organized medicine and the insurance industry continue to push for conventional tort reform and welcome the Bush administration's focus on caps on damages. The trial bar, a powerful constituency for the Democratic party, is focused on scuttling this reform and can be expected to resist vigorously any attempt to introduce radical changes in the system.

A more likely scenario is that the current enthusiasm for change will result in another round of conventional tort reforms, perhaps supplemented by federal legislation that includes one or two innovative but modest system reforms, such as an early-offer program. This may have some beneficial effects on insurance markets over the medium-to-long term. Unfortunately, it will do little to alleviate the haphazardness of compensation for patients injured by medical care, and those interested in advancing patient safety will continue to wrestle with an adversarial litigation system that undermines the goals of transparency and error reduction. Remediation of these fundamental shortcomings requires more fundamental reform.

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1. O'Connell J. The lawsuit lottery: only the lawyers win. New York: Free Press, 1979.
2. Weiler PC, Hiatt HH, Newhouse JP, Johnson WG, Brennan T, Leape LL. A measure of malpractice: medical injury, malpractice lit-

igation, and patient compensation. Cambridge, Mass.: Harvard University Press, 1993.

3. Boyle LV. The truth about medical malpractice. In: *Trial*. April 2002. (Accessed December 23, 2003, at <http://www.atla.org/medmal/prez.aspx>.)
4. Keeton WP, Dobbs DB, Keeton RE, Owens DG, Prosser and Keeton on the law of torts. 5th ed. St. Paul, Minn.: West Publishing, 1984.
5. Mello MM. Of swords and shields: the use of clinical practice guidelines in medical malpractice litigation. *Univ Penn Law Rev* 2000;149:645-710.
6. Hyams AL, Shapiro DW, Brennan TA. Medical practice guidelines in malpractice litigation: an early retrospective. *J Health Polit Policy Law* 1996;21:289-313.
7. Peters PG. The role of the jury in modern malpractice law. *Iowa Law Rev* 2002;March:909-69.
8. Shavell S. *Economic analysis of accident law*. Cambridge, Mass.: Harvard University Press, 1987.
9. Calabresi G. *The cost of accidents: a legal and economic analysis*. New Haven, Conn.: Yale University Press, 1970.
10. Schwartz WB, Mendelson DN. Physicians who have lost their malpractice insurance: their demographic characteristics and the surplus-lines companies that insure them. *JAMA* 1989;262:1335-41.
11. Hickson GB, Clayton EW, Entman SS, et al. Obstetricians' prior malpractice experience and patients' satisfaction with care. *JAMA* 1994;272:1583-7.
12. Hickson GB, Federspiel CF, Pichert JW, Miller CS, Gauld-Jaeger J, Bost P. Patient complaints and malpractice risk. *JAMA* 2002;287:2951-7.
13. 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;277:553-9.
14. Hickson GB, Clayton EW, Githens PB, Sloan FA. Factors that prompted families to file medical malpractice claims following perinatal injuries. *JAMA* 1992;267:1359-63.
15. Kritzer HM. *The justice broker: lawyers and ordinary litigation*. New York: Oxford University Press, 1990.
16. DeVille KA. *Medical malpractice in nineteenth-century America: origins and legacy*. New York: New York University Press, 1990.
17. Mohr JC. American medical malpractice litigation in historical perspective. *JAMA* 2000;283:1731-7.
18. Weiler PC. *Medical malpractice on trial*. Cambridge, Mass.: Harvard University Press, 1991.
19. Opinion survey on medical professional liability. *JAMA* 1957;164:1583-94.
20. Rabin RL, ed. *Perspectives on tort law*. 4th ed. Boston: Little, Brown, 1995.
21. Schwartz GT. Medical malpractice, tort, contract, and managed care. *Univ Illinois Law Rev* 1998;3:885-907.
22. Havighurst CC, Blumstein JE, Brennan TA. *Health care law and policy: readings, notes, and questions*. 2nd ed. New York: Foundation Press, 1998.
23. Robinson GO. The medical malpractice crisis of the 1970's: a retrospective. *Law Contemp Probl* 1986;49(2):5-35.
24. Danzon PM. *Medical malpractice: theory, evidence and public policy*. Cambridge, Mass.: Harvard University Press, 1985.
25. Sloan FA. State responses to the malpractice insurance "crisis" of the 1970s: an empirical assessment. *J Health Polit Policy Law* 1985;9:629-46.
26. Bovbjerg RR. Legislation on medical malpractice: further developments and a preliminary report card. *Univ Calif Davis Law Rev* 1989;22:499-504.
27. Kinney ED. Malpractice reform in the 1990s: past disappointments, future success? *J Health Polit Policy Law* 1995;20:99-135.
28. Brennan TA, Studdert DM, Thomas EJ. Beyond dead reckoning: measures of medical injury burden, malpractice litigation, and alternative compensation models from Utah and Colorado. *Indiana Law Rev* 2000;33:1643-86.

29. Data Sharing Project information manual. Rockville, Md.: Physician Insurers Association of America, 2001.
30. Bovbjerg RR, Bartow A. Understanding Pennsylvania's medical malpractice crisis: facts about liability insurance, the legal system, and health care in Pennsylvania. (Accessed December 23, 2003, at <http://www.medliabilitypa.org/research/report0603/UnderstandingReport.pdf>.)
31. Medical malpractice insurance: multiple factors have contributed to increased premium rates. Washington, D.C.: General Accounting Office, June 2003. (GAO-03-702.)
32. Department of Health, Education, and Welfare. Medical malpractice: report of the Secretary's Commission on Medical Malpractice. Washington, D.C.: Government Printing Office, January 1973. (DHEW publication no. (OS) 73-88.)
33. Mills DH, ed. California Medical Association and California Hospital Association report on the Medical Insurance Feasibility Study. San Francisco: Sutter, 1977.
34. Harvard Medical Practice Study. Patients, doctors, and lawyers: medical injury, malpractice litigation, and patient compensation in New York: report of the Harvard Medical Practice Study to the state of New York. Cambridge, Mass.: President and Fellows of Harvard College, 1990.
35. Brennan TA, Leape LL, Laird NM, et al. Incidence of adverse events and negligence in hospitalized patients: results of the Harvard Medical Practice Study I. *N Engl J Med* 1991;324:370-6.
36. Localio AR, Lawthers AG, Brennan TA, et al. Relation between malpractice claims and adverse events due to negligence: results of the Harvard Medical Practice Study III. *N Engl J Med* 1991;325:245-51.
37. Thomas EJ, Studdert DM, Burstin HR, et al. Incidence and types of adverse events and negligent care in Utah and Colorado. *Med Care* 2000;38:261-71.
38. Studdert DM, Thomas EJ, Burstin HR, Zbar BI, Orav EJ, Brennan TA. Negligent care and malpractice claiming behavior in Utah and Colorado. *Med Care* 2000;38:250-60.
39. Taragin MI, Willett LR, Wilczek AP, Trout R, Carson JL. The influence of standard of care and severity of injury on the resolution of medical malpractice claims. *Ann Intern Med* 1992;117:780-4.
40. Vidmar N. Medical malpractice and the American jury: confronting the myths about jury incompetence, deep pockets, and outrageous damage awards. Ann Arbor: University of Michigan Press, 1995.
41. Sloan FA, Hsieh CR. Variability in medical malpractice payments: is the compensation fair? *Law Soc Rev* 1990;24:997-1039.
42. White MJ. The value of liability in medical malpractice. *Health Aff (Millwood)* 1994;13(4):75-87.
43. Sloan FA, Githens PB, Clayton EW, Hickson GB, Gentile DA, Partlett DF. Suing for medical malpractice. Chicago: University of Chicago Press, 1993.
44. Cheney FW, Posner K, Caplan RA, Ward RJ. Standard of care and anesthesia liability. *JAMA* 1989;261:1599-603.
45. Brennan TA, Soc CM, Burstin HR. Relation between negligent adverse events and the outcomes of medical-malpractice litigation. *N Engl J Med* 1996;335:1963-7.
46. KakalikJS, Pace NM. Costs and compensation paid in tort litigation. R-3391-ICJ. Santa Monica, Calif.: Institute for Civil Justice, RAND, 1986.
47. Schwartz GT. Reality in the economic analysis of tort law: does tort law really deter? *UCLA Law Rev* 1994;42:377-444.
48. Entman SS, Glass CA, Hickson GB, Githens PB, Whetten-Goldstein K, Sloan FA. Relationship between malpractice claims history and subsequent obstetric care. *JAMA* 1994;272:1588-91.
49. Sloan FA, Whetten-Goldstein K, Githens PB, Entman SS. Effects of the threat of medical malpractice litigation and other factors on birth outcomes. *Med Care* 1995;33:700-14.
50. Mello MM, Brennan TA. Deterrence of medical errors: theory and evidence for malpractice reform. *Tex Law Rev* 2002;80:1595-637.
51. Dubay L, Kaestner R, Waidmann T. The impact of malpractice fears on cesarean section rates. *J Health Econ* 1999;18:491-522.
52. Localio AR, Lawthers AG, Bengtson JM, et al. Relationship between malpractice claims and cesarean delivery. *JAMA* 1993;269:366-73.
53. Kessler D, McClellan M. Do doctors practice defensive medicine? *Q J Econ* 1996;111:353-90.
54. Tussing AD, Wojtowycz MA. The cesarean decision in New York State, 1986: economic and noneconomic aspects. *Med Care* 1992;30:529-40.
55. Baldwin L, Hart LG, Lloyd M, Fordyce M, Rosenblatt RA. Defensive medicine and obstetrics. *JAMA* 1995;274:1606-10.
56. Rubin RJ, Mendelson DN. How much does defensive medicine cost? *J Am Health Policy* 1994;4:7-15.
57. Defensive medicine and medical malpractice. OTA-H-602. Washington, D.C.: U.S. Congress, Office of Technology Assessment, 1994.
58. Medical malpractice: implications of rising premiums on access to health care. Washington, D.C.: General Accounting Office, August 2003. (GAO-03-836.)
59. Mello MM, Studdert DM, Brennan TA. The new medical malpractice crisis. *N Engl J Med* 2003;348:2281-4. [Erratum, *N Engl J Med* 2003;349:1010.]
60. Statement by the Physician Insurers Association of America. Rockville, Md.: Physician Insurers Association of America, January 29, 2003. (Accessed December 23, 2003, at http://www.thepiaa.org/pdf_files/january_29_piaa_statement.pdf.)
61. Sage WM. Understanding the first malpractice crisis of the 21st century. In: Gosfield AG, ed. *Health law handbook*. Eagan, Minn.: West, 2003:1-30.
62. Palmisano DJ. Statement of the American Medical Association to the Committee on Energy and Commerce, Subcommittee on Health, U.S. House of Representatives: re: assessing the need to enact medical liability reform. February 27, 2003. (Accessed December 23, 2003, at <http://www.ama-assn.org/ama/pub/article/6281-7334.html>.)
63. Danzon PM, Pauly MV, Kington RS. The effects of malpractice litigation on physicians' fees and incomes. *Am Econ Rev* 1990;80:122-7.
64. Reed M, Ginsburg PB. Behind the times: physician income, 1995-99. *Data Bull (Cent Stud Health Syst Change)* 2003;24:1-2.
65. Sage WM. Medical liability and patient safety. *Health Aff (Millwood)* 2003;22(4):26-36.
66. Kohn LT, Corrigan JM, Donaldson MS, eds. *To err is human: building a safer health system*. Washington, D.C.: National Academy Press, 2000.
67. Bovbjerg RR, Miller RH, Shapiro DW. Paths to reducing medical injury: professional liability and discipline vs. patient safety — and the need for a third way. *J Law Med Ethics* 2001;29:369-80.
68. Reason J. Human error: models and management. *BMJ* 2000;320:768-70.
69. Berwick DM, Leape LL. Reducing errors in medicine. *BMJ* 1999;319:136-7.
70. Morlock LL, Lindgren OH, Cassirer C, Mills DH. Medical liability and clinical risk management. In: Goldfield N, Nash D, eds. *Managing quality of care in a cost-focused environment*. Tampa, Fla.: American College of Physician Executives, 1999.
71. Liang BA. Risks of reporting sentinel events. *Health Aff (Millwood)* 2000;19(5):112-20.
72. Gostin LO. A public health approach to reducing error: medical malpractice as a barrier. *JAMA* 2000;283:1742-3.
73. Studdert DM, Brennan TA. No-fault compensation for medical injuries: the prospect for error prevention. *JAMA* 2001;286:217-23.
74. Blendon RJ, DesRoches CM, Brodie M, et al. Views of practicing physicians and the public on medical errors. *N Engl J Med* 2002;347:1933-40.
75. Lamb RM, Studdert DM, Bohmer RMJ, Berwick DM, Brennan TA. Hospital disclosure practices: results of a national survey. *Health Aff (Millwood)* 2003;22(2):73-83.
76. Kraman SS, Hamm G. Risk management: extreme honesty may be the best policy. *Ann Intern Med* 1999;131:963-7.
77. Rustad ML, Koenig TH. Taming the tort monster: the American

- civil justice system as a battleground for social theory. *Brooklyn Law Rev* 2002;68:1-105.
78. National Conference of State Legislatures. State medical liability laws table. (Accessed December 23, 2003, at <http://www.ncsl.org/programs/insur/medliability.pdf>.)
79. Danzon P. The frequency and severity of medical malpractice claims. *J Law Econ* 1984;27:115-48.
80. *Idem*. The frequency and severity of medical malpractice claims: new evidence. *Law Contemp Prob* 1986;49(2):57-84.
81. Sloan FA, Mergenhagen PM, Bovbjerg RR. Effects of tort reforms on the value of closed medical malpractice claims: a microanalysis. *J Health Polit Policy Law* 1989;14:663-89.
82. Zuckerman S, Bovbjerg RR, Sloan F. Effects of tort reforms and other factors on medical malpractice insurance premiums. *Inquiry* 1990;27:167-82.
83. Born PH, Viscusi WK. The distribution of the insurance market effects of tort liability reforms. In: *Brookings papers on economic activity: microeconomics*. Washington, D.C.: Brookings Institution, 1998:55-105.
84. Viscusi WK, Zeckhauser RJ, Born P, Blackmon G. The effect of 1980s tort reform legislation on general liability and medical malpractice insurance. *J Risk Uncertain* 1993;6:165-86.
85. Hellinger FJ, Encinosa WE. The impact of state laws limiting malpractice awards on the geographic distribution of physicians. Rockville, Md.: Agency for Healthcare Research and Quality, Center for Organization and Delivery Studies, July 3, 2003.
86. Office of the Assistant Secretary for Planning and Evaluation. Addressing the new health care crisis: reforming the medical litigation system to improve the quality of health care. Washington, D.C.: Department of Health and Human Services, March 3, 2003.
87. Corrigan JM, Greiner A, Erickson SM, eds. *Fostering rapid advances in health care: learning from system demonstrations*. Washington, D.C.: National Academies Press, 2003.
88. O'Connell J. Offers that can't be refused: foreclosure of personal injury claims by defendants' prompt tender of claimants' net economic losses. *Northwest Univ Law Rev* 1982;77:589-632.
89. Dauer EA, Marcus LJ. Adapting mediation to link resolution of medical malpractice disputes with health care quality improvement. *Law Contemp Prob* 1997;60(1):185-218.
90. Johnson KB, Phillips CG, Orentlicher D, Hatlie MS. A fault-based administrative alternative for resolving medical malpractice claims. *Vanderbilt Law Rev* 1989;42:1365-406.
91. Howard PK. The best course of treatment. *New York Times*. July 21, 2003:A15.
92. Reliable Medical Justice Act, S. 1518, 108th Congress, 1st session, 2003.
93. Epstein RA. Medical malpractice: the case for contract. *Am Bar Found Res J* 1976;1:87-149.
94. O'Connell J. Neo-no-fault remedies for medical injuries: coordinated statutory and contractual alternatives. *Law Contemp Prob* 1986;49:125-41.
95. Havighurst CC. *Health care choices: private contracts as instruments of health reform*. Washington, D.C.: AEI Press, 1995.
96. Bovbjerg RR, Sloan FA. No-fault for medical injury: theory and evidence. *Univ Cincinnati Law Rev* 1998;67:53-123.
97. Weiler PC. The case for no-fault medical liability. *Maryland Law Rev* 1993;52:908-50.
98. Havighurst CC, Tancredi LR. "Medical adversity insurance" — a no-fault approach to medical malpractice and quality assurance. *Milbank Mem Fund Q Health Soc* 1974;51:125-68.
99. Bovbjerg RR, Tancredi LR, Gaylin DS. Obstetrics and malpractice: evidence on the performance of a selective no-fault system. *JAMA* 1991;265:2836-43.
100. Danzon PM. The Swedish patient compensation system: lessons for the United States. *J Leg Med* 1994;15:199-247.
101. Studdert DM, Thomas EJ, Zbar BIW, et al. Can the United States afford a "no-fault" system of compensation for medical injury? *Law Contemp Probs* 1997;60(2):1-34.
102. Abraham KS, Weiler PC. Enterprise medical liability and the evolution of the American health care system. *Harvard Law Rev* 1994;108:381-436.
103. Sage WM, Hastings KE, Berenson RA. Enterprise liability for medical malpractice and health care quality improvement. *Am J Law Med* 1994;20:1-28.
104. Florida Governor's Select Task Force on Healthcare Professional Liability Insurance. Report and recommendations. Tallahassee, Fla.: Office of the Governor, 2003.

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