Impact of Legal Reforms on Medical Malpractice Costs

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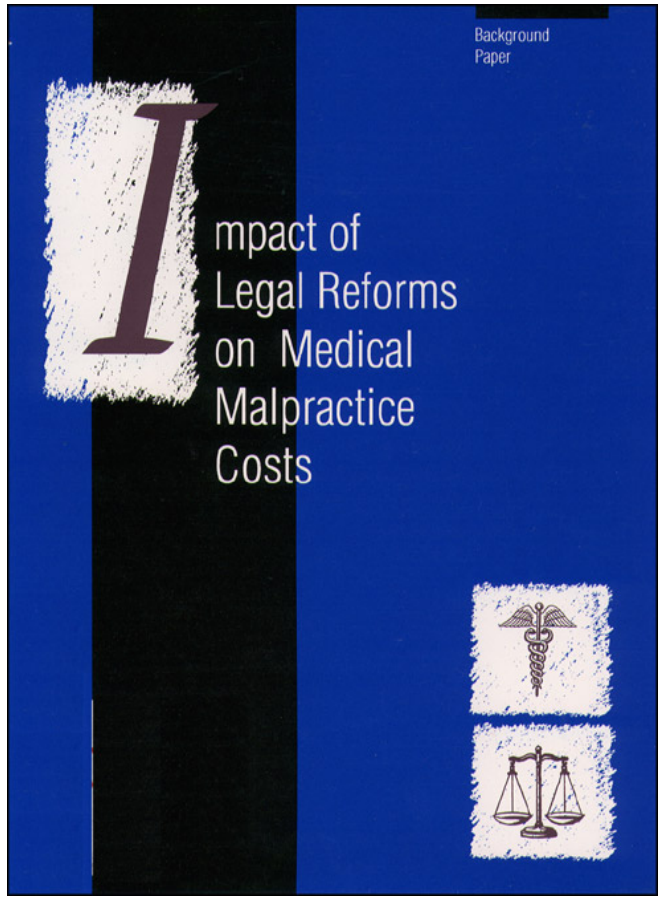

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IMPACT OF LEGAL REFORMS ON MEDICAL MALPRACTICE COSTS

Background Paper
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Foreword

In the debate over rising health care costs, the medical malpractice liability system is frequently cited as an area where reform could lead to substantial savings. The medical malpractice system adds to the costs of health care directly, through physicians' liability insurance premiums, and possibly indirectly, through changes in physician behavior. While the direct costs of medical malpractice arc relatively small (less than 1 percent of overall health care costs), the threat of medical malpractice may lead physicians to order medically unnecessary tests and procedures to protect themselves against a future lawsuit. This indirect cost of medical malpractice, commonly referred to as "defensive medicine," may add to overall health care costs. The cost of defensive medicine remains unknown and is subject to much speculation because there arc no sound empirical data.

Congress is concerned about the cost of defensive medicine and requested that OTA undertake an assessment of this problem. The results of the assessment will be published in early 1994. In the interim, this background paper provides Congress with the most recent information on medical malpractice reforms in the States and examines whether these reforms reduce direct malpractice costs. The impact of these reforms on the indirect costs of medical malpractice, in particular defensive medicine, will be explored more thoroughly in the final report.

This Background Paper was prepared in response to a request by the House Committee on Ways and Means and the Senate Committee on Labor and Human Resources. The paper was prepared by OTA staff, but OTA gratefully acknowledges the contribution of the assessment's advisory panel, numerous State attorneys general, their staff, and other individuals who providcd informal and reviewed drafts. As with all OTA documents, the final responsibility for the content of the assessment rests with OTA.



Roger C. Herdman
Director

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INTRODUCTION

Medical malpractice costs are increasingly being targeted in the political debate on health care reform. The direct costs of medical malpractice, measured by insurance premiums paid by physicians, hospitals, HMOs, and other providers, account for less than 1 percent of the health care budget. However, many physicians and policy makers believe that a potentially large hidden cost of the malpractice liability system is the practice of "defensive medicine." Definitions of defensive medicine differ, but most include the practice of ordering extra tests and procedures primarily in response to a perceived threat of a future medical malpractice claim.

OTA is currently studying defensive medicine, its costs, and the potential impact of medical malpractice reform on defensive medicine. The final report of this study will be published in early 1994. This background paper reviews the medical malpractice reforms that have been implemented in the States and the limited evaluations of their success in reducing three indicators of direct malpractice costs (hereinafter referred to as "malpractice cost indicators"):

- Claim frequency (the number of claims per 100 physicians);
- Payment per paid claim (the average dollar amount awarded to plaintiffs for claims that result in payment); and
- Malpractice insurance premiums.

The paper also provides a summary of the leading new reform proposals, highlighting some of their possible strengths and weaknesses.

Trends in Malpractice Cost Indicators

Malpractice insurance premiums, claim frequency, and average payment per paid claim increased rapidly in the mid-1970s and have since followed a fluctuating and more moderate upward path, marked by a relatively sharp increase during the mid- 1980s. Since 1988, premiums and claim frequency have declined. Data on payment per paid claim are difficult to obtain because insurance companies hold most of these data. (Approximately 80 percent of medical malpractice claims are settled through private negotiations between the physician's insurer and the plaintiff.) One measure of malpractice claims payment that captures both actual and projected damages per claim is direct insurance losses, a measure that combines trends in both payment per paid claim and the probability of a claim resulting in payment. Between 1979 and 1985, direct insurance losses increased by 25 percent per year and then declined by 2.7 percent annually from 1985 and 1991. suggesting that either mean payment per paid claim or the probability of payment, or both, have declined in recent years.

It is not known whether these recent declines are part of a cycle or indicate a secular change in the medical malpractice environment. In addition, national averages obscure the sometimes pronounced changes across regions of the country and physician specialties.

Approaches to Medical Malpractice Reform

Over the past 20 years, almost every State has passed some type of medical malpractice reform. Most of the legislative activity occurred during the mid-1970s and mid-1980s in response to two malpractice "crises" marked by rapid increases in medical malpractice insurance premiums (Bovbjerg 1989). The "crisis" during the mid-1970s was more dramatic, because in some States physicians found themselves unable to obtain insurance. Most reforms

have had the goal of limiting the number of malpractice suits and payments per paid claim, in the hope that such limits would lower insurance rates.

Reforms to limit the number of suits or payment per paid claim include:

- Shortening the statute of limitations (i.e., the time period in which a suit can be brought);
- Limiting attorney fees;
- Requiring pretrial screening of suits;
- Setting specific dollar limits on payments per paid claim ("caps on damages");
- Requiring the plaintiff's health or disability insurer be the first payer of medical and related expenses (amending the "collateral source rule"); and
- Permitting the malpractice insurer to pay future damages as they come due, rather than in lump sum ("periodic payment" of damages).

To date, reforms that aim to promote access to the malpractice liability system by injured patients have not been a priority, Some recent reform proposals are designed to increase patients' access to the legal system, either by expanding the scope of injuries for which compensation will be provided or by removing the dispute from the courts and using alternative dispute resolution procedures or an administrative tribunal, With the exception of limited no-fault programs for birth-related injuries in Florida and Virginia, few of these proposals have been adopted by the States or used to any extent in medical malpractice actions.

Finally, clinical practice guidelines have received considerable attention as a potential tool for determining the standard of care in medical malpractice trials. Maine and Minnesota have just begun programs to use clinical practice guidelines in medical malpractice litigation.

Impact of State Medical Malpractice Reforms

During the past decade, a handful of rigorous empirical studies has examined whether the medical malpractice reforms implemented by the States have had their predicted effects of reducing claim frequency, payment per paid claim, or malpractice insurance premiums. These studies have used multi-State data and multiple regression analysis to assess the specific impact of individual medical malpractice reforms after controlling for other factors that might be responsible for such differences.

The one reform consistently shown to reduce malpractice cost indicators is caps on damages. Requiring collateral source payments to be deducted from the plaintiff's malpractice award has also been shown to reduce certain malpractice cost indicators. Pretrial screening panels and limiting the statute of limitations show conflicting results. Finally, statutes that restrict attorney fees, require periodic payment of awards, and codify the standard of care have not been shown to have the intended result of reducing malpractice cost indicators.

Although the finding that both caps on damages and mandatory collateral source offsets reduce certain malpractice cost indicators is strong, one cannot conclude that the other reforms have no impact. Contradictory results in different studies may reflect different models and assumptions. The failure to find an effect may be a result of factors unrelated to the

effectiveness of the reform. Certain reforms have not been studied sufficiently to draw conclusions. In addition, a number of reforms were modest and might not be expected to have large effects. For example, periodic payment of awards is triggered in a very small number of suits with large future damages, so the savings gained by paying awards on a periodic basis may be very modest. Legal challenges to statutory changes may have also delay the actual implementation of the reform. Finally, due to data limitations, no conclusions can be drawn regarding the impact of medical malpractice reform on claim frequency.

Conclusion

Caps on damages and mandatory collateral source offsets should reduce the direct costs of the medical malpractice compensation system, The studies are not detailed enough to conclude anything about the level of the cap necessary to achieve this effect, but caps on noneconomic damages alone appear to reduce direct malpractice costs. It should be noted, however, that these savings are likely to come by reducing the payments per paid claim received by a small number of most severely injured plaintiffs.

The studies did not examine the impact of any of the reforms on access to compensation by patients injured by negligent care. While not addressing the access issue directly, some State courts have found certain medical malpractice reforms, most notably caps on damages, to violate their State constitutions, because they singled out medical malpractice plaintiffs for a reduction in their ability to recover damages. Other kinds of injuries (e.g., those resulting from other types of malpractice accidents) were not covered in the laws that have been struck down.

Analysis of the impact of most reforms is 1imited, especially of reforms that move malpractice disputes outside the civil litigation system. The lack of uniform national data on claim frequency, payment per paid claim. and insurance premiums limit opportunities for strong empirical research on the potential for medical malpractice reforms to reduce malpractice costs.

Even if a given reform reduces direct malpractice costs significantly, the direct savings (i. e., from reductions in malpractice premiums) would represent only a very small portion of the national health care budget. Medical malpractice reform can be expected to generate significant savings in overall health care costs only if it can be shown that physicians order a significant number of extra tests and procedures and that these defensive practices are indeed influenced by the level of malpractice claim activity.

The impact of changes in malpractice cost indicators on physician behavior is not known. Although reducing malpractice cost indicators through medical malpractice reform might encourage physicians to limit defensive ordering of tests and procedures, it may also dampen whatever beneficial effects of the medical malpractice system has in deterring negligent medical practice. The advisability of such changes under a new health care payment regime--particularly one with greater incentives to reduce costs--is a policy issue that deserves careful consideration.

INTRODUCTION

The medical malpractice system has been the subject of debate and reform for many years (1 1, 149). Critics claim that the current system costs too much and is an inefficient and unpredictable means of compensating individuals injured by substandard medical care. The malpractice system has increasingly been cited as a leading culprit i n health care cost escalation. For example, shortly before the November 1992 election, President Bush claimed that "the malpractice . . . trial lawyers' lawsuits . . . are running the costs of medical care up $25 to $50 billion" (155). If this estimate is correct, the malpractice system (including premiums) constitutes between 3 percent and 7 percent of total annual health care spending. The search *for cost* containment has led Federal policy makers to pursue further reform of the malpractice system as part of the larger effort to reform the nation's health care system.

Malpractice and Health Care Costs

To understand how malpractice reform might affect health care costs, one must examine the pathways by which the current malpractice system influences these costs. There are essentially two ways in which malpractice law alters health care costs: directly, through the costs of administering the malpractice system; and indirectly, through the effects of the malpractice system on providers behavior.

The direct costs of administering the malpractice system, including the cost of compensating injured parties (payouts), are borne by health care providers (and ultimately by consumers). Providers pay for the administration of the legal system through malpractice insurance premiums, out-of-pocket expenses, and even time spent in defending themselves against malpractice suits.

The direct costs of the malpractice system are difficult to measure. Malpractice insurance premiums represent the costs paid by physicians and hospitals to insurers. but they vary from year to year for reasons that have nothing to do with changes in the level of malpractice claim activity.[1]

Malpractice p rem i u ms increased substantially over the past 20 years but have stabilized since the mid-1980s. In 1991, the total cost of medical malpractice premiums in the United States was $4.86 billion (98). These premiums account for only 0.66 percent of total health care spending in the United States.[2] but they exclude the malpractice costs of self-insured hospitals.[3] OTA estimates that the insurance costs of self-insured hospitals are roughly 20 to 30 percent of total insurance premiums.[4] Based on this estimate. the direct cost of the malpractice system is still less than 1 percent of total national health care expenditures.

Some direct malpractice system costs are not captured i n these estimates. Excluded are health care institutions in-house costs of attorneys whose job it is to oversee the institutions legal affairs and the time and personal funds physicians spend in defending themselves against malpractice claims. Researchers at Harvard University surveyed physicians in New York State about costs they bear directly when they are caught up in malpractice litigation (157). They found that doctors who had been sued spent an average of 6 days working on the case. Six percent of these doctors had out-of-pocket expenses from retaining their own attorney, and 2 percent paid their own money to settle claims brought by patients.

The indirect costs of the malpractice system result from the signals it sends to physicians and hospitals that certain kinds

of behavior may be penalized. The behavior changes that result from these signals may either increase or decrease health care costs. For example, if the malpractice signal tells physicians that to reduce their malpractice risks they must spend more time with patients, keep more complete medical records, or perform more diagnostic procedures, then it may increase health care costs. But, if these actions prevent poor patient outcomes by making diagnosis more efficient or patient care safer or more effective, they may reduce subsequent health care spending. Whether the net effect is to raise or lower health care costs is unknown. President Bush's assertions, cited above, are based on the premise that the cost-increasing effects of the current malpractice system far outweigh its cost-reducing effects.

Deterrence and Defensive Medicine

The indirect costs of malpractice stem from a major goal of the malpractice system: to deter doctors and other health care providers from putting patients at excessive risk of adverse outcomes.[5] Changes in behavior in response to the malpractice signal may deter adverse outcomes and, in the process, raise or lower health care costs. However, if the malpractice signal to physicians is murky, inconsistent, or perverse, some of the behavior change may raise health care costs without reducing the frequency of adverse outcomes. This portion of the indirect cost of the malpractice system is pure waste.

Many physicians claim that the current malpractice system encourages the practice of defensive medicine (1 14). Typically, the term "defensive medicine" is defined imprecisely by those who use it, but it almost always has a pejorative connotation, raising images of doctors ordering unnecessary and costly procedures, For example, as early as 1969, an official of the U.S. Department of Health, Education and Welfare testified before Congress: " ... we believe that the additional procedures being ordered [to minimize a chance of suit] are adding significantly to the overall costs of medical care" (11).

OTA defines defensive medicine as physicians' ordering of tests and procedures, or avoidance of high-risk patients or procedures,[6] primarily (but not necessarily solely) to reduce their exposure to malpractice risk,[7] Under this definition, many defensive practices could be beneficial to patients, though potentially costly. Thus, defensive medicine encompass behaviors that meet the goal of deterrence as well as those that are truly wasteful.

OTA's Assessment of Defensive Medicine

OTA is currently undertaking an assessment of the probable extent of defensive medicine in the United States and the potential impact of malpractice reform on the practice of medicine. The assessment was requested by Congressman Bill Archer, Ranking Republican Member of the Committee on Ways and Means and Senator Orrin Hatch, formerly Ranking Republican Member of the Committee on Labor and Human Resources and Member of the Technology Assessment Board. A separate request was received from Senator Edward M. Kennedy, Chairman of the Senate Committee on Labor and Human Resources, and Senator Orrin G. Hatch. Additional requests were received from Congressman John D. Dingell, Chairman of the Committee on Energy and Commerce; Congressman Carl D. Pursell, former Ranking Republican Member of the Sub-committee on Labor, Health and Human Services. Education. and

Related Agencies of the House Committee on Appropriations, and Senator Charles E. Grassley. The study was endorsed by Senator Dave Durenberger, Ranking Member of the Medicare and Long-Term Care Subcommittee, Senate Committee on Finance.[8] The results of OTA's full assessment of defensive medicine will be available early next year.

OTA's Background Paper on Malpractice Reform

In the meantime, OTA has prepared this background paper for use in the current health care reform debate. One important question in that debate is how Federal malpractice reform might affect health care costs. This background paper summarizes what is known about the impact of such reforms on direct malpractice cost and its components. Specifically, the paper documents important reforms already introduced in many States since the mid-1970s and summarizes what is known about the impact of these reforms on three indicators of direct malpractice cost:

- the number of malpractice claims per physician (claim frequency);
- the amount of payment per paid claim (often referred to as claim severity); and
- the price of malpractice insurance (premiums),

None of these three indicators of direct malpractice cost is complete. The total cost of administering the system depends not only on claim frequency and the amount paid on successful claims, but also on the probability of payment once a claim is made and on how early resolution of the claim occurs. Taken together. these characteristics of the system influence malpractice premiums, but their effect on premiums is difficult to separate from the influence of other powerful factors, such as variations in insurers' investment income (161). Also, premiums measure only the part of malpractice system cost paid by insurers. Nevertheless, estimates of the impact of malpractice reform on malpractice premiums, when the independent effect of other factors is adequately controlled, provide the best proxy measure of malpractice reform's impact on overall direct malpractice costs.

Not only do the malpractice cost indicators help gauge which. if any. tort reforms affect the direct costs of the malpractice system, but they may also be important indicators of the impacts of tort reform on defensive medicine and the indirect costs of the malpractice system. These indicators may be the conduits of the "malpractice signal" that makes physicians practice more or less defensively.

Evidence suggests that, despite the buffer that malpractice insurance provides against physicians direct financial exposure to malpractice liability, physicians find the prospect of being sued singularly unpleasant, disruptive, and depressing (10,71 ,90). They may also fear that adverse publicity from a lost case will harm their reputations and, hence, livelihoods.[9] If physicians believe that they and their colleagues are being sued more (or less) often and for higher (or lower) amounts, they may react by ordering diagnostic tests more (or less) often. [10]

Malpractice premiums may also be a good composite indicator of the relative strength of the malpractice signal in one geographic area or medical specialty versus another. Inter-specialty or inter-regional differences in malpractice premiums result from the net effect of differences in the propensity of patients to sue, the likelihood and amount of payouts. and the cost of defending against malpractice claims. Thus, the premium may be a good overall proxy

for the amount of pressure that the malpractice system puts on physicians and hospitals to change their practices.

These indicators shed little light on other important consequences of malpractice reforms, such as impacts on health care outcomes or on injured patients' access to compensation. For example, studies have consistently shown that many injuries -- in fact, the vast majority -- resulting from medical negligence are never pursued as malpractice claims [1]1 (29,75). Tort reforms that lower malpractice costs by limiting access to the courts could make compensation even more difficult for some people. And, if malpractice reforms reduce defensive medicine, they may also weaken the deterrent effect of malpractice. 12 OTA's primary focus in this background paper is on the impact of malpractice reform on health care costs, not on these other important dimensions of malpractice system performance.

Organization of This Report

The remainder of this chapter presents some basic background on the operation of the malpractice system and shows trends over the past 15 years in the three indicators of malpractice cost: claim frequency, payment per paid claim, and malpractice insurance premiums.

Chapter 2 summarizes the range of potential medical malpractice reforms and the current status of their implementation in the States.

Finally, in chapter 3 we analyze the findings of selected studies of medical malpractice reforms and summarize what is known about the impact of these initiatives on the three malpractice cost indicators.

BACKGROUND ON THE MALPRACTICE SYSTEM

What is Medical Malpractice?

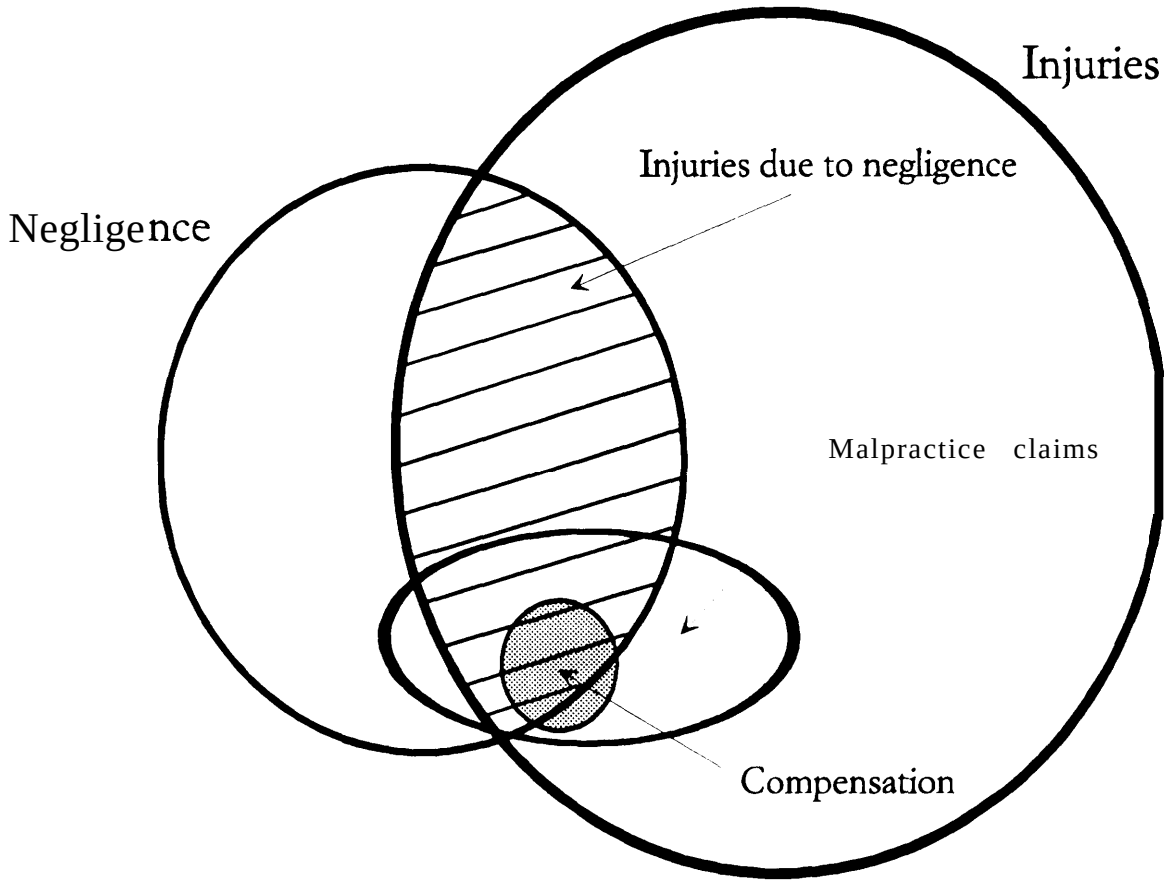
All medical malpractice begins with an injury to a patient caused by a physician or other health care provider, but not all injuries result from malpractice. Medical malpractice occurs in a subset of injuries that directly result from a provider's negligence. Negligence is "conduct that falls below the standard established by law for the protection of others against unreasonable risk of harm" (66). In the simplest interpretation, a physician's behavior will be judged negligent if he or she is found to have caused an injury by failing to perform up to the standard of the profession.

The law governing medical malpractice is a type of tort law. Tort law offers citizens a private, judicially enforced remedy for certain injuries. The remedy typically is money. Monetary awards are intended to make patients whole, i.e., compensate them for their losses. In addition, the threat of having to pay these damages should be a significant deterrent to further negligent behavior.

The Malpractice Claims Process

Malpractice claims arise from a pool of alleged medical injuries, some of which involve physician or hospital negligence. The system gradually winnows down the number of claims through a process of information exchange, discovery. negotiated settlement. and ultimately court trial. Some portion of the claims result in monetary compensation to the plaintiff. Figure 1-1 illustrates the relationship between the universe of injuries and ultimate compensation.

Figure 1-1--Medical Injuries, Negligent Conduct and Malpractice Claims



Source: Adapted from Posner, J. R., 'Trends in Medical Malpractice Insurance, 1970- 1985," *Law and Contemporary Problems*:49(2):37, Spring 1986.

The effectiveness of the malpractice system in compensating victims of medical negligence depends on how closely the set of injuries due to negligence matches the set of compensated victims. Ideally, negligence-caused injuries and compensated victims would be one and the same. If the system discourages many legitimate claims, many deserving patients will receive no compensation. On the other hand, if the system encourages many specious claims or if it compensates many undeserving parties, then much money will be wasted in the process of providing compensation to those who deserve it.

The following sections describe the process by which injuries become claims and claims get resolved in today's medical malpractice system.

The Decision to Seek Legal Redress

Little is known about why patients choose to sue, but studies of negligent injuries in New York and California confirm that most victims of medical negligence do not sue (29,75). The limited evidence indicates that the decision whether or not to sue results from both the patient's disposition and the physician-patient relationship, but the severity and costliness of the injury appears to increase the probability that patients will seek legal redress (55,81, 127, 157).

The decision to seek a legal remedy is usually made in consultation with an attorney. Virtually all medical malpractice cases are paid for on a contingency fee basis, whereby the lawyer's legal fees are paid out of the plaintiff's award. If the plaintiff is not awarded money, the lawyer is not paid, Therefore, the lawyer has a strong incentive to weigh the probability of winning and the expected award against the cost of making a claim (1 19, 149).

Pre-Trial Resolution of Claims

The vast majority of claims are resolved (i.e., dropped by plaintiffs, dismissed by a judge, or settled through private negotiations between the parties) before they reach trial. In 1984, only 12 percent of cases nationwide proceeded to trial (142). Of these cases in trial, another 12.5 percent were settled before the jury reached a verdict (142).13

Once a case is initiated, the parties enter into a process of information exchange, which can be done either informally or under court "discovery" procedures that require the opposing parties in a lawsuit to provide each other with relevant factual data, The discovery process allows each party to assess the merits of the claim.

Many malpractice claims go no further than pre-suit inquiry, when the medical record can be screened by the plaintiff's attorney using hired medical experts. 14 About 37 percent of claims closed nationwide in 1984 were dropped or settled before a legal suit was even filed in a court, and of these cases 36 percent resulted in a payment to the plaintiff (142). ***15***

The exchange of information between the parties appears to be very effective in eliminating cases of dubious merit relatively early in the process and providing for early settlement for meritorious cases. For example, a study of 252 claims brought against a single hospital and resolved by the end of 1989 found that, of claims either dropped by the plaintiff or dismissed by a judge, the majority (68 percent) involved care that the hospital judged to be of good quality, whereas only 10 percent were cases judged to involve poor care (41). (The hospital was uncertain about the remaining claims).

Another study of almost 12,000 claims against physicians closed in New Jersey between 1977 and 1992 found that 67 percent were closed before discovery was completed, and in each stage of the process, the percentage of cases that resulted in payment to the plaintiff was strongly correlated with the strength of the plaintiff's case against the physician (135). *[6] These results are consistent with more recent research on 187 birth injury and emergency room malpractice claims closed between 1986 and 1989 in Florida (127). Among cases dropped by the plaintiff, an expert physician panel found the defendants not liable almost three times as often as they found them liable. When cases were settled before trial, however, defendants were twice as likely of be judged liable as not liable. [17]

Determination of Negligence

The decisions whether to offer to settle and whether to accept a settlement offer depend on each party's assessment of the probability of winning and the cost of going to trial (41, 127). These assessments are based on the odds that a jury would be likely to find the physician or hospital negligent. How negligence is determined in jury trials is, therefore, central to both settlements and jury decisions.

What constitutes negligence in medical malpractice? Stated simply, negligent behavior is treatment that does not meet the customary standard of the medical profess ion. This standard of negligence is unique to medical malpractice, for in other areas of tort liability, such as product liability, the standard of care owed by the manufacturer to the consumer is determined by the jury and is only informed by custom (64,65). In practice, however, for reasons described below. malpractice juries often select the correct standard of care.

In malpractice, the jury must decide whether the physician behavior was consistent with the practices of his or her profession. The jury is informed about the standard of care in the profession through expert testimony and sometimes medical texts and other authoritative materials. This procedure "gives the medical profession . . . the privilege, which is usually emphatically denied to other groups [of tort defendants], of setting their own legal standards of conduct, merely by adopting their own practices" (64).

The standard of care is not defined by the practices of medical leaders. Rather, a physician is expected to have the skill possessed by the average member of the profession in good standing (64).

How is the "average member" of the profession found? Until the early 1970s, physicians were judged by the practices existing in their locality, and that standard was established for juries through the testimony of local physicians as expert witnesses. Because physicians in a community might be reluctant to testify against their local colleagues, the "locality rule" was expanded in the 1970s to include comparable communities or the entire State. Specialists have increasingly been held to national standards because they have held themselves to such standards through national specialty certification (160).

Although the profession-based standard of care is simple in conception, it is difficult to implement in practice. Both the plaintiff and the defendant call expert witnesses who frequently assert contradictory standards of care. When faced with conflicting standards, the jury's decision may depend largely upon the credentials and credibility of the expert witnesses. In effect, the jury determines the standard of care based upon the expert testimony it finds most credible (50).

Contradictory testimony from experts is possible partly because of the uncertainty inherent in medical practice and the consequent variation in practice patterns, even within relatively small areas. The courts have accepted such variation through the "respectable minority" rule, which allows a physician to follow a standard of conduct that is not embraced by the majority of physicians but rather by a "school of practice" or considerable number of physicians in good standing (50,66). In addition, the "error in judgment" rule protects a physician if he or she chooses between two or more legitimate choices of treatment (66).

Though these exceptions appear to mitigate the power of the jury to establish the standard of care, they are not as effective in this regard as they appear. For example, during malpractice trials. the attorneys can try to create a factual dispute about whether there are, indeed, two legitimate alternative

methods of practice if their expert witness discredits one of the options. Again, because juries must resolve factual disputes, the jury ultimately decides which option is the standard of care (50).

Damages

For the 10 to 12 percent of cases that go to trial, compensation depends on a jury's verdict, first regarding negligence and, if negligence is found, then regarding damages. Of claims against physicians that went to trial between 1975 and 1978, more than four out of five were won by the defense (58). Thus, damages are assessed in only a very small proportion of filed claims. Damages have three components:

- direct economic losses, such as health care expenses, job-loss expenses, and other expenses incurred as a direct consequence of the injury;
- noneconomic losses, or losses for "pain and suffering;" and
- punitive damages, potentially available when the defendant's conduct is found to be intentional, malicious, or outrageous, with a disregard for the plaintiff's well-being.

In assessing damages for direct economic losses, juries traditionally were not informed about whether the plaintiff was covered for some of his or her costs by a health or disability insurance policy. Since these benefits were obtained by the injured person through his or her own efforts or expense, it has been considered unjust for the wrongdoer to get a "windfall" by receiving the benefit of them. In most States, however, health and disability insurers can require the plaintiff to reimburse them for these "collateral sources" of payment if the plaintiff receives a malpractice award covering these expenses. In effect, health and disability insurers can be reimbursed by the defendant (or his or her malpractice insurer) for their coverage of medical and other costs incurred because of a negligent physician. A number of States have altered their laws to allow evidence of such collateral sources of payment into the malpractice trial and some States require that these amounts be deducted from the final award. (See ch. 2 for more discussion of collateral source offsets.)

Noneconomic damages, which compensate victims for physical pain, emotional distress, mental anguish, disfigurement. loss of enjoyment, loss of companionship, and pecuniary losses not otherwise covered, are very controversial because the subjective nature of the jury evaluation is thought to lead to highly inflated awards. Jury awards for personal injuries of equivalent severity vary enormously. In one study, the total damages awarded to victims with comparable serious permanent injuries in two regions of the country were found to range from $147,000 to $18.1 million (15). Such variation is caused, in part, by the failure of the courts to provide guidelines to juries on how to calculate damages for pain and suffering (4, 15). In addition, estimates of future damages for medical care and other needs involve numerous assumptions, especially for seriously injured plaintiffs.

Juries may not take attorneys' fees into account when determining damages in a malpractice suit. (Entering evidence of attorney fees is considered prejudicial and irrelevant (76. 106).) It is unknown whether juries speculate on these fees when they establish damages, and malpractice attorneys have differing opinions as to whether they do (89, 106), Thus, if no award for pain and suffering is made, the plaintiff may not, in the end, receive full compensation for economic losses after paying his or her attorney.

Punitive damages are intended to punish the defendant for grossly negligent conduct and to provide retributive justice to the plaintiff (4). In the latter case, the argument is that the plaintiff has suffered a "distinctive form of dignitary injury. " especially when the relationship between the plaintiff and the defendant is one of trust or reliance (4). The monetary damages are intended to reflect this. Punitive damage.., however. are rarely awarded in medical malpractice cases. [18]

The Time to Claim Resolution

The preceding rough sketch of the malpractice system tells little about how expensive and lengthy the ordeal can be. Most claims are not brought until a year after the injury (142). In addition. though many cases are settled, claims take an average of 25 to 30 months (median 19 months) to be resolved after they are filed with the insurer (11 1, 142), with one study showing the time to resolution ranging from 1 month to 11 years (142).

Malpractice Insurance

Most physicians are insured against malpractice claims, so the monetary costs of defending against a claim and paying settlements or jury awards are borne directly by malpractice insurance companies (126). 19

Physicians' malpractice premiums vary by the State or locality in which they practice, the specialty or sub-specialty of practice, and sometimes the number of hours worked, years in practice, and attendance at risk management training sessions (126). (Table 1-1 shows the premium categories and rates used by New Jersey's physician-owned malpractice insurance company in 1988.) Malpractice insurers almost never base their physician premiums on the specific experience of an individual doctor (125). Malpractice claims for an individual physician are so rare and unpredictable that past experience is a poor indicator of future suits (116, ***126).***

Because almost all physicians are insured, they generally do not directly bear the costs of a malpractice suit.[20] The lack of experience rating also means that the financial impact of a malpractice claim on the sued physician will be largely attenuated through pooling of costs.[21] Although experience-rating of physicians is rare, financial sanctions do occur in physician-owned companies. In a survey of member companies of the Physician Insurance Association of America. Schwartz and Mendelson found that about 3.2 percent of insured physicians had some sort of financial or medical sanction placed on them. including 0.7 percent whose insurance coverage was terminated because of negligence-prone behavior (120). Nevertheless, except in extreme cases, the individual physician's malpractice cost or premium is still rather insensitive to changes in his or her own behavior.

TRENDS IN MALPRACTICE COST INDICATORS

The indicators of direct malpractice cost--claim frequency, payment per paid claim, and premiums--reveal a cyclical path of increase over the past 20 years and v iv idly illustrate the onset of the two "malpractice crises" that arose during this period. The first crisis occurred in the mid- 1970s. when medical malpractice insurers raised their rates as much as 500 percent and denied malpractice coverage to certain specialties (112). In California and New York, some physicians could not obtain malpractice insurance at any price (126). State legislatures were quick to respond, and between 1975 and 1976, 43 States enacted various medical malpractice tort reforms (9).

Table l-l--Annual Medical Malpractice Premiums for $1 Million Dollars of Coverage,[a] New Jersey 1988

Class	Premium
Neurosurgery	$42,000
Orthopedics (maj)	$35,000
Obstetrics and Gynecology	$31,000
Cardio-Thoracic Surgery; Cardio-Vascular Surgery, Hand Surgery; Plastic Surgery; Thoracic Surgery	$28,000
EENT (maj); General Surgery; Gynecology (maj); Industrial (maj); Otolaryngology; Pediatric Surgery	$25,000
Anesthesiology, Urology (maj)	$19,000
Dermatology (maj asst); ER (asst); FP (asst); Gynecology (rein asst); Internal Medicine (asst); Orthopedic (asst).....	$13,000
ER (hospital); Gastroenterology; Internal Medicine (Gastroenterology); Radiology; Roentgenology	$10,000
Acupuncture; Cardiology; EENT (rein, maj); ER (non-hospt.); FP (rein); GP (rein) Gynecology (non-hospital, rein); Internal Medicine (General, Cardiology, Endocrinology, Hematology, Nephrology, Oncology, Pulmonary Disease); Ophthalmology (min, maj); Rheumatology; Orthopedics (non-hospital)	$7,000
Dermatology (rein); EENT (no); FP (no); GP (no); Neurology (rein); Nuclear; Ophthalmology (no); Pediatrics (no); School Physician	$6,000
Allergy, Forensic, Hematology, Manipulation, Oncology, Pathology	$4,000

ABBREVIATIONS: EENT = eye, ear, nose, throat; ER = emergency room; FP = family practice; GP = general practitioner; asst = assisting surgery practice; maj = major surgery; min = minor surgery; no = no surgery; off = non-hospital or office practice,

[a]These premiums are for coverage for $1 million/$1million/$3 million (per medical incident/per aggregate policy period/ per aggregate extended policy period).

SOURCE: Rolph, J. E., "Merit Rating for Physicians' Malpractice Premiums: Only a Modest Deterrent," Law and Contemporary Problems 54(2):65-86, Spring 1991.

Table 1-2--Claims per 100 Physicians, 1980-1984

State	1980	1981	1982	1983	1984
AR	6.6	8.4	8.8	7.7	8.6
CA	20.4	22.3	22.5	24.6	26.0
FL	20.8	31.6	32.3	29.1	26.1
IN	5.3	6.0	7.9	9.8	10.2
NY	27.1	28.9	31.4	38.1	35.7
NC	na	7.5	8.7	8.9	8.9

SOURCE: General Accounting Office, Medical Malpractice: Six State Case Studies Show Claims and Insurance Costs Still Rise Despite Reforms, GAO-HRD-87-21, December 1986.

The second crisis occurred in the mid-1980s, when premiums again rose substantially. Some States responded with additional tort reforms, many of the same type passed in the 1970s (14).

Illustrative statistics on trends in claim frequency, payment per paid claim and malpractice insurance premiums are presented below.

Claim Frequency

Published data on trends in claim frequency are available only for 1980 and later. The data show conflicting trends. A GAO survey of claims reported by leading malpractice insurers in six states showed a steady increase in the number of claims per 100 physicians over the period 1980-84 in every State (141). (See table 1-2.) However, a more recent analysis of claims filed in New York State (one of the six states studied by GAO) using similar data sources showed a much lower rate of claim frequency (on the order of 13 per 100 physicians) and a much less pronounced trend in claim frequency over the 1980-84 period (51), The later study used a more limited definition of "claim" than did GAO, excluding from the analysis "potential "claims that insurers open even before a patient files a claim with the insurer or court. Insurers often encourage their policyholders to report adverse events early as a method of risk management (5 1), and if insurers became more aggressive about risk management over the period of measurement, the trend observed in the GAO study could be spurious.[22] Another study that measured both formal claims and incidents reported to insurers in three states (Minnesota, North Dakota, and South Dakota) in the period 1982-87 showed no increase in claim frequency (table 1 -3).

Claim frequency appears to have declined in the late 1980s. Data from American Medical Association for 1985 through 1990

Table 1-3--Physician Malpractice Claim Frequency, 1982-1987 in Minnesota, North Dakota, and South Dakota

Year	Claims per 100 insured
1982	10.4
1983	11.7
1984	11.6
1985	13.5
1986	10.7
1987	11.6

SOURCE: State of Minnesota, Department, of Commerce, "Medical Malpractice Claims Study: 1982-87," St. Paul, MN, 1989.

Table 1-4--Annual Malpractice Claims per 100 Physicians: National and Regional Data

Year	1985	1986	1987	1988	1989	1990	Average annual rate of change, 1985-1990
National	10.2	9.2	6.7	6.4	7.4	7.7	-8.9%
By region							
New England	7.6	10.1	4.0	8.4	4.0	2.4	-31.9
Middle Atlantic	13.9	12.7	7.8	7.1	7.5	9.6	-11.6
East North Central	13.2	10.1	10.5	7.5	10.8	9.5	-10.4
West North Central	9.6	8.6	3.9	4.0	5.9	5.8	-15.5
South Atlantic	7.0	7.5	5.6	4.7	4.8	5.7	-6.6
East South Central	5.5	7.3	9.2	6.4	9.0	5.6	0.6
West South Central	12.4	8.6	6.3	10.4	10.7	11.4	-2.8
Mountain	6.2	9.0	4.1	5.0	5.6	8.8	12.4
Pacific	9.3	7.5	5.4	4.4	6.1	7.0	-9.0

SOURCE: American Medical Association, Socioeconomic Characteristics of Medical Practice 1992 (M. Gonzales cd,) (Chicago, IL: American Medical Association, 1992),

show claim frequency declining for all specialties after 1986 (table 1-4).[23] An informal survey of malpractice insurance companies conducted in 1992 revealed that the frequency of claims per 100 physicians may be increasing once again (85). However, data provided to OTA by St. Paul Fire and Marine Insurance Company (the largest malpractice insurance company in the U. S.) show a stable pattern of claim frequency from 1990 through the first half of 1992 (13 1).

Payments

Total payouts from malpractice claims depend both on the probability that a claim actually results in payment and on the amount paid per claim. Data are available on the average amount paid per paid claim, but trends in the probability of payment are unavailable. Payouts can be measured at the aggregate level by examining trends in malpractice insurers' incurred losses.[24]

The mean malpractice award increased steadily from 1975 to 1984 at a rate twice as great as the consumer price index (35,54). Only a small part of this increase may be attributed to the increasing cost of medical care over the period, because only about 22 percent of total awards were for medical expenses (14,97).

Researchers at the Rand Corporation examined malpractice jury verdicts from 1960 through 1984 in two areas of the country: San Francisco, California, and Cook County, Illinois (108, 109), In the years 1975 to 1979. the average malpractice jury award in San Francisco was $644,000, and in Cook County it was $324,000 (109). Between 1980 to 1984. the average jury verdict was $1,162,000 in San Francisco and $1,179,000 in Cook County (109). (These figures are all in 1984 dollars). This represents an 80 percent increase over the period in San Francisco and a 263 percent increase in Cook County .25

Bovbjerg and colleagues also reported a substantial increase in jury verdicts in five separate areas of the country (including those studied by the researchers at Rand) after adjusting for inflation (16), The average verdict (in constant 1987 dollars) increased from $501.000 in 1980 to $1.3 million in 1985 (16). Jury verdicts are rare, of course, as most cases are dropped, dismissed, or settled before they reach trial,

Nevertheless, expectations about the potential size of a jury verdict enter the decision-making process during the early phases of a case. Thus, increases of this magnitude could be a marker for increases in awards across all cases, regardless of the stage of the litigation process at which they were settled.

Total direct insurance losses, a measure that combines trends in both payment per paid claim and the probability of a claim resulting in payment, has declined in both current and constant dollars in recent years. In the period 1979-1985, direct insurance losses increased at a rate of 25 percent per year (61), compared with a 2.7 percent annual decline between 1985 and 1991 (98). These changes suggest that either the mean payment per paid claim or the probability of payment, or both, have declined in recent years.

Malpractice Insurance Premiums

Figure 1-2 shows national trends in the price of a standard malpractice policy (i.e., for coverage of $100,000 per occurrence and $300,000 per year) across five medical specialties from the mid-1970s through 1986 (126).26 The price of malpractice insurance increased rapidly in inflation-adjusted dollars during the two malpractice crisis periods -- the mid- 1970s and the mid-1980s. A more recent study of changes between 1989 and 1991 in the price of a standard malpractice insurance policy, this time for coverage of $1 million per occurrence and $3 million per year, found a 10 percent decline in premiums during the period (162).

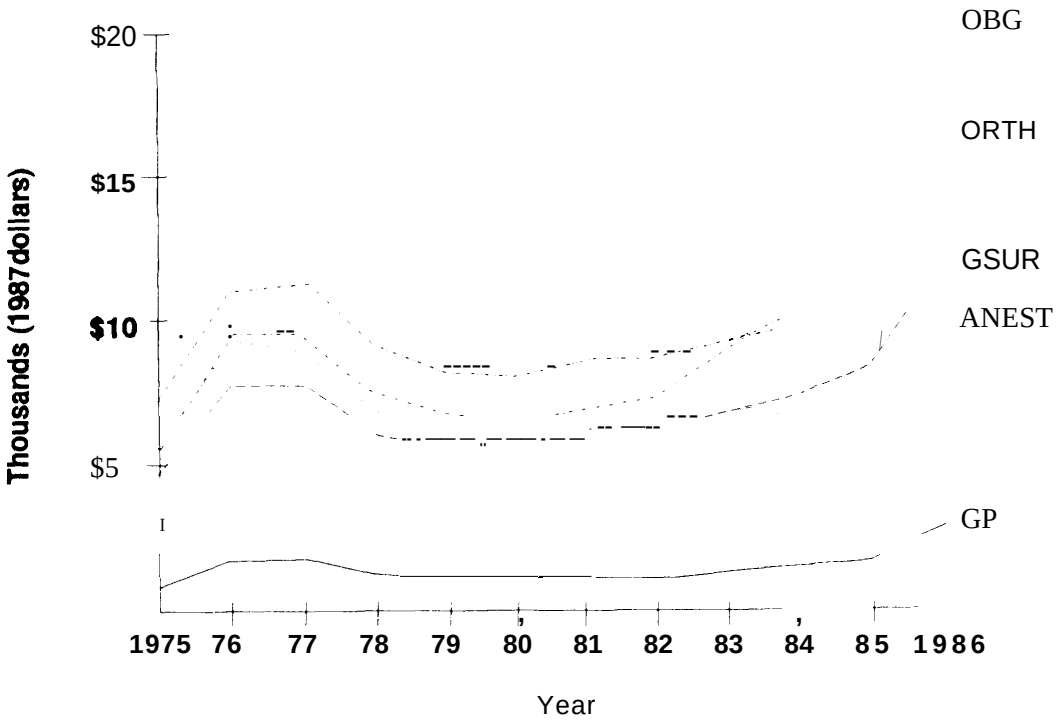
The price data presented above do not fully reflect the cost of buying adequate coverage, because many doctors felt the need to purchase more extensive coverage (126), probably in response to increases in claim payments over the period .27 Data on aggregate premium payments for malpractice insurance throughout the country show an inflation-adjusted increase between 1985 and 1991 of 6 percent (see table 1-5). In recent years, however, premiums have actually declined nationally. When inflation is taken into account, aggregate premiums declined approximately 16 percent between 1988 and 1991.28

IMPACT OF MALPRACTICE ON DEFENSIVE MEDICINE

Whether and by how much physicians tailor their practices to avoid the cost, disruption, and discomfort of being sued is at present a matter of conjecture.[29] It is difficult to measure the extent of defensive medicine because the effect of malpractice can work through subtle avenues, including the incorporation of defensive practices into physicians' training. If all physicians are affected in their practices by the fear of malpractice, then studies that examine variations in practices across physicians (or even over time) will not be able to pick up the full impact of defensive medicine.

Only one study to date has documented a relationship between the malpractice cost indicators in an area and the utilization of a medical procedure. That study, by Localio and colleagues, found that New York State obstetricians who practice in hospitals with high claim frequency and high malpractice premiums do more Caesarean sections, (controlling for patient severity and other factors that might affect the Caesarean section rate), than do obstetricians practicing in areas with low malpractice claim frequency and premiums (75). The incremental effect of higher claim frequency and direct malpractice cost on this one medical procedure appears to be large. For example, the odds of a Caesarean section in a hospital with the highest frequency of obstetric malpractice

Figure 1-2--National Trends in Malpractice Premiums, 1975-1986



Abbreviations: ANEST = Anesthesiology
GP = General Practice
GSUR = General Surgery
OBG = Obstetrics/Gynecology
ORTH = *Orthopedics*

Note: **Mean** annual premiums for $100,000/$300,000 *policy limits*

Source: Sloan, FA., Bovbjerg, RR, and Githens, P.B., Insuring Medical Malpractice (New York, NY: Oxford University Press, 1991).

claims were 32 percent greater than the odds of a Caesarean delivery in a hospital with the lowest frequency of obstetric malpractice claims. Because the study explored only the incremental impact of high versus low malpractice system indicators, its results provide a conservative estimate of the impact of the malpractice system on Caesarean section rates. The fear of malpractice may be operating in the background to affect all physicians decisions.

At present, the pressure to practice defensively occurs in a health care system that in large part imposes no financial penalty on doctors, and little on hospitals, for such behavior. Indeed, under fee-for-service payment of physicians and charge-based reimbursement of hospitals, physicians and hospitals actually make more money when they perform some procedures or tests for defensive reasons. Under a different payment regime--for example. a regime of managed competition--[30] providers would have an

Table 1-5-Aggregate Premiums Paid for Malpractice Insurance in the United States, 1985-1991

Year	Premiums ($ billions in current dollars)	Annual rate of change (percent)	Premiums ($ billions in 1985 dollars)	Annual rate of change (percent)
1985	2.66	--	2.66	--
1986	3.81	43%	3.75	41 0/0
1987	4.55	19	4.24	13
1988	5.07	11	4.61	9
1989	5.12	1	4.43	-4
1990	4.93	-4	4.08	-8
1991	4.86	-1	3.85	-6
Rate of change 1985-1991 **(o/o)**		**11**		6

SOURCE: National Insurance Consumer Organization, "Medical Malpractice Insurance 1985-1991 Calendar Year Experience," Alexandria, Virginia, National Insurance Consumer Organization, March 1993, based on data from annual reports on profitability published by the National Association of Insurance Commissioners

incentive to consider the costs of practicing defensive medicine against the reduction in risk of suit and might engage in such practices less frequently even in the absence of tort reform. Under a payment regime that itself discourages defensive medicine, tort reforms that reduce malpractice claim frequency or payment per claim might have a smaller effect on defensive medicine than such reforms would have in the present health care system. In short, the impact of any tort reform on defensive medicine will depend on the payment regime in which the tort reform is implemented.

Footnotes for Chapter 1

1Ma]practice insurers make part of their income from premiums and part from investing those premiums in income-producing assets. The price of malpractice insurance (i.e.. the premium) reflects the investment potential of the premium as well as the need to cover expected future 1osscs, Thus. the premium in any year approximates the amount that must be invested (at the expected interest rate) to pay off losses as they occur in the future, meet operating expenses. and repay the in~'esters in insurance companies for the risks they bear. As the interest rate expected from capital investments rises and falls. premiums are adjusted accordingly to assure a competitive rate of return to the investors (126). Because expected interest rates vary over time, premiums will too, for reasons that often have nothing to do with the number or kinds of malpractice suits.

2This is based on 1991 estimated health care expenditures in the United States of $751.3 billion (72).

3Approximately 20 t. 40 percent of hospitals are self-insured (93). and a small proportion of physicians do not carry malpractice insurance.

4A detailed memorandum describin$_g$ OTA's procedure for estimating the cost Of self-insurance is available upon request.

5Thc other major goal of the malpractice system is to compensate victims fOr their losses.

6 T h$_c$ performance of tests and procedures for defensive purposes is **positive defensive** medicine; avoidance of high-risk patients or procedures is **negative defensive** medicine.

7A more stringent definitio$_n$ of defensive medicine would limit it to tests and procedures that arc ordered solely to protect the physician against future malpractice suits. Under this definition, the physician would be engaging in defensive medicine only when he or she believes that the test or procedure offers absolutely no chance of helping the patient and is therefore pure waste, OTA rejected this stringent definition of defensive medicine for two reasons: first, such behavior violates physicians' ethical principles; and second, medical practice involves implicit judgments about whether the benefits of tests or procedures outweigh their risks and costs to the patient. The fear of being sued may cause physicians to increase their threshold of tolerance for these risks and costs.

8Thc Congressional Sunbelt Caucus (J. Roy Rowland and Michael Bilirakis, Co-Chairmen, Infant Mortality Task Force) requested that OTA examine the specific issue of whether Medicaid recipients file a greater number of suits against obstetricians than women who arc covered by private insurers.

9Recent Federal legislation may have increased physicians' aversion to malpractice suits. The Health Care Quality Improvement Act of 1986 (Public Law 99-660) requires that all medical malpractice claims ending in payment (settlement or verdict) be reported to a National Practitioner Data Bank maintained by the Department of Health and Human Scn'ices, The Data Bank must be consulted by hospitals whenever a practitioner applies for staff privileges and at least every two years thereafter (45 CFR §60. 10), At the very least, physicians who have been sued and lost or settled will have the discomfort of having to justify their malpractice experience to the institutions at which they practice.

10However, physicians appear t. grossly overestimate the probability of being sued for malpractice (71), so defensive medicine may not be very sensitive either to differences in rates of suit or to payment levels in successful suits.

11Researchers at Harvard University found that for every 7.5 negligent medical injuries occurring in hospitals in the State of New York in 1984, only one malpractice claim was filed. Among patients subjected to serious injury by negligence, only about one-third filed a claim (75).

12In an attempt t. estimate the deterrent effect of medical malpractice. researchers at Harvard University recently analyzed the relationship between the number of malpractice claims per negligent injury and the rate of negligent injuries in New York State hospitals in 1984. They failed to demonstrate a significant

relationship between malpractice claim activity and the rate of negligent injury in a hospital (157). Although the researchers based their analysis on a comprehensive assessment of the frequency of negligence in New York hospitals, the analysis was still limited by a small sample size (less than 50 hospitals) and a single year of data. Thus, the analysis may not have been powerful enough to detect a deterrent effect with sufficient confidence.

[13]These findings are consistent with other surveys of malpractice claims (34,41,97).

[14]Prior t. forma] filing of a suit, the confidentiality of the physician-patient relationship is preserved, so the insurer cannot talk with the doctor about the claim without receiving permission from the patient. The plaintiff (or his or her attorney), on the other hand. can obtain a copy of the medical records and can also talk with the doctor about the case if the doctor is willing Once the suit is filed, the State or Federal rules of discovery prevail, and the plaintiff and defendant can question each other and other witnesses (106).

[15]This estimate, and others taken from the General Accounting Office's study of claims closed in 1984 (142), was based on a probability> sample of approximately 1700 claims (68)

[16]The strength of the case was assessed by the insurance company using an internal prOCCSS that assigns each case to one of three categories: defensible, indefensible. and unclear.

[17]Negligence was judged by physician panels based on medical malpractice closed claims forms, the hospital records, and information gathered from claimants through personal interviews (127) It should be noted. however, that in a large percentage of cases the reviewers were uncertain as to the physician's liabi lit? (127).

[18]See (34119). In a review of medical malpractice trials in San Francisco and Cook County, Illinois from 1960-1984. only 9 awards included punitive damages, accounting for less than 1 percent of plaintiff's verdicts (107), A recent study examined 4747 malpractice claims filed in Minnesota. North Dakota and South Dakota between 1982 and 1987, No punitive damages were awarded in any of the 110 cases that actually reached trial. (Only 20 of the 110 cases had any compensation awarded (o the plaintiff.) (94).

[19]Before the 1 970s, most malpractice insurance was written by private commercial insurance companies. In the early 1970s, many insurers raised their premiums and. in some cases. exited the market completely. When a number of commercial insurers quit the market. medical and hospital associations and States jo i ned to expand the pool of insurers. By 1986, about 37 percent of physici ans w ere insured through physician-sponsored companies (120).

[20]In a small number of cases the jury award may exceed the limits Of the malpractice insurance policy, but such awards are frequently reduced by judges or by post-trial negotiations among (he part ics (26) In some cases, the insurance company will pay for awards above the physician's insurance limit The result is that physicians rarely pay anything above their policy limits (26).

21111 contrast t. physicians, hospitals are generally experience-rated by Insurance companies (21). and many large hospitals insure themselves for malpractice (93). Hospitals therefore have a clear financial interest in managing their malpractice risks,

[22]The researchers in the second study tried unsuccessfully to replicate the GAO results from New York using the same databases. so the source of the d iscrepancy in levels and trends is not fully understood.

[23]Although overall claim rates declined, the rate of change varied widely across specialties. Obstetrics and gynecology had the highest rate of change in liability claims per 100 phy sicians between 1985 and 1990 (-23 percent), but they began with more than twice the average frequency of claims (25.8 per 100" physicians compared with 10,2 per 100 physicians across all specialties in 1985) (6),

24 Losses incurred are defined as the sum of claims paid by insurers to doctors and hospitals plus insurers' estimates of what they expect to pay out in the future on both claims they know about and those they do not yet know about. Direct losses are the losses incurred by the insurer before taking into account any protections the insurer may have through reinsurance.

25This increase occurred in California despite the passage of a cap on noneconomic damages of $250,000 in 1975, However, the constitutionality of the California malpractice reform law of 1975 was in question for 10 years after its passage, and most lawyers and judges were reluctant to implement its provisions until it was upheld by the California Supreme Court in 1985 (Fein v. Permanente Medical Group, 695 P.2d 665 (Cal. 1985) *cert. denied* 474 U.S. 892, 106 S. Ct. 214 (1985): 22; 59; 78).

26 The data presented in the figure were calculated from data collected by the U.S. Health Care Financing Administration. It can be interpreted as the price of a mature clairns-made $100,000 pcr incident and *$300,000* per annum.

27 According t. Danzon, in 1976, 79 percent of physicians carried $300,000 of coverage, but by 1986 over 50 percent carried at least $1 million dollars in coverage (33). By 1988, approximately two-thirds of physicians had coverage of at least $1 million per occurrence (145).

28 These rates of change in premiums are roughly equivalent to those reported by physicians to the American Medical Association (AMA). The AMA reported an annual rate of change in average premiums paid by surveyed physicians of 11.4 percent between 1985 and 1990, but the average reported premium declined by 8.8 percent between 1988 and 1990 (6),

29Only two quantitative estimates of defensive medicine costs exist. First. the AMA estimated that national costs of malpractice were between $12.1 and $13.7 billion in 1984 (114). This estimate has been criticized for biases in its methodology, (15,32, 140). The second analysis, made recently by the private consulting firm Lewin-VHI, Inc., estimates defensive medicine costs of between $4.2 and $12.7 billion in 1991, (73), but these new estimates are based primarily on the earlier AMA estimates and hence are subject to many of the same methodologic criticisms.

30Managed competition in this paper refers to a system in which each consumer chooses among competing health plans that offer a standard set of benefits at different prices (i.e.. premiums). Competi ion among plans for patients on the basis of price as well as quality would presumably force plans to look for opportunities to eliminate wasteful or only marginally useful scn'ices. Plans would exert greater influence on their participating doctors and hospitals to curb such practices.

INTRODUCTION

Because malpractice liability is felt by many interested parties to be a contributor to health care cost escalation, numerous medical malpractice reform provisions have been proposed both as components of comprehensive health care reform bills and as separate pieces of legislation. [1] A number of the proposed reforms have already been implemented in some States. To understand whether and how Federal adoption or encouragement of these reforms might affect current trends in medical malpractice, it is important to examine the experience of States that have tried them.

This chapter describes the malpractice reforms that have been implemented or proposed to date. It focuses exclusively on strategies that would change the way malpractice claims are handled in the legal system--strategies commonly referred to as "tort reforms." [2] For each type of reform, it offers a brief description of the rationale and mechanism. discusses State experience (if any), and raises what have been or are likely to be key issues of concern, Appendix B briefly discusses constitutional challenges to State reforms and the implications of these challenges for Federal tort reform efforts. Chapter 3 provides a comprehensive and critical review of the existing empirical evidence of the impact of these reforms on medical malpractice claims and insurance premiums.

OVERVIEW OF MALPRACTICE REFORM APPROACHES

Tort reform approaches range from modest to comprehensive. Some would largely retain the current system for resolving malpractice claims but change some of its legal rules; others would entail broader changes in the forum for deciding malpractice claims; still others would eliminate the current fault-based system and create an entirely new system for compensating victims of adverse medical outcomes.

The goal behind many of the reforms that have been implemented to date is to reduce the frequency and/or payouts for malpractice claims. Some do this by limiting malpractice awards (e. g.. caps on damages): others, by limiting access to the courts (e. g., pretrial screening): and still others. by changing the legal rules for determining physician negligence (e. g., use of practice guidelines to establish the legal standard of care).

It should be noted that concern for patient s--e. g., increasing access to the courts for the many meritorious claims that are never filed and reducing the incidence of malpractice has been conspicuously absent from the rationale supporting many of the existing reforms. Rather, most reforms have been driven by the perception of a "malpractice crisis, " in which high litigation rates and questionable financial incentives are viewed as the culprits.

One exception is procedural reforms. such as alternative dispute resolution (ADR), which attempt to reduce the costs of resolving a malpractice suit, facilitate quicker resolution of suits, create more rational and uniform damage awards, and/or decrease the adversarial nature of the litigation process, Many ADR procedures are already available but are not widely used in medical malpractice. More comprehensive ADR proposals, such as the American Medical Association/Specialty Society Medical Liability Project (AMA/SSMLP) administrative system, would require legislative action to implement and are now merely proposals. The potential impact of these procedural reforms is difficult to predict. To the

extent that they lower the costs of bringing a suit, or otherwise make litigation more appealing, they may prompt additional suits. However, if these strategies discourage or weed out nonmeritorious suits, they may enable more deserving victims to receive compensation without greatly increasing costs.

Some recent reform proposals aim to change the malpractice system in a more fundamental way. For example, enterprise liability is designed to remove personal liability from the physician and place it on the health care organization in which the care was given. The goals of enterprise liability include improving quality control in the provision of health care, reducing overall premiums, and simplifying the resolution of malpractice claims. Another proposal would reform liability through private contracts, allowing providers and patients to contract for different liability arrangements. This reform rests on the assumption that uniform legal rules for liability may not serve the interests of all providers and patients. Providing them with the authority to contract for different liability systems may prove more efficient in terms of cost, time, and psychological effort involved in resolving a malpractice claim.

Finally, there are proposals to replace the fault-based malpractice system with a no-fault system (e.g., one that is analogous to workers' compensation). There are several arguments for such a change, including the need to increase the percent of injured persons who receive compensation, to control administrative costs, and to remove the stigma of a malpractice claim for the physician.

Most of the tort reforms proposed or considered at the Federal level have been implemented in a number of States over the past two decades (see table 2-1).[3] In recent years, a few States have begun experimenting with more innovative reforms, such as limited no-fault programs and the use of practice guidelines in determining the legal standard of care. Some proposals have been debated mainly in academic journals and by interest groups, not in legislatures. All of these reform proposals are discussed below.

REFORMS TO REDUCE THE FREQUENCY AND COST OF MALPRACTICE SUITS

Economic theories of behavior postulate that a patient's decision to sue is based in part upon the expected return, net of legal fees and other costs of litigation (16), The patient's attitudes toward risk and the judicial system may also play a role (4 1.92). A number of reforms attempt to 1imit the frequency and cost of malpractice litigation by altering the financial incentives to sue or by changing the legal rules of the system to discourage lawsuits. Some of these reforms simply attempt to reduce the number and monetary size of lawsuits, irrespective of their merit. Others discriminate more carefully between meritorious and nonmeritorious claims in their attempt to stem litigation.

Several reforms attempt to discourage plaintiffs from pursuing claims by raising the transaction costs of bringing a suit or by placing restrictions on damages. A second class of reforms attempts to reduce the number of suits by changing the process or the incentives for filing a lawsuit. For example. limits on attorney fees both lower transaction costs and control lawyers' financial incentives to take on plaintiffs cases. Shortening the statute of limitations and requiring pretrial screening present additional barriers for individuals who want to pursue litigation. A third class of reforms attempts to reduce the probability of a plaintiff's success by changing the legal rules for determining physician negligence.[4]

Limiting Access to the Courts

Several reforms limit plaintiffs' access to the legal system. Statutes of limitations act to cut off all access after a certain period of time. Most other reforms focus on limiting the number of nonmeritorious suits brought, although in practice they may discourage other meritorious suits.

Shortening Statutes of Limitations

Statutes of limitations are legal rules that determine how long after the injury one can bring a lawsuit. Part of the rationale for limiting the time in which a plaintiff can file a lawsuit is (hat evidence becomes stale over time (e.g., witnesses leave or die, evidence is lost, and the accepted standard of care may change). At some point, the plaintiff's right to bring a suit is outweighed by the defendant's interest in not being subjected to a suit in which some of the evidence needed to defend himself or herself is no longer available. The limitations also allow individuals and insurers to anticipate future liability from past conduct (66).

Requiring a patient to bring a lawsuit within a certain number of years after the injury may appear reasonable; however, in some cases medical injuries are not discovered for a long time. To address this problem, the courts adopted a "discovery rule" in which the period during which a suit can be brought does not begin until it was reasonable for the plaintiff to have discovered the injury (66). Most medical malpractice statutes of limitations now include such a "discovery" provision. The standard leaves judges to decide when it was "reasonable" to have discovered an injury and may therefore still allow some claims to be filed long after the medical treatment that caused the injury. In a study of *48,550* medical malpractice claims closed between 1985 and 1989, the average time elapsed between the date of the incident and the date it was reported to the malpractice insurance company was 20 months: however, the time elapsed exceeded 3 years in approximately 10 percent of the claims studied (111).

Every State has some statute of limitations for medical malpractice claims. During the 1970s, a number of States shortened the statutory limits in hopes of decreasing the number of old suits brought. The new statutes of limitations usually make exceptions only in cases involving fraud, deliberate misconduct, or foreign obiects left inside a patient during surgery (see app. A, table A-4). The traditional provisions for minors (which typically extended the statute of limitations until a specified time after the child has reached the age of 18 or 21) have often been limited as well (14). A number of restrictions on statutes of limitations have been overturned by State courts, especially restrictions for minors.[5]

Today, most States require that a malpractice suit be brought within a specified time of the date of the negligent care or injury (in most States within 2 years) or, in cases where the injury cannot be discovered easily, within 6 months to 3 years after the injury is discovered or should have reasonably been discovered (table A-4). In California. for example, a malpractice suit must be brought within 1 year of reasonable discovery of the injury, or within 3 years of the date of the injury (Ann. Ca. Code C.C.P. $340.5 (West 1982)). In only eleven States, the statutes of limitations do not contain a discovery provision.

Pretrial Screening Panels

Another reform that limits access to the courts is the use of pretrial screening panels to review cases before they go to court.[6] These panels may offer a mandatory or voluntary screening process by which the merits of the case can be reviewed and nonmeritorious suits weeded out (14). The typical panel consists of a physician or other health care worker, a legal professional (e. g.. retired judge or lawyer), and a

Table 2- --Summary of State Medical Malpractice Tort Reforms[a]

State	Medical Malpractice Arbitration Provisions[b]	Attorney Fee Limits[c]	Caps on Damages	Collateral Source Offset	Periodic Payment of Awards	Pretrial Screening Panels
				= Mandatorv	D = Discretionarv	= Voluntarv
Alabama			U	n	M	
Alaska	√		7	)	C	M
Arizona		√		n	M	
Arkansas					C	V
California	√	v	√	)	M	
Colorado	√		√	M	M	
Connecticut		7		M	C	V
Delaware		√			C	V
D C						
F o da			O	M	D	O
Georgia	√			U		
Hawaii	√	√	√			M
Idaho			1-	M	D	M
Illinois	√	√	U	M	M	U
Indiana		√	√	D	n	M
Iowa		√		M	D	
Kansas		√	√U	MU	U	V
Kentucky				n		
Louisiana	√		7-		M	M
Maine		√		M	M	M
Maryland		√	1-	D	D	M
Massachusetts		√	√	M		M
Michigan	√	√	7	M	M	M
Minnesota					D	
Mississibbi						
Missouri			√		M	C
Montana				M	D	M
Nebraska		√	√			M
Nevada						M
New Hampshire		√	O	O	O	V
New Jersey	√	√		M		
New Mexico			7-	M	M	M

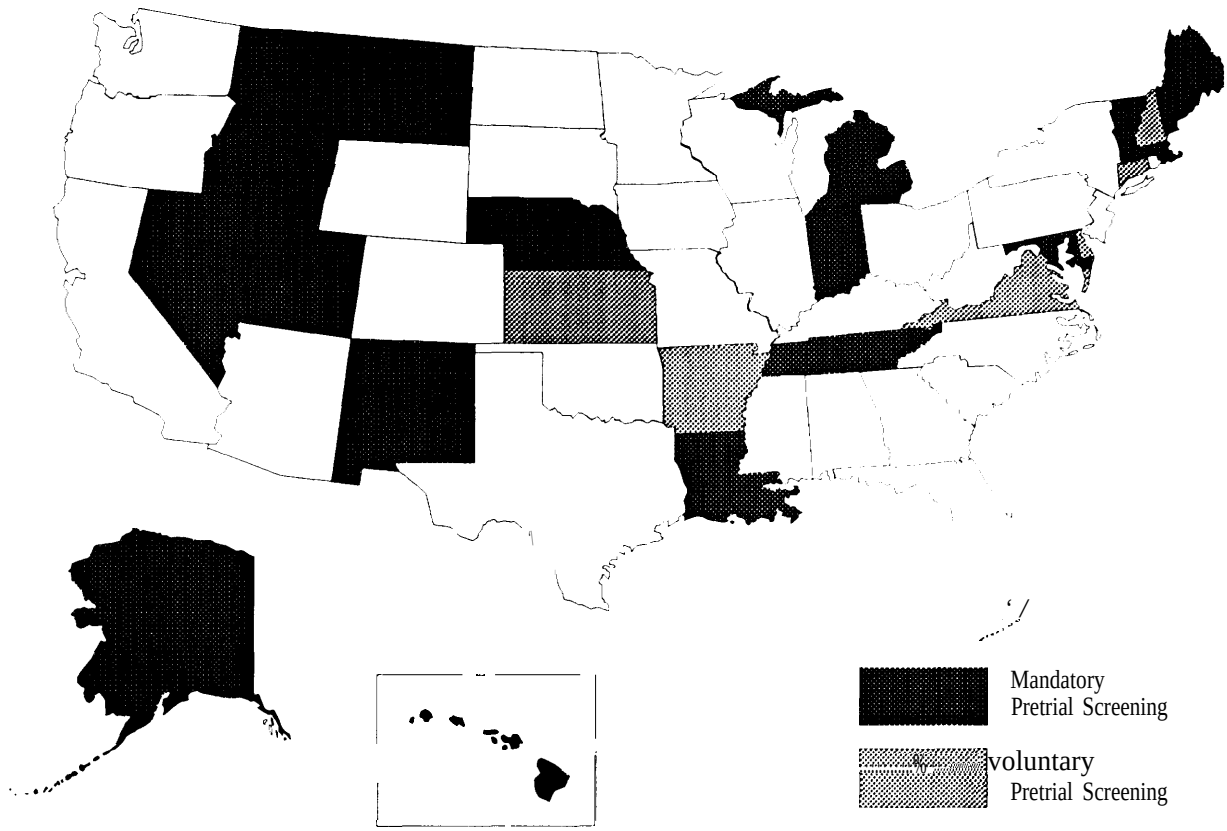
State	Medical Malpractice Arbitration Provisions[b]	Attorney Fee Limits[c]	Caps on Damages	Collateral Source Offset	Periodic Payment of Awards	Pretrial Screening Panels
				M = Mandatory	D = Discretionary	V = Voluntary
New York	√	√		M	D	
North Carolina						
North Dakota			0	DO	D	
Ohio	√		0	M	M	
Oklahoma		√				
Oregon			√	D	D	
Pennsylvania		0		0		0
Rhode Island				M	D	0
South Carolina					D	
South Dakota	√		√	D	M	
Tennessee		√		M		M
Texas			0			
Utah	√	√	√	M	M	M
Vermont						M
Virginia	√		√			V
Washington		√	0		M	
West Virginia			√			
Wisconsin		√	√			
Wyoming						0

Abbreviations:
M = Mandatory
D = Discretionary
V = Voluntary
O = A malpractice specific provision was overturned by Court. In certain States, the legislature corrected the constitutional deficiency.

Footnotes:
[a]For additional details on all categories, see app. A.
[b]A "√" indicates States with voluntary, binding arbitration provisions that are designed Specifically for medical malpractice cases. Voluntary, binding arbitration is an option in every State under general arbitration statutes. In Hawaii the provision applies to mandatory non-binding arbitration.
[c]A "√" in "Attorney Fees" means the statutory provision limits attorney fees to a specific percent of award. In a few States the courts are given the authority to determine or approve attorney fees (see app. A).

SOURCE: Office of Technology Assessment, 1993.

Figure 2-1--Pretrial Screening Panels for Medical Malpractice



Source: Office of Technology Assessment, 1993.

layperson. The panel's judgment usually does not preclude the parties from going to court; however, the judgment is often admissible in any subsequent trial and may influence the jury (20,48).

OTA identified 22 States with some form of pretrial screening. In 16 of these States the provision is mandatory (although in some States it can be waived if requested by one or both parties), and in an additional six it is voluntary (table 2-1; figure 2-l). The details of screening panel composition and function vary among States and can change the panel effectiveness. One recurring problem is recruiting professionals willing to sit on screening panels. States that require more members on the panel may experience considerable delay (20).

The panel role and the admissibility of its decision in subsequent proceedings may also determine its influence on the disposition of the claims. In some States the panel can render an opinion on damages, while in others the panel can address only liability (20). The admissibility of the panel decisions in further judicial proceedings and the evidentiary weight accorded to the decision also vary. Some States allow the decision to be admitted if both parties agree. At least one State does not permit the

decision to be introduced in further proceedings unless it was unanimous. One State--Maryland--requires that the decision (on both fault and damages) be admitted in subsequent trials, and the jury is instructed to presume that the panel's decision is correct unless rebutted by the party rejecting the finding (Ann. Code of Md. Cts. & Jud. § 3-2A-06 (Michie 1989)). In other States, the decision is admissible but is not regarded as definitive evidence. (See appendix A for further details.)

Pretrial screening provisions have been overturned in six States on the grounds that they infringe upon State constitutional guarantees of right to trial or access to courts.[7] In five other States, pretrial screening provisions were passed but then repealed through legislative action (table 2-1).

A less involved approach to screening suits is the requirement that the parties meet for a settlement conference prior to trial. The parties may be required to submit a reasonable settlement offer at the conference. This is not a novel idea, and many courts have implemented it without explicit legislative directives. Finally. some States require the plaintiff to file a certificate of merit prior to filing a suit. A certificate of merit is basically an affidavit by a physician attesting to the fact that the plaintiff's case has merit (see. e.g., 735 ILCS 5/2-622 (West 1992); Ann. Code of MD. Cts. & Jud. § 3-2A-04(b) (Michie 1989)).

Limits on Attorney Fees

Under the traditional system, plaintiffs' attorneys are paid on a contingency basis; i.e., they are paid only if they win (see ch. 1). Attorneys collect on average 33 percent of the plaintiff's award (142). Since financial incentives play a role in lawyers' decisions whether or not to take on malpractice cases (1 12), the number of malpractice suits might be reduced by restricting fees. However, such reductions might occur at the expense of further discouraging attorneys from taking on meritorious cases whose expected financial returns are low. About one-half of the States either specify a limit on attorney fees or authorize the courts to set attorney fees (table 2-1; figure 2-2). In most cases, attorney fee limits are not direct limits on the amount attorneys can charge their clients. Rather. they are limits on the portion of the damage award that may be applied toward attorney fees. The form of the limitation varies from State to State (app. A; table A-6).

Costs Awardable in Frivolous Suits

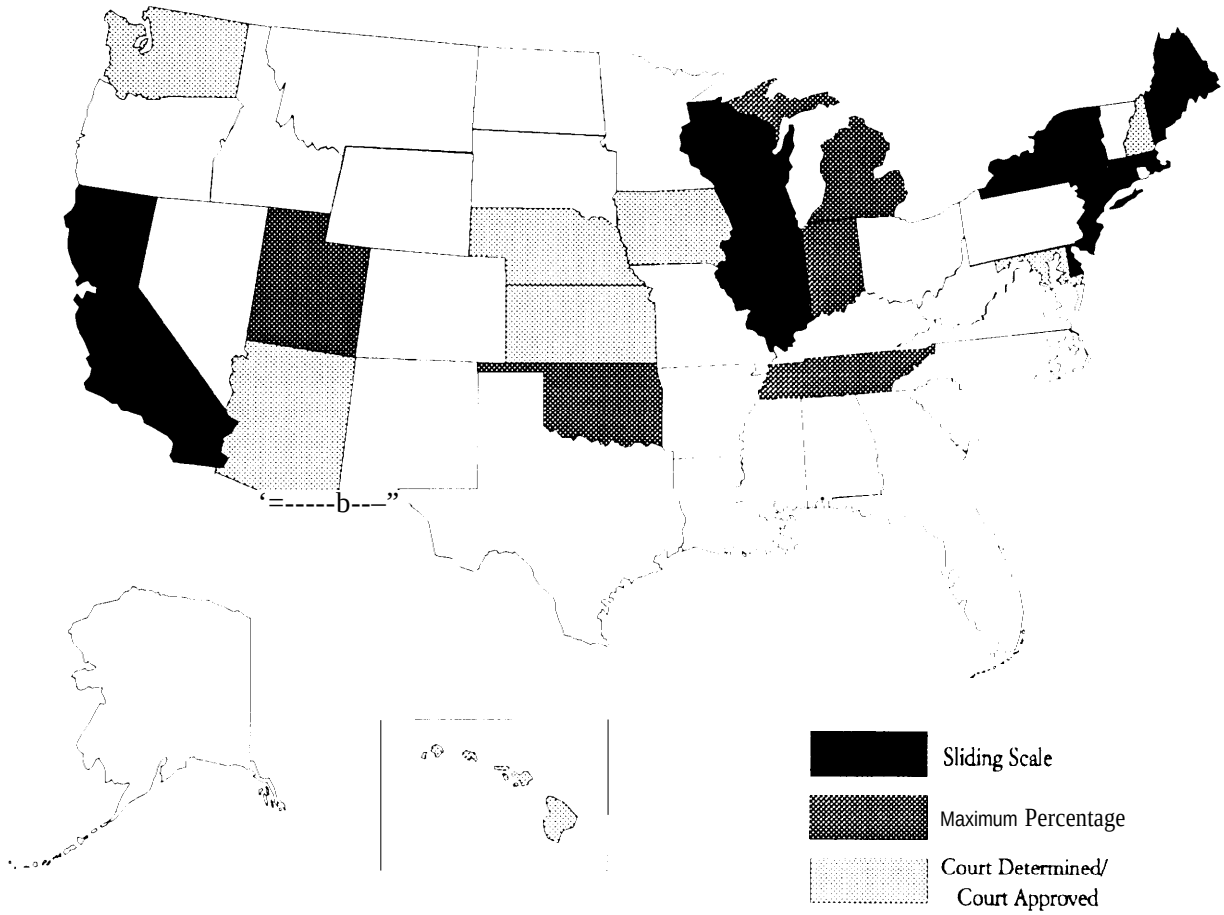
At least 15 States have passed legislation giving the courts authority to force the losing party in a medical malpractice case to pay the opposing party's court costs and/or reasonable attorney fees if the suit was frivolous, fraudulent, or in bad faith. This applies to a very limited number of cases, if any, since a case may ultimately be nonmeritorious without being frivolous. These statutes are not to be confused with the so-called "English Rule, " in which the loser pays the winner's attorney fees, regardless of the merit of the suit (4). OTA knows of only one State that attempted to implement the "English Rule," and that statute was repealed by the legislature after it was discovered that only relatively wealthy losers (i. e.. defendants) were paying (I 4).

Several tort reforms seek to limit physician liability and create more predictability at the outset as to what will constitute negligent behavior. The most significant of these recent changes is the development and use of practice guidelines in determining the legal standard of care. In addition, States have also limited physician liability by altering common law doctrines of informed consent and *res ipsa loquitur.*

Judicial Limits on the Standard for Informed Consent

Physicians need a patient's consent prior to treatment. For many years the adequacy of the consent was judged by professional standards (78). In 1972, two separate legal

Figure 2-2--Attorney Fee Limits



Source: Office of Technology Assessment, 1993

opinions allowed a patient to recover damages resulting from medical care that met the standard of care, because it was determined that the patient would not have consented to the care if all material information had been provided. [8]

Several courts moved to a more patient-oriented standard for judging the adequacy of informed consent. Some legislatures responded with legislation that either codified a list of information to be provided the patient, thereby enabling physicians to develop standard consent forms: or the legislation set forth the defenses a physician could use when faced with claims alleging failure to adequately inform the patient [9] (78). The latter statutes often establish professional or customary standards of disclosure as a defense and further require the plaintiff to establish that a reasonable person would not have undergone the treatment if he or she had been fully informed of the risks (78). (The plaintiff must also prove that the lack of informed consent was the proximate cause of the injury (78).

While the expansion of the informed consent doctrine in the 1970s may have led to more claims, recent data indicate it is a minor issue today in liability claims. [10]

Restricting the Use of Res Ipsa Loquitur

The legal doctrine of *res ipsa loquitur* ("the thing speaks for itself") allows plaintiffs with certain types of injuries to prevail without having to introduce expert testimony of negligence. The plaintiff must prove only that the procedure or incident causing the injury was under the exclusive control of the physician and that such injuries do not normally occur in the absence of negligence (78). The classic case in which *res ipsa loquitur* might be invoked is when a clamp or sponge is left in a patient's body after surgery.

The doctrine of *res ipsa loquitur* is thought to be very unpopular with the medical profession because it reduces the need for expert testimony, allowing the plaintiff to reach the jury without direct evidence of negligence (14,78). However, expert testimony is often not necessary because the doctrine largely applies when the negligent act can be inferred by common knowledge (66). When common knowledge is not sufficient. the influence of negligence can be informed and rebutted by expert testimony (66).

As of 1989, 13 States had passed legislation either disallowing the application of res *ipsa loquitur* in medical malpractice altogether or limiting the circumstances under which it can be applied (129).

Changing the Rules for Determining Physician Negligence

The legal standard of care in a given case is established through the expert testimony of physicians--thus, courts defer to professional judgment rather than some objective standard to determine what was appropriate care in a given case. Over the last three decades. the customary standard has evolved from a "strict locality" formulation (i.e.. only physicians in the community could testify as to the standard of care) to an "expanded locality" formulation (i. e.. what a reasonable physician in a similar specialty/community would do under the same or similar circumstances). The exact legal formulation of the standard varies by jurisdiction. Part of the rationale for abandoning the strict locality rule was the difficulty of finding physicians willing to testify against their local peers and concern that the locality rule could insulate a community of substandard care (79). As such, expanding the locality rule would theoretically increase the number of successful plaintiffs' cases.

The use of professional judgment to establish the legal standard of care often leads to a courtroom "battle" between experts testifying for the plaintiff and defendant. Critics contend that lack of an objective and specific standard of care makes the outcome of medical malpractice proceedings unpredictable and consequently encourages defensive medicine. Despite the fact that a number of States have codified the legal standard of care in medical malpractice cases, these laws do not alter the existing standard of care, but instead merely document that physicians will be held to the standard of care provided by their profession (1 15).

Using Clinical Practice Guidelines as Evidence of' the Standard of' Care--Clinical practice guidelines, published by physician groups and, more recently, the Federal Agency for Health Care Policy and Research, are increasingly being looked at as possible standards for medical care. Under the customary practice formulation, clinical practice guidelines based on a reasonable degree of professional consensus would presumably be valuable evidence of the applicable standard of care. However, there are a number of I imitations to the usefulness of guidelines in deciding medical malpractice cases. First, existing rules of evidence limit the use of guidelines in establishing the legal standard of care. Second, guidelines have only been written for a small portion of medical practice; thus, not all medical malpractice cases would be able to invoke specific, relevant guidelines. In addition,

because guidelines often purposefully leave much of the ultimate judgment to the physician discretion, they may not be explicit enough to be used as a rigid legal standard of care.

Under the current system, courts generally bar guidelines from being admitted as evidence under the "hearsay rule, " which prohibits the introduction of out-of-court statements as evidence (67). In these cases, guidelines would only color the evidence to the extent that expert witness testimony reflected their contents. However, guidelines or medical textbooks that are considered to reflect comprehensive analysis of scientific evidence and broad consensus among members of the profession may sometimes be admitted as evidence under the "learned treatise" exception to the hearsay rule (158, 159).

If recognized under this exception, the guidelines generally have to be read into evidence in conjunction with expert testimony, rather than be admitted as exhibits (77).[11] Once admitted, they carry no greater legal weight than other expert testimony (67). In other words, in the current system a guideline, if admitted as evidence, cannot conclusively establish the standard of care in a particular case. The guidelines can be rebutted by the expert witness of the opposing party. However, if juries place more weight on guidelines from authoritative sources than on conflicting testimony from expert witnesses, guidelines may play a greater role in determining the outcome of a case than the court's legal instructions might suggest.

OTA has been unable to document how often guidelines are actually used as evidence in medical malpractice litigation, although studies are underway to answer this question. OTA knows of no studies that examine outcomes of cases involving guidelines or the reactions of juries to the use of guidelines as evidence.

In order to increase the role of guidelines in determining physician negligence, three States--Maine, Minnesota, and Vermont--have recently passed legislation that accords greater weight to certain guidelines in the litigation process.

In 1991, Maine began a five-year demonstration project that makes State-developed guidelines admissible as a defense in medical malpractice proceedings (24 MRSA §§ 2972-2978 (1990)). 12 The statute permits physicians who elect to participate in the demonstration to use these guidelines as an affirmative defense in medical malpractice trials and in pretrial proceedings. Under the affirmative defense provision, use of guidelines as evidence is no longer a matter of the judge's discretion. If a physician introduces the guideline as a defense, the plaintiff must either (a) prove that the physician did not follow the guideline or (b) prove. through expert testimony, that the guidelines are not applicable to the given case. If the plaintiff is unable to do this, the physician is not negligent.

Another provision of the Maine statute prohibits a plaintiff from introducing the guideline as evidence of the standard of care in an effort to prove that the physician's performance was substandard (24 MRSA § 2977 (1990)). This provision was included to allay fears on the part of physicians that the guidelines, instead of serving to protect them from liability, would be used against them. Some critics, however, claim that this provision may be subject to challenge on State and/or Federal constitutional grounds because it selectively denies plaintiffs the use of evidence that may be critical to proving malpractice (132). A hearing of the constitutional challenge will probably not occur for several years. As of July 1993. the State's largest medical malpractice insurance carrier had not yet received any claims for which the adopted guidelines were relevant (18).

Minnesota recently passed legislation that allows guidelines developed and/or adopted by a special State commission to be used as an absolute defense in malpractice litigation (95).13 Like the Maine statute, Minnesota's law also bars the plaintiff from introducing the guideline as evidence that the physician failed to meet the standard of care. As of August 1993. the first round of guidelines had yet to be officially approved in Minnesota (45).

Some patient rights advocates may oppose the approach taken by Maine and Minnesota because it offers no safeguard against "bad" guidelines--i. e., the plaintiff cannot contest the reasonableness of the guideline itself (106). Some critics contend that the use of guidelines as rigid legal standards may be problematic due to the continual evolution of medical practice and the inability of written guidelines to reflect changes in a timely manner (56).

Vermont's approach is more moderate, amounting to a change in the rules of evidence that will allow a wider variety of guidelines--e.g., guidelines developed by health care professional groups, the Federal government, or health care institutions--to be directly admitted as evidence of the standard of care by either the plaintiff or the defendant in future mandatory medical malpractice arbitration proceedings (18 V. S. A.. part 9, chapter 21 § 1 (1992)). 14 This provision would make it easier to introduce guidelines as evidence. but would not give them any greater legal weight than other expert testimony.

In an interesting departure from the strategy embraced by Maine, Minnesota, and Vermont, legislation recently passed in Maryland mandates the development of State guidelines but explicitly prohibits them from being introduced as evidence by any party in a malpractice suit (80). Florida recently adopted legislation authorizing the development of guidelines and encouraging consideration of their use in the future as legal standards of care (43).

One concern that State guidelines initiatives such as these raise is the potential for conflict between national, State, and even institutional guidelines. Most of Maine's guidelines were modeled closely from nationally recognized standards, but others were developed de novo by Maine. physicians (36) and could be construed as setting a precedent for reconversion to a more local standard of care. Developers of guidelines in Minnesota anticipate using national guidelines as models and amending them if necessary to conform to the realities of health care delivery in the State (45). In Vermont, the statutory description of guidelines could be interpreted as including even written institutional protocols.

Guidelines in theory should be able to help clarify the standard of care. However, the recent expansion of guideline-writing efforts has produced hundreds of new guidelines, some of which present conflicting information. If courts and legislatures are not selective about which guidelines are introduced as evidence, these conflicts may find their way into the courts and further confuse rather than clarify the process of determining negligence.

Limiting Malpractice Awards

Many States have adopted reforms that limit the amount the plaintiff can recover in a malpractice suit. These reforms may limit the absolute amount that can be recovered. the amount of certain types of damages, the amount that can be paid out in one lump sum, or limit a single defendants liability

Collateral Source Offsets

Under traditional rules of evidence, the defendant may not introduce into evidence the fact that the plaintiff has insurance (health, disability, etc.) covering some of his or her losses. Consequently, the plaintiff may be able to recover both from the defendant and from other "collateral sources " of compensation.

Very often the traditional collateral source rule does not result in double payment because most health and disability insurance policies have a provision requiring the plaintiff to reimburse the insurance company for any such payments received from the tort system (3,4). This provision is called a right of subrogation. For example, the Federal government requires that medical expenses paid by Medicaid and Medicare be reimbursed from tort awards

(42 U.S.C. § 2651 (1992)); however, Social Security Disability Insurance, the primary public disability program, does not have subrogation rights (137).

If health and disability insurers collect the tort awards from plaintiffs, the net effect of the collateral source rule is to make medical malpractice insurers responsible for the costs of medical injuries caused by physicians' negligence. OTA has not examined whether health and liability insurers exercise their right of subrogation in most cases.

When double payment does exist, it appears to some to be a windfall. Yet, collateral source payments result from the plaintiff's investment in insurance. Decreasing the defendant's liability in such cases would allow the defendant to unfairly benefit from the plaintiff's investment, reducing the deterrence effect of the award. 15 In addition, plaintiffs must pay attorney fees out of their awards, and juries are not permitted to compensate successful plaintiffs for attorney fees.

Concern over rising malpractice insurance rates in the 1970s and 1980s led some States to amend the collateral source rule so as to shift some of the burden of paying for medical expenses from malpractice insurers to health insurers. The collateral source rule can be amended in one of two ways. First, the jury can be permitted to hear evidence of the plaintiff's collateral sources and decide whether or not to reduce the award accordingly *(discretionary* collateral source offset). Or, the judge or jury can be required to offset the award by the amount available from collateral sources once those sources are entered into evidence *(mandatory* collateral source offset).

At least 30 States have amended the traditional collateral source rule (table 2-1; figure 2-3). Approximately 19 States have a mandatory collateral source offset, but these provisions are often triggered only if the defendant enters evidence of the plaintiff's collateral sources, In the other 11 States that have amended the rule, collateral source offset is discretionary (table 2-1; figure 2-l). In five additional States, collateral offset provisions were passed but later overturned in the courts, but in two of these States a new statute was passed correcting the constitutional deficiencies (table 2-1). A number of these statutes have significant exceptions; for example, excluding the plaintiff's health or disability insurance contract if the contract already contains subrogation rights (15 1). In addition, OTA identified at least two States that do not include as collateral sources most types of insurance coverage, for example, disability insurance or insurance that is purchased by the plaintiff. 16

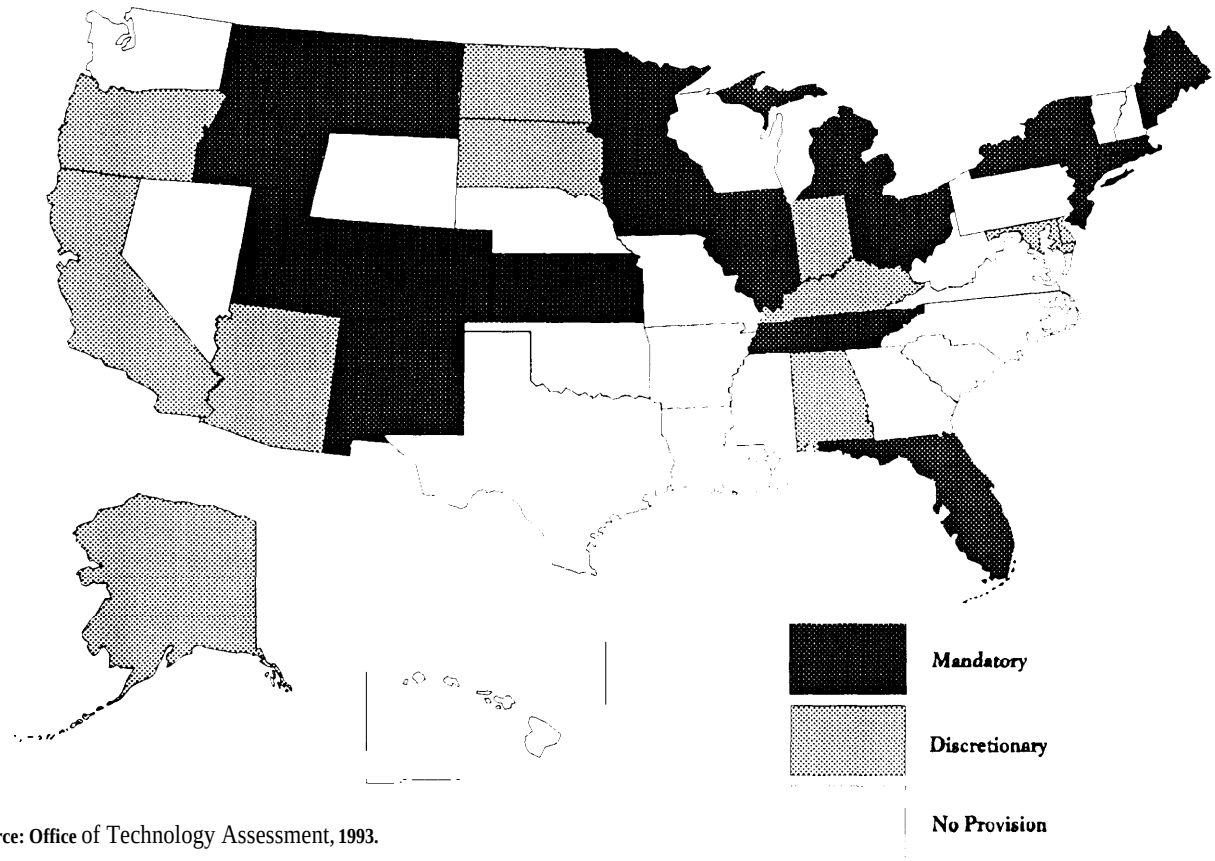
Caps on Damages

The most direct way to limit the payment per paid claim is to set limits on damage awards. As mentioned earlier, malpractice damage awards have three components:

- direct economic losses, such as health care expenses, job-loss expenses, and other direct consequences of the injury;
- noneconomic damages (often referred to as damages for "pain and suffering") such as payments for physical and emotional pain, suffering, emotional distress, mental anguish, disfigurement, loss of enjoyment, loss of Companionship, and other nonpecuniary losses; and
- punitive damages, awarded in cases where the defendant conduct is intentional, malicious. or outrageous, with a willful disregard for the plaintiff's well-being. (Punitive damages are rarely awarded in medical malpractice cases.)

There are two different types of damage caps: those that cap noneconomic damages (i.e., damages for pain and suffering) alone; and those that put a total cap on both economic and noneconomic damages. [17] Several States

Figure 2-3--Collateral Source Offset Provisions for Medical Malpractice Damages



Source: Office of Technology Assessment, **1993.**

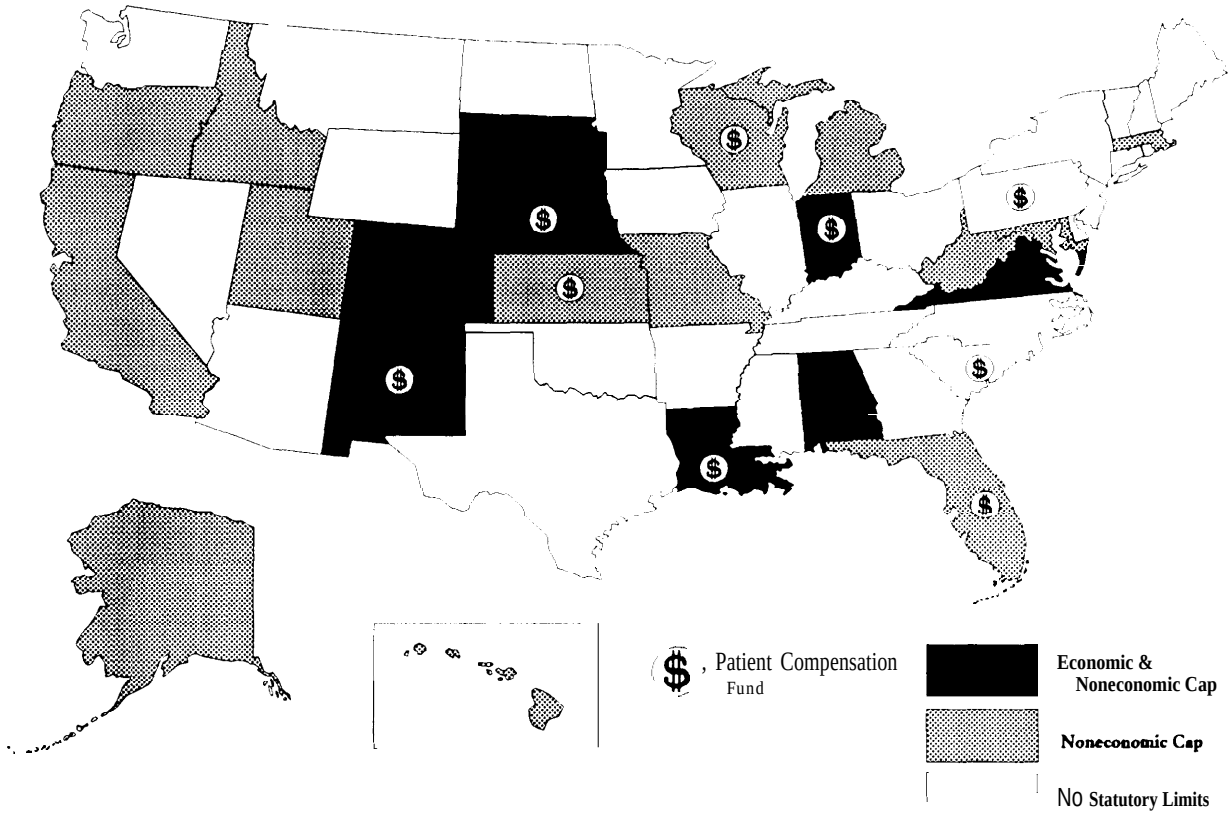
have capped punitive damages, but such damages are rarely awarded in medical malpractice cases (3,4,94,107). Capping them is therefore unlikely to have a significant impact on medical malpractice costs.

Statutory limits on damage awards are highly controversial and have been declared unconstitutional in some States. At least 15 State supreme courts have overturned caps on damages on State constitutional grounds, [18] and the State legislature in two other States repealed the provision (app. A, table A-2). A number of other States have upheld caps on damages. [19] (See App. B for a detailed discussion of constitutional challenges to State tort reforms.)

Total Damage Caps--Only eight States have a cap on total damages (economic and noneconomic damages combined) (table 2-1: figure 2-4). Permitted damages range from $500,000 to $1 million. Four of these States also have PCFs.

Noneconomic Damage Caps--The most frequent type of damage cap is on the noneconomic component of an award. Large noneconomic damage awards are concentrated in a handful of what may be the more serious cases. For example, in a 1984 study of paid claims for which data on noneconomic losses were available, [20] 2.1 percent of cases accounted

Figure 2-4--Caps on Damages for Medical Malpractice



Source: Office of Technology Assessment, 1993.

for 62 percent of pain and suffering damages awarded for the entire sample of cases in which an indemnity payment was made (142).

Losses for pain and suffering are very difficult to quantify and juries are provided no clear standards for determining them, Critics contend that the emotional desire of the jury to do something for the victim often causes unduly high awards (15).

OTA identified 14 States that place some limit on noneconomic damages (table 2-1; figure 2-2). These limits range from $250,000 to $1 million dollars, and in a number of States there are exceptions to the limit (see app. A). The Michigan cap on noneconomic damages does not apply in cases in which the patient has an injury to the reproductive system or has lost vital bodily function. As a result of these exceptions, the cap has yet to apply to a single malpractice case (154). In Massachusetts, noneconomic damages are capped at $500,000, but judges can grant exceptions in extreme cases (Mass. Ann. Laws ch. 231 § 60 H). Finally, a number of States impose separate damage caps on claims in which the defendant is a public facility or a public facility employee.

Florida has an unusual provision in which the cap is linked to the decision to arbitrate. If a defendant refuses a plaintiff's request to arbitrate, there is no limit on damages in a trial, but if the plaintiff declines a defendant's request to arbitrate. then the award at trial is limited to economic damages plus noneconomic

damages of $350,000 per incident (Fla. Stats. § 766.209 (1991)). Florida also limits noneconomic damages in arbitration to only $250,000 (Fla. Stats. $766.207 (1991)).

Guidelines for Noneconomic Damages--Some malpractice researchers propose to rationalize noneconomic damage awards by providing the jury specific guidelines for determining pain and suffering based on the age of the victim and severity of injury.[21] One proposal would fix the level of damages once the jury determined severity and age. Alternatively, the jury could be given ranges within the categories and have the discretion to go outside these ranges (15). If the jury's assessment deviated substantially, it would provide reasons for its decision, thereby facilitating judicial review. Another proposal is to provide the jury with typical injury scenarios and associated dollar values. These would be nonbinding benchmarks but could serve to guide the award and review by trial and appellate judges. In each of these proposals, the proposed ranges would be derived from previous cases *(15).* None of these proposals have been tried in the States.

Periodic Payments

One way to help reduce the impact of large awards on malpractice insurers is to allow damages to be awarded according to a schedule of periodic payments. If a victim is severely injured, the damages are based on medical and other expenses that will be incurred over a lifetime. If the insurance company can pay out the award as the expenses are incurred, the net cost of the malpractice award will be lower. This approach to structuring awards also reduces the risk that the plaintiff will deplete funds that are intended to be used to pay future medical and economic costs (152).

OTA identified 14 States with a provision mandating periodic payments of future economic damages if damages exceed a threshold level (table 2-l). In most cases the threshold is $100,000 to $250.000. Another 16 States allow for, but do not mandate, periodic payments (table 2-1). In these States, periodic payment can be requested by the par-ties; in others, it can be imposed at the court discretion. The remaining States (including the District of Columbia) have no provision for periodic payments, although in two States provisions were passed and later overturned in State courts (table 2-1).

Reform of Joint and Several Liability

To ensure the plaintiff fully recovers damages for his injury, States have traditionally held tort defendants who are jointly responsible for an injury "jointly and severally " liable regardless of their individual degree of responsibility (3,4). Joint and several liability means that a plaintiff can sue all responsible defendants and recover from each one in proportion to their fault (i. e., joint liability) or the plaintiff can sue any one defendant and recover the total amount of damages, even if the defendant is only partially responsible (i. e., several liability) (78). This does not mean the defendant will ultimately pay the entire amount because he or she can sue the other defendants for their share (78). This rule effectively allocates the risk of one defendant insolvency to the other defendants, rather than to the plaintiff. In medical malpractice, insolvency may not be a critical concern because most physicians are insured.

About two-thirds of the States have modified the traditional joint and several liability doctrine (151). In some States, several liability was eliminated. More often, however, the statutes require that several liability be limited depending upon the degree of the defendant's or plaintiff's fault or the ability of other defendants to pay the claim (151). In Iowa, for example, if the defendant is less than 50 percent responsible for all damages, he or she is liable only for his or her proportion of damages: however, if the defendant's responsibility exceeds that level he or she can be held severally liable for the entire amount of

damages (Iowa Code § 668.4 (West 1987)). A number of States make several liability conditional on the defendant's meeting a certain threshold of responsibility (150,151).

ALTERNATIVE DISPUTE RESOLUTION

Although most malpractice cases do not reach trial, the civil litigation system is often criticized for being slow, expensive, and unpredictable. The best available estimate is that plaintiffs receive roughly $0.50 for every $1.00 spent by insurers on processing a malpractice case, with a large portion of the administrative costs being spent on legal fees.[22] The expense is likely to increase with the length of the proceedings (127), and trials can add significant costs. A recent review of malpractice defense costs in 45 malpractice cases that went to trial in North Carolina found that close to 53 percent of the expense was spent preparing for the trial (pretrial conferences, preparation of trial exhibits, meeting with witnesses immediately prior to trial and related actions) or in trial (87). The remaining money was spent in discovery (uncovering and analyzing evidence, interviewing experts and witnesses, taking or defending depositions, etc.) (87).

The high cost of malpractice trials may also raise the amount a defendant is willing to offer in a settlement, because settlements reflect in part the expected amount at trial minus the savings possible from avoiding trial .23 The high cost of a trial may create incentives for plaintiffs to settle for less in order to avoid the costs and risks of a trial. In one study of 5,832 claims closed between 1974 and 1976, smaller claims (i. e., less serious injuries) were more frequently dropped with no payment than were larger claims (34). Plaintiffs with lower potential awards may not be able to afford the high fixed costs of pursuing a claim through the legal system (34).

As a broad remedy to these problems, States have established procedures that allow the replacement of the trial and jury system with a less formal process involving professional decision-makers. These approaches are collectively referred to as alternative dispute resolution (ADR) procedures. In addition, the AMA and 31 national medical specialty societies have proposed a sweeping reform that would remove malpractice claims from the civil court system completely, substituting an administrative process of dispute resolution (hereinafter "AMA/SSMLP administrative proposal").

The goals of ADR are several: to use a more experienced decision-maker than a lay jury (although a lay person may be chosen as one of the decision-makers), to reduce the cost of resolving a dispute, to reduce the anxiety of formal legal proceedings, to reduce the costs of resolving small claims, and to efficiently screen out nonmeritorious suits (88). The actual procedures used to reach these goals are diverse. States have permitted several forms of ADR: voluntary binding arbitration, court-annexed nonbinding arbitration, mediation, and, to a limited extent, summary jury trials. Arbitration is the form of ADR that has been the subject of most legislative activity. On the whole, however, ADR has not been used extensively in malpractice cases. In addition, the AMA/SSMLP administrative proposal has yet to be implemented by any State. Each of these alternative approaches is discussed in the following sections. Forms of alternative dispute resolution that have not been used extensively in malpractice or otherwise are summarized in box 2-A.

Voluntary Binding Arbitration

Binding arbitration (i.e., where the arbitration replaces the trial) is typically a voluntary process. The alternative approach, to make binding arbitration mandatory, raises serious constitutional

Box 2-A--Selected Approaches to Alternative Dispute Resolution

Type of ADR	Procedure	Extent Used in Medical Malpractice
Neutral Evaluation	Parties present cases to neutral attorney for assessment of merits. If parties do not settle as a result of assessment, they can proceed to trial and the neutral evaluator's opinion is kept confidential,	Used frequently in Federal courts and therefore little impact on medical malpractice litigation, which is typically brought in State courts,
Court-annexed Nonbinding Arbitration	Court can require parties to submit their case to arbitration prior to proceeding to trial, The decision of the arbitrator(s) is not binding on the parties,	Most programs limit the use of this procedure to cases with expected damages below a certain threshold, typically ranging from $10,000 to $50.000. Alleged damages in malpractice cases are rarely so low, The one exception is Hawaii, where court-ordered arbitration applies to all civil tort actions with potential damages of $150,000 or less (Hawaii Rev, Stats, Sec. 601-20 (1992)) However, medical malpractice cases may bypass arbitration if a decision is rendered under Hawaii mandatory medical malpractice screening panel (Hawaii Rev, Stats. Sec. 671-16.5 (1992)).
Summary Jury Trials	An abbreviated trial (usually less than one day) using a summary of the evidence. Lay jurors render a decision and make a finding for damages; however, their decision is not binding on the parties, The parties have the opportunity to interview the jury members and assess the strengths and weaknesses of their case,	Not often used in medical malpractice,
Mediation	Parties bring their case before a mediator whose role is to facilitate negotiation, not to make a finding on the merits, The mediator is not constrained by legal principles, but strives instead to find a practical solution that both parties will accept, It is not an adversarial process	Some States encourage mediation of malpractice disputes: others make mediation available for all civil cases. Mediation has been used extensively in family law, but not in medical malpractice, Wisconsin appears to be the only State that requires pretrial mediation of medical malpractice cases (Wis. Stat, Sec. 655 445).

SOURCES. T.B.Metzloff, "Alternative Dispute Resolution Strategies in Medical Malpractice, " Alaska Law Review 9(2):429-457, 1992; T.B.Metzloff, "Reconfiguring the Summary Jury Trial," Duke Law Journal 41 (4):806-866, 1992

Issues because federal and State constitutions grant plaintiffs a right to a jury trial (see app. B for discussion of constitutional issues). Some States do require or allow courts to order smaller cases (rarely including medical malpractice cases) to go through nonbinding arbitration before proceeding to court (see box 2-A). This is more analogous to pretrial screening, however, because the parties still have the option of proceeding to trial.

The agreement to arbitrate can be made after the injury occurs or before care has been rendered. In all States, voluntary binding arbitration is available upon agreement *after* the injury. The terms of the agreement will likely specify how arbitrators are to be selected and other procedural rules. The arbitrator(s) will hear evidence and render a decision in lieu of a judge or jury. Typically, the decision of the arbitrator is final and is not appealable except in limited cases, such as fraud.[24]

Few claimants agree to arbitrate after the injury has occurred. This is not surprising because the relationship between the parties has broken down and they may not want to negotiate an arbitration agreement. For this reason, having an agreement to arbitrate in place prior to an injury may better promote the use of arbitration.

Some State courts have been reluctant or unwilling to enforce pretreatment arbitration contracts because of the perceived differences in bargaining power between the providers and patients (88).[25] California courts were an exception, As early as 1965, the California Supreme Court upheld an HMO's pretreatment arbitration clause which the HMO imposed as a condition of membership (See Doyle v. Guiliucci, 404 P.2d 1 (Cal, 1965)). More than a decade later, the California Supreme Court upheld the application of Kaiser Permanence's arbitration clause in the case of a member who claimed that he did not explicitly agree to the provision when he selected his employer-based health care plan (Madden v. Kaiser Foundation Hospitals, 552 P.2d 1178 (1981)).[26]

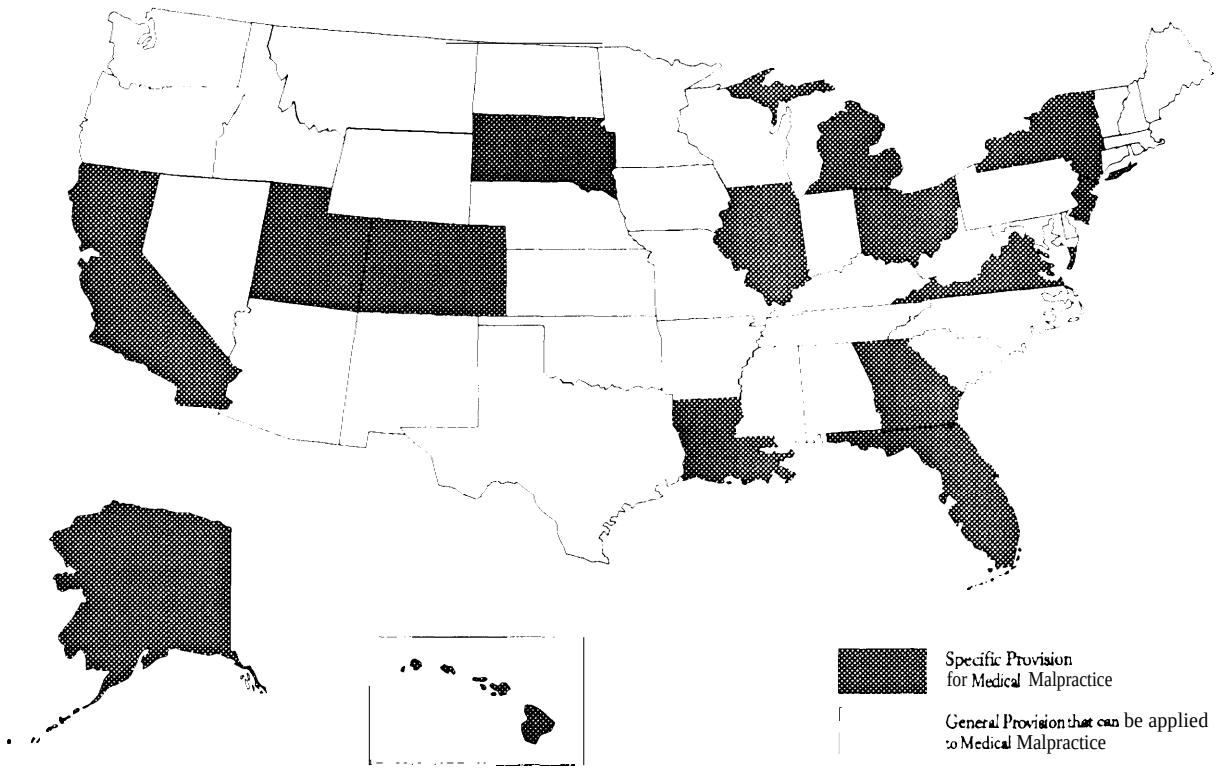
Fifteen States have specific statutes that authorize voluntary binding arbitration specifically for medical malpractice cases (table 2-1; figure 2-5). These statutes authorize pretreatment arbitration agreements but many have specific disclosure requirements or allow the patient to revoke the agreement within a certain period after signing; in some cases *after* an injury has occurred (143). OTA found only two State statutes that specifically prohibit pretreatment arbitration agreements for medical malpractice (Neb. R.R.S. § 25-2602 (Lexis 1993); S.C. Code Ann. $15-48-10 (Lexis 1993)). In States without specific malpractice arbitration statutes, arbitration is still an option--either under Uniform Arbitration Act (UAA) procedures (139) or under a general provision of the State's own crafting. The enforceability of pretreatment agreements in these States is governed by the statutory language and case law.

Whether having a specific statute for malpractice arbitration promotes arbitration or inhibits it is unknown. The UAA provisions are very genera], whereas some of the State statutes impose restrictive conditions--e. g., on the number of arbitrators, the selection of arbitrators, or the enforcement of arbitration agreements. These restrictions are probably designed to protect plaintiffs, who may have less bargaining power, but an unintended result may be to remove some of the flexibility of arbitration (88.89).

Of the 15 States with specific malpractice arbitration statutes, only Michigan has a formal program to encourage arbitration. The Michigan law requires all hospitals that are *not self-insured* to offer patients the opportunity to sign a pretreatment arbitration agreement. The patient must be provided a booklet on arbitration and be informed that by signing the agreement he or she is waiving the right to a jury trial. The patient is also given the right to revoke an arbitration agreement 60 days after discharge (the hospital has no option to revoke) (78; Michigan Comp. Laws $$500.3051-3062, 600.5033-5065 (West 1987)).

Participant ion has been disappointing .27 Only one-half of Michigan hospitals must participate and the remaining hospitals apparently see no benefit in entering the program and

Figure 2-5--Arbitration



Source : Office &Technology Assessment, 1993.

spending resources to train personnel to offer arbitration agreements and to learn the program's requirements (143). While the administrative costs of setting up an arbitration program may not be significant in terms of total operating costs, the hospitals apparently concluded that the investment would not save money (143). Physicians say they are reluctant to offer patients pretreatment arbitration agreements because they are uncomfortable discussing malpractice at that point and are concerned that such a discussion may undermine patients' confidence in their abilities (143).

In sum, despite the fact that arbitration is specifically authorized for medical malpractice by statute in 15 States and is allowed in all others, very few medical malpractice cases are resolved through arbitration (88, 143),[28] Why the reluctance to arbitrate? Some critics attribute the reluctance to plaintiffs attorneys, who believe the choice of forum is a strategic decision and may think arbitration is appropriate only for smaller claims (69). Defense attorneys may also have strategic reasons for preferring trials. For example, arbitrated decisions are not generally appealable, except in cases of fraud. The ability to appeal an adverse decision may be an opportunity that both the plaintiff and the defense counsel are reluctant to relinquish (69).

AMA/SSMLP Proposed Administrative System

The AMA/SSMLP administrative proposal would remove malpractice cases from the civil jury system and set up an administrative board to hear malpractice claims (5). To date, no State has adopted such a system.

Under the AMA/SSMLP's proposal, State medical boards would be established to discipline doctors and resolve medical malpractice cases. The AMA/SSMLP's proposal has several possible advantages over the present system. First, filing a claim would be greatly simplified, and legal counsel would be provided to claimants who could not afford counsel. Second, the boards would be given authority to change certain legal rules, for example, change the definition of the standard of care, limit attorneys' fees, and use guidelines to promote consistency in damage awards. Finally, the proposed system would tie medical malpractice to the physician licensing and disciplining process, thereby using the medical malpractice system more directly to monitor physician quality,

Hearing examiners and the medical boards could be given significant control over the process and could create strong incentives for not accepting settlement offers and pursuing oral hearings. Review by the judiciary would be very limited (5). Such a system might facilitate hearings on many more claims, but the nature of the process would be greatly abbreviated and might interfere with the full development of the plaintiff's case.

Questions have been raised whether the AMA/SSMLP proposal would, instead of increasing efficiency, create a new bureaucracy and require a massive expenditure of public funds (90). Consumer advocates express concern about having quality control be left largely to State medical licensing boards (46). To date, State Medical Licensing Boards have little experience with disciplining doctors with respect to their clinical competence.[29] A new formal system would also likely be subject to legal challenges (91). In addition, such an agency could become too responsive to physicians' viewpoints, given that physicians are likely to be the agency's most organized constituency (156).

NO-FAULT MEDICAL COMPENSATION

Every malpractice case requires a determination of whether or not the physician's treatment fell below the standard of care of his or her peers and whether the physician's actions caused the patient's injury. This fault-based system is expensive and subject to error. Furthermore, a significant number of people who are injured as a result of negligent medical care do not seek redress in the legal system (17,29). The time and expense of pursuing a claim may be a factor in this decision (see ch. 1).

Almost all of the reforms described earlier tinker with certain aspects of the process of determining fault. However, some critics of the existing system question whether it is necessary and/or appropriate to base compensation for medical injury on a finding of negligent fault. These critics advocate eliminating negligence as a criterion for providing compensation to victims injured by medical care. Under a no-fault system, some or all injuries *caused* by medical care (iatrogenic injuries) would be compensated regardless of whether the physician's conduct fell below a standard of care. The intent of a no-fault system is to compensate as many victims as possible for harm done as a result of medical care. By eliminating the cost of determining fault and restricting damages, such a system may be able to compensate more victims at a lower cost. To compensate for the loss of the deterrent effect of the fault-based system, a no-fault system would be coupled with an enhanced quality control system to monitor and minimize physician error.

No-fault eliminates the question of negligence, but the question of causation (i.e., was the injury caused by medical care?) remains. As discussed in chapter 1, causation in the legal sense means that the physician's conduct was more likely than not to have caused the injury. This must be proven with a preponderance of the evidence. This may not always be a simple question to answer, however, because adverse medical outcomes are not necessarily caused by medical treatment, but rather may result from an underlying medical condition (65). By comparison, in workers' compensation, the largest no-fault injury compensation scheme in

the United States, the fact the injury was cause by the work environment is often more obvious.[30] As a result, few medical no-fault proposals are pure no-fault proposals. Instead, they attempt to identify a prescribed set of medical injuries that can be addressed through a no-fault compensation system.

State Experience with Limited No-Fault Systems

To date, only two very limited no-fault programs have been established--in Virginia and Florida.[31] Both programs were designed to address only birth-related neurological injuries. The cause of neurological damage in infants is not always clear,[32] and it may be even more difficult to establish whether or not the injury was preventable. Yet according to the American College of Obstetrician and Gynecologists, such injuries accounted for 31 percent of claims against obstetricians (103).[33] Obstetric providers, who see these claims as unpredictable, may take a number of defensive measures of debatable efficacy in the hope of reducing their risk of suit (60). These reasons, coupled with high malpractice insurance premiums, make obstetric cases a good testing ground for no-fault programs.

Virginia--The Virginia Birth-Related Neuro-logical Injury Compensation Act was passed in 1987. The medical societies in Virginia had been working on a no-fault proposal for several years; however, the impetus for legislation came from a Federal district court's ruling (later overturned) that Virginia's cap on damages was unconstitutional, thereby letting stand an $8.3 million verdict against an obstetrician, 34 That decision led malpractice insurers in the State to place limits on malpractice insurance coverage for obstetricians and other practitioners (38, 136). In addition, there were reports of obstetricians limiting their involvement in high-risk cases or withdrawing from obstetric practice altogether (38).

To be eligible for compensation under Virginia's system, the claimant must establish that the infant's injury:

- was to the spinal cord or brain;
- was caused by a deprivation of oxygen or mechanical injury that occurred in the course of labor, delivery, or resuscitation in the immediate post-delivery period in a hospital;
- rendered the infant permanently "motorically disabled" and developmentally or cognitively disabled such that assistance in all activities of daily living is required: and
- was not caused by congenital or genetic factors, degenerative neurological disease, or maternal substance abuse (Va. Code Ann. § 38.2-5001 (1992)).

The injury must have been caused by a physician who participates in the program (see below) or at a participating hospital (Va. Code. Ann. $38.2-5008 (1992)).[35]

Physicians and hospitals participate in the program by their own choice. As of 1992, 75 percent of obstetricians and 38 percent of hospitals in Virginia were participating (44, 122), Claims for compensation are filed with the Virginia Birth-Related Neurological Injury Compensation Fund (hereinafter the "Fund"), which is funded through annual assessments on physicians (primarily obstetricians) and hospitals .36

A claimant files a claim with the Workers Compensation Commission. -[37] The claimant also serves a petition on the Fund, which administers the program. The Fund has 30 days from receiving notice of the claim to respond to the Workers Compensation Commission on the issue of whether the injury falls within the definition. The Fund investigates the claim

itself, sending it to its medical experts. If the Fund determines that the injury is compensable under the act, the Workers Compensation Commission Board will issue an order without a hearing .38 The case is also sent by the Workers Compensation Commission to a medical review panel consisting of three qualified and impartial physicians. The panel reviews the case and makes a recommendation to the Workers Compensation Commission as to whether the injury falls within the statutory definition. If the Fund does not determine that the case falls within the act, the Commission holds a hearing in which the panel's recommendation is likely to be given significant weight. although it is not determinative (Va. Code Ann. § 38.2-5008(6)(B) (1992); (38)).

Once it is determined that an injury falls within the definition, compensation is determined and payment made in accordance with statutory provisions. The plaintiff does not have the option of an alternative remedy if the delivery was performed by a participating physician in a participating hospital .39 There is opportunity to request that the Commission review the evidence, and final appeal may be made to the Virginia Court of Appeals (Va. Code Ann. § 38.2-5011 (1992)).

Claimants have up to 10 years to initiate a claim, but once a claim is brought, a hearing must be held within 120 days. The process is designed to take a maximum of 5 months. Compensation is limited to economic damages, collateral sources of payment are offset, and payments are made periodically (rather than in a lump sum). By the end of 1992, only four claims had been brought under Virginia program (1 13), well below the 40 per year originally predicted by the Virginia State Medical society *(44).* The balance of the Fund in 1993 was approximately $53 million (122).

To ensure continued quality assurance in obstetrics cases, the Virginia statute requires that all cases reported to the Commission be automatically referred to the Board of Medicine and the Department of Health, which have licensing and disciplinary authority (respectively) over physicians (Va. Code Ann. § 38.2-5005 (1992)). The Medical Board may (but is not obligated to) examine the patterns of claims brought and may use these cases to develop professional standards (38).

Florida--Legislation authorizing the Florida Birth-Related Neurological Injury Compensation Fund was passed a year after Virginia's and is similar to Virginia's in many respects. Florida's program, however, applies only to live infants over 2500 grams who are both "rendered permanently and substantially mentally and physically impaired. " Unlike Virginia, it is not required that the infant need assistance in all activities of daily living. Florida limits the time to tile a claim to 5 years. As in Virginia, compensation is limited to medically necessary economic damages that are paid as incurred. Florida, however, provides for periodic payment of up to $100,000 to the parent or legal guardian of the infant.

Participation in the program is optional for physicians, but about 90 percent of all Florida obstetricians were participating as of January 1993 (37). All private hospitals are required to contribute to the Fund through a tax assessment, but they only benefit from its protection when the physicians practicing in the hospital are participants. If a delivery in the hospital is made by a participating physician and the infant's injuries fall under the statute. the exclusive remedy is against the physician; the hospital, or any other person or entity that participated with the labor, delivery, or post-delivery resuscitation, cannot be sued (Fla. Stat. § 766.303 (1991)). If the physician is not participating, however, the hospital is not protected from liability. Not surprisingly, some hospitals pay the assessments of the physicians delivering in their hospitals or require their physicians to participate (37)--a fact that may explain the relatively higher level of participation in Florida compared with Virginia.

The Fund was seeded with $40 million in appropriations at the outset and is maintained through annual assessments on physicians and

hospitals .40 Currently the Fund receives approximately $16.3 million in premiums annually. Only $3.6 million comes from obstetricians; $7.7 million comes from nonparticipating physicians and approximately $5 million comes from hospitals (37). As of August 1993, 69 claims had been filed under the program (37).

Accelerated Compensation Events

Both the Virginia and Florida no-fault programs base eligibility for compensation on a narrow, adverse, clinical outcome. One no-fault proposal would take this approach--defining specific medical outcomes that are compensable--and apply it to many other areas of medical practice. Under this proposal certain kinds of adverse medical events or injuries, called "Accelerated Compensation Events" (ACES), would be compensated under a no-fault system. ACES are defined as adverse patient outcomes that are generally avoided by good medical care (1 34). Using defined, specific, clinical outcomes in a no-fault compensation system should eliminate the need to determine causality (134). ACES would be handled as if they were part of a compensation insurance system, thus reducing the costs of the disposition.

A clear example of an ACE would be the discovery of a foreign object left in a patient who had recently undergone surgery. In other cases, the question of avoidability is not so clear, and judgments would have to be made at the outset as to which injuries would be eligible for compensation (1 34).

As proposed, injuries that fall outside of the ACE system could be pursued under the tort system or another alternative dispute process. Thus, the overall impact on the medical malpractice system of using ACES would depend on their ability to move a significant number of adverse events into the no-fault compensation system.

One way to maximize the impact of an ACE system is to target it to high-litigation areas of medical practice. Tancredi and Bovbjerg developed a list of ACES for obstetrics/gynecology. general surgery. and orthopedic surgery (133)--three specialties that accounted for 33 percent of medical malpractice claims in 1984 and approximately 48 percent of payments (142). The list includes 48 ACES for obstetrics/gynecology, 62 for general surgery, and 36 for orthopedic surgery. The list was developed using actual claims data.[41]

NEW REFORM PROPOSALS

Enterprise Liability

Recent attention has centered on the concept of "enterprise liability" as a malpractice reform that might be incorporated into a larger health care reform initiative. Under enterprise liability, responsibility for defending malpractice claims is placed on institutions or organizations that provide care instead of on individual doctors. Enterprise liability has been suggested as a reform that is compatible with a system of managed competition. in which comprehensive health plans are responsible for all care delivered to their enrolled patients. or with a no-fault system in which the hospital or HMO pays for all injuries that occur within the institution (156). Yet it has also been suggested as a malpractice reform that makes sense even without these reforms. About 80 percent of malpractice claims arise from care given in hospitals (142), and the hospital could be the "enterprise" responsible for this care (1).

Enterprise liability is not a new concept. Pieces of the idea are in practice today in some large health care organizations. HMOs that employ physicians directly (as in staff-mode] HMOs) bear legal responsibility for their staff physicians,[42] although claims can still be

instituted against the specific physician. Typically, HMOs indemnify their staff physicians and purchase malpractice insurance on their behalf. Some large hospitals have joined with their physician staffs to buy a malpractice insurance policy that requires a unified defense (84).

But the distinguishing feature of enterprise liability is that the plaintiff ***would not be able*** to name an individual physician in a suit. Although it is likely the physician would still be called to testify should the case go to trial, his or her role would be more limited, both in time and expense, than it is presently. Moreover, not being personally named in a suit may remove some of the anxiety or stigma that a malpractice suit reportedly causes. Yet, because a finding of negligence on the part of the physician would still be made, enterprise liability may preserve some of the deterrent effect of a medical malpractice suit.

According to its proponents, the potential benefits of enterprise liability are three-fold. First, it would create stronger incentives for institutions (be they hospitals, HMOs, or health plans) to expand their already existing quality assurance and risk management programs to incorporate risk management activities for doctors practicing under their plans.[43] Institutions are in a stronger position than small medical practices to improve the quality of care through quality assurance and risk management programs, and insurance premiums can be experience-rated at the institutional level. Reduction of medical injuries could save both malpractice and general health care costs.

Second, enterprise liability might reduce insurers' administrative costs by reducing the number of individual policies that must be written and the number of separate claims that must be resolved .44 Reducing the number of defendants in a case may also make it easier to settle or use alternative dispute resolution procedures (69, 156).

Third, enterprise liability instituted in an environment of managed competition could potentially reduce defensive medicine, as health plans establish practice guidelines reelecting the tradeoff between cost-effectiveness and malpractice risk.[45] Again, this may begin to happen even in the absence of enterprise liability.

Enterprise liability also has limitations. Perhaps the most important is that, in the existing health care system, enterprise liability would not cover all patients. Thus, physicians would still be required to carry malpractice insurance for the portion of claims arising from care given outside the purview of the organization. This could eliminate potential savings from consolidating insurance. Also. the location of the alleged negligent care (or failure to render care) would sometimes be unclear, possibly leaving the door open for expensive proceedings, Enterprise liability could lead to an increase in suits if patients are more comfortable suing a corporation instead of their physicians.

In addition. the potential reduction in injuries due to enhanced quality control may be overstated. Because many large HMOs and hospitals are already buying policies that cover physicians practicing in those institutions,[46] incentives already exist to implement strong risk management programs. Even if the hospital is not purchasing insurance for attending physicians, hospital insurance premiums are experience-rated, and limiting the number of adverse events in the hospital limits the hospital exposure to suit.

The AMA has opposed enterprise liability because physicians fear the encroachment on professional authority by health plans or hospitals (84). In essence, enterprise liability would mean the end of physicians as "independent agents" under the law. Other experts believe it is very unlikely that hospitals and HMOs will impose strict guidelines aimed at limiting malpractice by physicians, Limits

on physician autonomy are more likely to arise from efforts to control overall health care costs, rather than malpractice (27).

Although elements of enterprise liability have been introduced in HMOs and some hospitals, a regime of enterprise liability does not currently exist in any State; consequently, the effects of such an approach on malpractice indicators have not been tested.

Contracting for Liability

Just as arbitration is implemented by contract, some legal scholars and economists claim that all tort reforms can be implemented through contracts between patients and health care providers, rather than by legislative action.[47] Theoretically, contract reforms would allow consumers to structure malpractice liability to suit their own needs, balancing price and quality (53).[48] According to its proponents, contracts would allow individuals to choose the amount of risk they are willing to assume with respect to medical injuries. Moreover, contracting would allow tort reforms to be implemented without a political battle.

In analyzing proposals for malpractice reform through contracts, it is useful to separate contracts that would alter the procedure for resolving a malpractice suit from those that would alter substantive rules of malpractice liability, such as the proper standard of care or level of damages. While both types of contracts are based on the view that the market for health care can accommodate different arrangements to address physician liability, procedural changes are likely to be given greater deference by the courts than substantive changes because of the differential impact on consumers.

Procedural Contract Reforms

Contracts for Alternative Dispute Revolution--Plaintiffs and health care providers can always agree to alternative dispute resolution procedures (e. g.. arbitration) after an injury occurs, but this is rarely done. The real issue for contracting is whether patients can enter contracts in which they agree prior to treatment to submit any future malpractice claim to binding alternative dispute procedures rather than pursue that claim in court.

The courts have specifically allowed contracts requiring patients and providers to engage in arbitration to resolve any future malpractice claims; but they generally scrutinize these contracts carefully to insure that they were freely negotiated and that the patient was not pressured into an agreement as a condition of treatment.[49] Because arbitration and other alternative dispute resolution contracts change the procedure for determining liability, but do not limit the plaintiff's substantive right to compensation for negligence, concerns about unequal bargaining power between patient and provider may not be as great for this class of contracts as they are for the others (88).

Contracting for Enterprise Liability--Allowing providers, health care institutions, and patients to contract for enterprise liability may be a more feasible way than legislation to implement this reform (156). The contract between the provider and the institution would place all liability for the physician's actions with the health care institution, and there would likely be a provision governing the institution's right to discipline the physician. The courts would probably not scrutinize the fairness of this contract because physicians and health care institutions are on relatively equal bargaining ground. HMOs and some large hospitals have already contracted with their providers to pay for their liability costs (l). However, the plaintiff would retain his or her right to sue the physician unless an additional contract among the patient, physician, and the health care institution was executed. Under this contract, the consumer would agree that all complaints about the quality of care received would be brought solely against

the institution. Again, a court's response to such a contract is difficult to predict, but if the consumer's right to sue is still preserved, the contract is likely to be seen as procedural in nature and there would be strong arguments in favor of enforcing it.

Contracts That Change the Substantive Law of Medical Malpractice

Contracts that Alter the Standard of Care--When health care providers have attempted to eliminate their liability through contracts with patients, the courts have uniformly invalidated these contracts on the basis of unequal bargaining power and public policy concerns. [50] Rather than eliminating all liability. advocates of contract reforms argue that consumers have ample power through their representatives---employ ers, labor unions, HMOs, and PPOs--to bargain with providers and alter the standard of care in return for price concessions ***(46(a)).*** This argument assumes. however, that the interests of employers, HMOs and PPOs coincide with those of consumers. Given the number of uninsured persons and the evidence that many Americans feel vulnerable about their medical coverage, consumer bargaining power may be overstated (23, 148). Further, there is no evidence that consumers desire to contract with their providers for a new standard of care (7).

It may prove very difficult to define a new standard of care with enough specificity so as to avoid litigation over the meaning of the contract. From a practical perspective, to develop a legally enforceable contract for a more limited standard of care, the provider would likely need to transfer "excessive quantities of i nform at i o n" on all possible risks, both anticipated and unanticipated (39). This burden of information led one early advocate of contract reform to later conclude that contracts for the standard of care may not be an improvement over the present standard of care used in malpractice cases (39).

Finally, providers might open themselves to the criticism that they are asking consumers to submit to an unreasonably risky standard of care, if the standard developed in the contract were to differ materially from the prevailing legal standard, which reflects medical custom (7, 156). An alternative, however. is to contract for the application of specific clinical guidelines. The courts might be more comfortable with enforcing a standard of care that reflects medical consensus. The court would likely focus on the process used to develop the applicable guideline.

Contracting for Damages--Plaintiffs enter the malpractice system with different financial means; consequent y, some consumers might prefer to contract for limited liability damages before services are rendered in return for lower health care costs. Such contracts could address issues such as collateral source payments, periodic payments, and calculation of economic losses or pain and suffering awards. Whether such contracts could withstand legal challenge is debatable, but they may have better prospects than contracts involving changes in the standard of care. While consumers differ in terms of financial resources, they do not differ in their need for quality medical care. For this reason, the courts are likely to be more comfortable with consumers limiting their potential compensation. especially if they have other financial resources. [51]

Currently, there is little agreement on the proper level of pain and suffering damages, Courts provide juries with very little guidance, if any, on calculating pain and suffering damages, and such assessments appear to be inconsistent (15). Consequently, agreements on guidelines governing pain and suffering awards might be acceptable to both courts and policymakers. [52] To date, however, such contracts between patients and providers are extremely rare (if they exist at all), and OTA has not found any case law testing their feasibility.

CONCLUSION

Almost all of the malpractice reforms that have been considered to date are in place in at least a few States. (Table 2-1 provides a gross State-by-State summary of selected reforms. Appendix A provides further detail on specific State programs and provisions.) Over half the States have amended the traditional collateral source rule, allowed for periodic payments of damage awards, shortened or modified the statute of limitations, implemented pretrial screening, and/or placed some type of limit on attorney fees. In some States these provisions are voluntary (i. e., left to the discretion of the court or involved parties), while in others they are mandatory.

In addition, just under half of the States have set statutory caps on noneconomic or total damage awards. The actual limits on awards range widely. In reality. damage caps address only a small minority of claims--in general, those claims by patients with the most severe injuries. It is for this reason that caps on damages have been the most controversial.

A recent approach that attempts to clarify the standard of care to which physicians are held involves using clinical practice guidelines in determining physician negligence or non-negligence. Increased development and adoption of these guidelines, regardless of whether their role in the medical malpractice tort system is further formalized, may lead to more uniform jury and court decisions in medical malpractice cases and help physicians avoid future instances of malpractice. However, a number of problems inherent in the structure of clinical practice guidelines may limit their usefulness or appropriateness as definitive legal standards of care. The debate over guidelines development methodology has in a sense just begun; hence, adoption of clinical practice guidelines as definitive legal standards may be premature, Only three States have attempted to formalize the role of guidelines in malpractice litigation and these efforts have yet to yield even anecdotal results.

More comprehensive reforms of the malpractice system, such as mandatory ADR measures, have not been widely adopted, largely because of concerns over potential constitutional challenges (see app. B). To date, ADR procedures such as arbitration have been implemented only on a voluntary basis and have not been used extensively in medical malpractice cases. Fifteen States have specific statutes authorizing voluntary, binding arbitration for medical malpractice, but only Michigan has actively encouraged arbitration, with limited success. As long as ADR remains a voluntary adjunct to the civil jury system, its success will depend upon the State's willingness to promote the process and convince plaintiffs and defendants that it is in their interest to elect it. Some critics contend that ADR could be promoted to a greater extent if courts would be more willing to allow patients to contract for arbitration in advance of treatment (by focusing on whether the alternative dispute resolution procedures are fair) rather than scrutinizing the circumstances surrounding that waiver of right to trial. However, perhaps the largest road block to ADR is the unwillingness of plaintiffs and defendants to use available alternative dispute resolution procedures in the 10 to 20 percent of cases that go to trial.

An extension of voluntary contracts for ADR is to allow all aspects of medical malpractice--e, g. awards, standards of liability, forum, etc.--to be negotiated by contract between patients or businesses and health care insurers. To date, judicial suspicion of the fairness of such contracts has been one barrier to such an approach (118).

Limited no-fault programs have been implemented in only two States (Virginia and Florida). Both of these programs apply only to

very particular types of birth-related neurological injuries. The number of claims processed through both systems combined in their first 5 years of operation is less than 100.

More comprehensive proposals, such as ACES, attempt to address the issue of causality in a no-fault system but have yet to be tried. The potential costs of no-fault programs are likely to be a stumbling block, because the focus of legislatures has been largely to limit the cost of the malpractice system.

The fact that some State courts have been willing to overturn malpractice reform measures has important implications for future Federal malpractice reform. Statutory caps on damage awards have been particularly vulnerable to challenge under State constitutions. In general, courts have been reluctant to support provisions they view as depriving individuals of their right to judicial recourse, unless these provisions can be reasonably expected to further a legitimate legislative purpose. Selective no-fault programs in two States may have passed a limited challenge to their constitutionality, but a specific challenge on the constitutionality of removing these claims from the judicial system has yet to be brought.

As mentioned earlier, most of the reforms implemented to date have been passed to address a perceived activity "crisis" in malpractice claims or tort liability in general (14). As a result, they have focused on limiting suits, and hence have not attempted to increase injured parties' access to fair compensation. Recent data on the rate of negligent injury and the corresponding claim rate for those injuries has somewhat refocused the debate. The more recent reform proposals--no-fault and expanded ADR proposals--now address patient's access to compensation, as well as the cost of resolving claims. The new theme that runs through these recent proposals is to increase access by injured patients, limit damages, and look to quality control mechanisms other than the medical malpractice system. However, any reform that is effective in streamlining the existing process for resolving medical malpractice cases could indirectly improve access to the system.

Footnotes for Chapter 2

[1] For a description of proposed malpractice reform legislation in the 102d and 103d Congresses, see (146).

[2] Other strategies for addressing the malpractice problem include malpractice insurance industry reforms, such as the establishment of joint underwriting associations. These approaches, although discussed briefly in an historical context in chapter 1, are not the focus of this background paper.

[3] Tables in appendix A provide further detail on specific State provisions.

[4] This classification of tort reforms is largely taken from (14).

[5] Hardy v, VerMeulen, 512 N.E.2d 626 (Ohio 1987) cert. *denied* 484 U.S. 1066, 108 S. Ct. 1029 (1988) (overturning restriction on discovery rule); Schwan v, Riverside Methodist Hospital, 452 N.E.2d 1337 (Ohio 1983) (overturning 1 year limitation that applied to minors over 10 years of age); Neagle v. Nelson, 685 S.W.2d 11 (Tex. 1985); Nelson v. Krusen, 678 S.W.2d 918 (Tex. 1984) (statute of limitation cutting off cause of action before discovery held unconstitutional); Barrio v. San Manuel Div. Hosp. for Magma Copper Co., 692 P.2d 280 (Ariz. 1984) (limitations for minors violates fundamental right to recover for tort); Kenyon v. Hamrncr, 688 P.2d 961 (Ariz. 1984); Austin v. Litvak, 682 P.2d 41 (Colo. 1984); Shessel v. Stroup, 316 S.E.2d 155 (Ga. 1984); Strahler v. St. Luke's Host)., 706 S.W.2d 7 (Me. 1986) (statute of limitations for minors violates right of access to courts).

[6] Although pretrial Screening panels are regarded by some as a form of alternative dispute resolution (ADR), wc discuss them separately because they add a preliminary step to the existing system for deciding malpractice cases rather than replacing the judicial system. Other forms of ADR arc discussed below.

[7] In Florida and Pennsylvania the pretrial screening panel was not found unconstitutional in and of itself, but instead, the long delays *in* bringing cases through the pretrial screening process made it unconstitutional in practice (Mattes v. Thompson, 421 A.2d. 190 (Pa. 1980); Aldana v. Holub, 381So.2d. 231 (Fla. 1980)).

[8] *See* Canterbury v. Spence, 464 F.2d. 772 (D.C. Cir. 1982); Cobbs v. Grant, 502 P.2d. 1 (Cal. 1972).

[9] Legally recognized exceptions to informed consent requirements include: (1) life-threatening emergency situations, (2) situations where divulging the information could threaten the patient's medical condition, and (3) situations where the patient indicated he/she did not want to know the risks of treatment (62).

locational data from 1985-1989 show that "failure to instruct or communicate with the patient" was the principal alleged departure from accepted medical practice in only 2 percent of claims (11 1).

[11] The rationale for this is that lay juries may not be able to interpret the scientific language of the guidelines without the assistance of an expert. Some States have exceptions that give courts discretion to allow learned medical treatises to be admitted into evidence without accompanying expert testimony (67,77).

[12] Guidelines for selected areas of practice in obstetrics/gynecology, emergency medicine, radiology, and anesthesia were developed by four medical specialty advisory committees appointed by the Maine Board of Registration in Medicine,

[13] Although Minnesota's statutory language describes the provision as an "absolute defense," the legal meaning is essentially the same as Maine's "affirmative defense" provision--i, e., in order to establish the physician's negligence the plaintiff must prove that the physician did not follow the guideline or that the guideline is not applicable to the specific case.

[14] The arbitration and Practice guideline provisions of the Vermont statute will not go into effect unless and until a legislatively created board implements a universal access plan for the State--expected to happen in July 1994.

15 This rationale for the tradition] collateral source rule is undermined by the fact that malpractice insurers, not individual physicians, pay the vast majority of malpractice awards and there is little experience rating of malpractice insurance premiums.

16 In North Dakota, for example, collateral sources do not include any life insurance or other death or retirement benefits or any other insurance or benefit that *was purchased* by the party recovering economic damages (N. D.C.C. § 32-,03.2.06 (1993)). Washington excludes information on insurance payments from all insurance policies purchased by the plaintiff or purchased by an employer for the plaintiff (R.C.W. § 7.70.080 (Lexis 1991)).

17 Four of the eight States that have caps on total damages also have State Patient Compensation Funds (PCFs), which provide additional insurance beyond that guaranteed by the defendant's malpractice insurance policy. In the typical PCF, the physician is required to carry insurance to pay for the first $100,000 to $200,000 of the award, and the PCF pays the remainder of the award up to a set amount (typically $350,000 to $1 million). PCFs in and of themselves do not place a cap on damages but are a form of additional State-supported insurance. The cap on total damages, however, limits the fund's exposure (see app. A, table A-2). Three of the five States that have a PCF without an explicit cap on total damages limited their fund's liability to $800,000 or $1 million.

18 Barbara Moore v. Mobile Infirmary Association, 592 S.2d 156 (Ala. 1991); Brannigan v. Ustilato, 587 A.2d 1232 (N.H. 1991); Morris v. Savoy, 576 N.E.2d 765 (Ohio 1991); Trujillo v. The City of Albuquerque, 798 P.2d 571 (N.M. 1990) (cap on damages applied only to suits against government health care facilities); Sofie v. Fibreboard, 771 P.2d 711 (Wash. 1989); Condemarin v. University Hospital, University of Utah, 775 P.2d 348 (Utah 1989) (cap on damages for suits brought against government health care facilities); Kansas Malt) ractice Victims Coalition v. Bell, 757 P.2d 251 (Kan. 1988); Lucas v. United States, 757 S.W.2d 687 (Tex. 1988); Smith v. Dept. of Insurance, 507 So.2d 1080 (Fla. 1987); Baptist Hospital of S.E. Texas v. Barber, 672 S.W. 2d 296 (Tex. App. 1984) *aff'd.* 714 S.W. 2d 310 (Tex. 1986); White v. State, 661 P.2d 1272 (Mont. 1983) (cap applied only to governmental tort liability) *overruled* Meech v. Hillhaven West 776 P.2d 488 (Mont. 1989); Carson v. Maurer, 424 A.2d 825 (N.H. 1980); Arneson v. Olson 270 N.W. 2d 125 (N, D. 1978); Jones v. State Bd. of Medicine, 555 P.2d 399 (Idaho 1976) (remanded to determine whether cap bore fair and substantial relation to legislative objective) cert. *denied* State Board of Medicine v. Jones, 431 U.S. 914 (1977); Wright v, Central Dupage Hosp. Assn., 347 N.E.2d 736 (111, 1976).

19 Scholz v. Metropolitan Pathologists, 851 P.2d 901 (Co. 1993); Vincent v. Vernon Johnson 833 S.W.2d 859 (Me. 1992); Samsel v. Wheeler Transportation Service Inc., 789 P.2d 541 (Kan. 1990) (cap applied to all personal injury suits); Etheridge v. Medical Ctr. Hospitals, 376 S.E.2d 525 (Va. 1989); Williams v. Kushner, 549 So.2d 294 (La. 1989); Fein v. Permanence Medical Group, 695 P.2d 665 (Cal. 1985) *cert. denied 474* U.S. 892, 106 S. Ct. 214 (1985); Johnson v. St. Vincent Hosp.. Inc., 404 N.E.2d 585 (Ind. 1985); Sibley v. Board of Supervisors, 477 So.2d 1094, *request for appeal denied 496* So.2d 325 (La. 1986) *modified on rehearing 477* So.2d 585 (La. 1985) (conditional remand on equal protection grounds); Prendergast et al. v. Nelson, 256 N.W.2d 657 (Neb. 1977).

20 Of the sample of claims, only 43 percent resulted in a payment to the plaintiff. Of those with a payment, data on noneconomic damages were provided for less than one-half of the claims. In addition, because most suits were settled, data on noneconomic damages are based on insurers' estimates. The sparsity of data on noneconomic damages from the insurers may be a result of insurers not being able to provide accurate estimates (68,142).

21 Age and severity of injury were chosen because in a regression analysis Of noneconomic damage awards in personal injury cases, severity of injury was the strongest explanatory variable, followed by age of the victim (15). A study of 6,612 medical malpractice closed claims from Florida, including jury verdicts and settlements, found that severity of injury accounted for 40 percent of the variation in payments (128).

[22]This estimate includes only plaintiffs' and insurers' legal fees and expenses in processing claims and does not include court expenditures, the cost of the defendant's time, or the plaintiff's time (61). In 1978, the National Association of Insurance Commissioners reported that the average expenses for insurance companies were 28 percent of total indemnity paid. If one adds the plaintiffs' attorney fees, usually one-third of the award, then the plaintiff is receiving approximately $0.50 of every dollar spent by the malpractice insurer on processing and paying the claim (97).

[23]The classic economic models predict that claims will be settled when the *difference* between the two parties' valuation of the case (taking into account the perceived likelihood of winning and expected damages at trial) is less than the expense of taking the cases to trial (16). See (127) for a discussion of the economic literature on settlement of claims.

[24]The California Supreme Court, for example, recently issued a decision that arbitration decisions are not generally reviewable even if there is evidence that the arbitrator's error will cause substantial injustice to the parties (Moncharsh v. Heily Blase, 832 P.2d 899 (Cal. 1992)).

[25]In general, contracts between two parties may be held unenforceable if the bargaining power of the parties is disparate and the party with greater power unfairly limits the rights of the weaker party (24,25,69).

[26]*But, see* Brocmmcr v. Abortion Services of Phoenix, Ltd., 840 P.2d 1013 (Ariz. 1992) (arbitration agreement made between high school graduate, who was 16 to 18 weeks pregnant, and abortion clinic was not enforceable).

[27]In the 13 years since the program has been operational, only 800 claims have been filed for arbitration, compared with 20,000 where a legal suit was filed (143).

[28]There are exceptions. Kaiser Permanente, a health maintenance organization, has mandated arbitration for all health care claims in California, Colorado, Hawaii, and Washington; however, Kaiser recently dropped the arbitration requirement in Oregon (82). As of 1992, Kaiser enrolled approximately 5.5 million people in these States (including Oregon) (14-4). Ross-Loos, an HMO located in Southern California with approximately 1 million enrollees, also makes arbitration a condition of its HMO contract (144).

[29]Most disciplinary actions have involved charges of substance abuse, inappropriate writing of prescriptions, conviction of felony or fraud, and other unethical behavior (102,147,153).

[30]However, Workers' compensation claims involving difficult judgments about causation (e.g., allegations of occupational diseases) are often disputed (3).

[31]Bills to create similar programs for birth-related neurological injuries were presented in North Carolina and New York in 1991 and 1990, respectively (13,101).

[32]There is some evidence that many birth-related injuries attributed to lack of oxygen during the birthing process have prenatal causes that are yet unexplained (57,99,100,104,113).

[33]In 1992 in California, birth injury cases accounted for 16 percent of all medical malpractice cases and 30 percent of all indemnity (86).

[34]Boyd v. Bulala, 647 F.Supp. 781 (W.D. Va. 1988). The decision on the cap was overturned on appeal (Boyd v. Bulala, 877 F.2d 1191 (4th Cir. 1990); Boyd v. Bulala, 905 F.2d 1190 (4th Cir. 1990)). The Federal court relied largely on the Virginia Supreme Court's decision to uphold the cap on damages in 1989 (Etheridge v. Medical Center Hospitals, 376 S.E.2d 525 (Va. 1989)).

[35]The definition of neurological injury was altered slightly in 1990 to identify eligible infants more easily and earlier (113,123). However, the severity of injury required did not change (122).

[36]Participating physicians and midwives pay $5,000 per year, and participating hospitals pay $50 per delivery, up to a maximum of $150,000. Non-participating physicians originally paid $250 per year; however, because the Fund has remained actuarially sound, this assessment was waived for 1993 (38,113). At present, liability

insurance carriers do not contribute; however, the statute authorizes the fund to assess them at up to 0.25 percent of each carrier's net direct premiums (Va. Code Ann. $38.2-5020 (1992)).

37The claimant must provide a brief statement of the facts and circumstances surrounding the birth-related neurological injury, and include all medical records, relevant documentation from medical evaluations, prognoses, and documentation of expenses and services incurred to date (Va. Code Ann. $38.2-5004 (1992)).

38In three Cases, the Fund accepted the liability and there was no hearing (123).

39If the birth was attended by a nonparticipating physician or occurred in a nonparticipating hospital, the claimant may decide to sue the nonparticipating doctors or hospital. If the claimant makes this election, he or she cannot name the participating physician or hospital in the legal suit and the claimant loses his or her opportunity to receive compensation from the Fund (Va. Code Ann. § 38.2-5002 (1992)).

40Nonparticipating physicians contribute $250 annually, participating physicians contribute $5,000 annually, and private hospitals contribute $50 per live birth (excluding infants born to charity patients or certain Medicaid patients) (Fla. Stat. $766.314 (1991)).

41The authors examined 2,300 closed claims from Florida for these specialties from 1985 to 1988 (134).

42The HMO can be held liable under the doctrine of *respondeat superior,* which provides that an employer is directly liable for the negligent acts of his or her employees (8). Hospitals, too, are directly responsible for their physician employees, such as medical residents and salaried hospital physicians. In recent years hospitals have increasingly been held liable for incidents due to actions of nonemployee physicians with admitting privileges under several different legal doctrines (8). Courts have concluded that the hospital has a legal duty to the patient to insure a certain quality of care.

43To be accredited by the Joint Commission for the Accreditation of Healthcare Organizations (a requirement for receiving Medicare reimbursement), hospitals must establish risk management programs, and at least 10 States require risk management as a condition of hospital licensure (96).

44In 1984, approximately 25 percent of medical malpractice claims involved multiple defendants, with many naming hospitals or HMOS as well as physicians (142).

45If enterprise liability were implemented without managed competition, hospitals' incentives to reduce defensive medicine might be no greater than they are today.

46It is not uncommon for a large hospital to purchase insurance for the institution and then allow physicians who practice in the institution to purchase under a single policy (40,63).

47 For a review of the proposals and several critiques, see (70).

48What constitutes "quality" medical care is difficult to define. Proponents of using contracts to define a new legal standard of care argue that professional custom, which is currently used to determine the proper standard of care, may not necessarily be good practice. Medical custom has developed in a health care system with few cost constraints, and may therefore be highly inefficient and not promote quality care. Advocates of contracts question the legal system's implicit assumption that a single standard for good medical care can be derived from medical custom (52). Opponents note that the legal standard of care reflects the care that would be provided by the average skilled physician, and includes exceptions for minority opinions or mistakes in judgment, and is therefore more accurately characterized as a "reasonable care" standard (7), As such, it is basically the same standard used in all tort actions. Nonetheless, if it is proven that the existing legal standard for "reasonable care" far exceeds what is reasonable, then the medical malpractice liability standard should be changed rather than having some malpractice claims subject to an inefficient standard (7).

49*See,* e.g., Broemmer v. Abortion Services of Phoenix. Ltd., 840 P.2d 1013 (Ariz. 1992) (agreement to arbitrate signed by plaintiff at abortion clinic was unenforceable because of failure to adequately explain to the plaintiff the implications of the waiver and that the arbitrator would be a physician; (Madden v. Kaiser Foundation

Hospitals, 552 P.2d 1178 (1981); Wheeler v. St. Joseph Hospital, 133 Cal. Rptr. 775 (Cal. Ct. App. 1976). *See generally* (19).

50 Tunkl v. Regents of the University of Cal., 383 P,2d 441 (Cal. 1963); Tatham v. Hoke, 469 F.Supp. 914 (W. D.N.C. 1979) *aff'd. without opinion 622* F.2d. 584 (4th Cir. 1980) (agreement requiring plaintiff to submit claim to arbitration within 30 days or lose right for recovery and providing for $15,[)00 limitation on recovery was invalid); (53).

51 A contract may b, unenforceable if a court determines there is a disparity in bargaining power such that one of the parties docs not have a realistic opportunity to bargain (Broemmer v, Abortion Services of Phoenix, Ltd., 840 P.2d 1013 (Ariz. 1992)). An agreement to limit malpractice damages made by a patient with financial resources to pay for medical injuries may not raise as many concerns about unequal bargaining powe r as an agreement by a patient with few financial resources. Of course, any analysis of the contract will also depend on the concessions made by the provider.

52 For a possible mode] on scheduling pain and suffering damages, *see* (15).

INTRODUCTION

Several studies have addressed the important issue of whether various medical malpractice reforms adopted by certain States during the mid-1970s and mid-1980s (discussed in depth in the preceding chapter) helped restrain the apparent surge in malpractice costs during those periods. This chapter examines studies that employed systematic empirical methods to address the question of whether these reforms reduced the frequency of medical malpractice claims, the amount of payment per paid claim, and/or the levels of medical malpractice insurance premiums (hereinafter collectively referred to as the "malpractice cost indicate. Most of these studies used data derived from companies that sold medical malpractice insurance to providers in one or more States during the periods in which the reforms were adopted. As will be summarized in the subsections that follow, however, the studies' methods and findings differed greatly.

Certain empirical studies in the field of medical malpractice were not included in this review. Some studies have focused on single States that have adopted various tort reforms, and a few of these studies have included comparisons of one or more of the malpractice cost indicators before and after adoption of these reforms. Our review here covers only studies that examined the impacts of tort reforms in two or more States. [1] We also excluded studies whose data predated the major wave of State medical malpractice reforms adopted in the mid- 1970s (e. g., 42) and those that used data for only a few years following those reforms (28.34,124). Some of these studies were subsequently updated by the same authors, and those later studies (30. 129) are included in our review. Finally, we excluded studies that only used data descriptively and/or reviewed other empirical studies (32.33.94, 142) or developed theoretical models of the malpractice cost indicators (31).

The following summary describes six studies that employed multiple regression analysis or similar statistical methods to analyze the impact of various State tort reforms on one or more of the malpractice cost indicators (2,9, 12,30.129,161). [2] These studies provide analytical as well as descriptive information on the impacts of State tort reforms while controlling for the effects of other important influences on malpractice cost indicators. For example, all of the studies reviewed here controlled for the independent effect of interest rates on malpractice insurance premiums, which reflects insurance companies expected rates of return from investment income.

STUDY METHODS

Definitions of' Reforms

The six empirical studies reviewed in this chapter employed quite different definitions of a given malpractice reform; and even when they used common definitions, each combined widely differing specific reforms into a single category. None of the studies examined the impact of any alternative dispute resolution (ADR) reforms except for voluntary, binding arbitration. Nor did they investigate the effects of the recent no-fault programs for compensating newborn neurologic injuries in Florida and Virginia.

The usual approach to measuring State tort reforms was to record whether or not a given type of reform was in effect in a given State at a given point in time. The malpractice reforms examined in these studies can be classified into 16 categories. Table 3-1 shows which reforms were addressed in

Table 3-l--State Tort Reforms Examined in Six Empirical Studies on Medical Malpractice Reform

Reform	Study					
	Adams	Barker	Blackmon	Danzon	Sloan	Zuckerman
Restrict the **statute of limitations:**						
a. Use date of event, not discovery	X	–	–	–	–	–
b. Shorten basic statute of limitations for medical malpractice	X	X	X	X	X	X
c. Shorten statute of limitations for minors	–	–	–	–	–	X
d. Shorten extension of statute of limitations from date of discovery	–	–	–	–	X	X
Establish pretrial **screening panels:**						
a. Mandatory		–	–	X	X	–
b. Results admissible in trial	–	–	–	–	X	–
c. Any type	–	–	–	X	X	X
Limit **attorney fees**	–	–	*X*	*X*	X	X
Modify the **standard of care:**						
a. Codify the standard of care	–	X	–		–	–
b. Do not adopt the "expanded locality rule"	X	–	•	–	–	–
c. Establish qualifications for expert witnesses	–	–	–	–	X	–
Require or allow awards to be reduced by amount of **collateral payments:**						
a. Require	–	–	–	X	X	X
b. Allow		–	–	–	X	X
c. Either require or allow	–	X	X	X	–	–
Impose **caps on damage awards:**						
a. Total damages	–	–	X	-	X	X
b. Noneconomic damages only	–	–	–	–	X	X
c. Punitive damages only	–	–	–	–	X	–
d. Noneconomic or punitive damages	–	–	X	-	–	–
e. Any type	–	X	–	X	–	–

Table 3-l--State Tort Reforms Examined in Six Empirical Studies on Medical Malpractice Reform (Continued)

Reform	Study					
	Adams	Barker	Blackmon	Danzon	Sloan	Zuckerman
Require or allow periodic payments:						
a. Require		–	–		X	–
b. Allow	–	–	–	–	X	–
c. Either require or allow	–	–	X	–	–	
Restrict the joint and several liability doctrine		–	X		–	–
Allow voluntary, binding arbitration:						
a. Codify the option of arbitration for medical malpractice	–	X	–	X	–	–
b. Allow pre-injury agreements to arbitrate	–	–	–		X	X
Restrict the use of res ipsa *loquitur*	X	*x*	–	–	X	–
Restrict the use of ***ad damnum*** **clauses**	–	–	–		X	–
Limit the doctrine of informed consent	*x*	–	–	–	X	–
Allow costs awardable in frivolous suits		–	–		X	X

SOURCES: E.K. Adams, and S. Zuckerman, "Variation in the Growth and Incidence of Medical Malpractice Claims," Journal of Health Politics, Policy and Law 9(3):475-488, Fall 1984; D.K. Barker, "The Effects of Tort Reform on Medical Malpractice Insurance Markets: An Empirical Analysis," Journal of Health Politics, Policy and Law, 17(1): 143-161, Spring 1992; G. Blackmon, and R. Zeckhauser, "State Tort Reform Legislation: Assessing Our Control of Risks," in Tort Law and the Public Interest, Peter H. Schuck (cd.) (New York: W.W. Norton & Co., 1991); P.M. Danzon, "The Frequency and Severity of Medical Malpractice Claims: New Evidence, " Law and Contemporary Problems 49(2):57-84, Spring 1986; F.A. Sloan, P.M. Mergenhagen, and R.R. Bovbjerg, "Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis," Journal of Health Politics, Policy and Law 14(4):663-689, Winter 1989; S. Zuckerman, R.R. Bovbjerg, and F. Sloan, "Effects of Tori Reforms and Other Factors on Medical Malpractice Insurance Premiums, " Inquiry 27(2):167-182, Summer 1990.

each study (referenced by the first author's last name). Each kind of reform was usually measured as a binary variable whose value was set equal to 1 if the reform was in place in the State, and O if it was not. In the only departure from this approach, three studies measured the length of a State's basic statute of limitations as a continuous variable (i. e., number of years) (30,129, 161).

Malpractice Cost Indicators

The focus of all six empirical studies was to measure the impact of different State malpractice laws on one or more of the malpractice cost indicators: (a) the frequency of malpractice claims, (b) the payment per paid claim, and (c) malpractice insurance premiums or losses. In general, the reforms studied would be expected to reduce these indicators. Table 3-2 contains a summary of the measures used in each study:

- Claim Frequency: The number of medical malpractice claims, typically measured as the average number of claims per insured physician (or per 100 physicians).[4] Claims against several defendants involving the same alleged malpractice event are usually treated as a single claim.
- Payment Per Paid Claim: The amount of payment for medical malpractice claims, usually measured as an average payment per paid claim. One study used both payment amounts for individual claims and a measure of the probability that an individual claim resulted in payment to the plaintiff (129).
- Insurance Premiums or Losses: The premium charged for medical malpractice insurance, measured either in total or as an average per insured physician. Two studies used insurance company losses, or funds placed in reserve to pay current and future medical malpractice claims (excluding expenses for underwriting. sales, and claims adjustment) (9, 12). Losses can be interpreted as an indicator of expected insurance premiums.

Data

The malpractice claims and premium data used in the six empirical studies fall into four general categories:

- Physician-Reported Malpractice Claims: One study used information on the malpractice claims experience from 1976 to 1981 recalled by 3,817 self-employed physicians in a single survey conducted by the American Medical Association (2).
- State-Level Malpractice Premiums and Losses: Two of the studies obtained insurance company data on medical malpractice premiums and losses from the A.M. Best Company,[5] and aggregated those data to the State level. Blackmon and Zeckhauser used the percentage change in premiums and losses from 1985 to 1988 (before and after adoption of selected tort reforms by certain States in 1986) (12), Barker used the mean of each State's ratio of losses to premiums (loss ratios) over a 10-year period (1977-1986) (9).
- Company-State-Year Claims Data: Two studies aggregated claims data from seven insurance companies operating in 49 States for the years 1975 through 1984, supplemented in the later study by data for 1985 and 1986 (30,161). When more than one company operated in a given State, Danzon aggregated the companies' data to the State-year level, yielding about 450 observations (30), (Data were missing for some companies in certain States and

Table 3-2--Summary of Data and Methods Used in Six Empirical Studies on State Medical Malpractice Reform

Reform	Adams	Barker	Blackmon	Danzon	Sloan	Zuckerman
Malpractice cost indicators:						
Claim frequency	X	-	-	X		X
Payment per paid claim:						
Amount of payment	-	-		X	X	X
Probability of payment	-	-	-	-	X	-
Insurance premiums or losses	-	X	X			X
Unit of Observation:						
Physicians	X	-		-	-	-
States-	X	X	-	-		
Company-State-year combinations	-	-	-	X		X
Claims	-	-	-		X	-
Data sources:						
AMA/SMS survey[a]	X	-	-	-	-	
A.M. Best Company[b]	-	X	X	-	-	
Insurance companies		-	-	X		X
NAIC[c] and GAO[d]		-	-	-	X	-

[a]American Medical Association Socioeconomic Monitoring Survey
[b]A.M. Best Company is a private insurance rating service
[c]National Association of Insurance Commissioners
[d]U.S. General Accounting Office

SOURCES: E.K. Adams, and S. Zuckerman, "Variation in the Growth and Incidence of Medical Malpractice Claims," Journal of Health Politics, Policy and Law 9(3):475-488, Fall 1984; D.K. Barker, "The Effects of Tort Reform on Medical Malpractice Insurance Markets: An Empirical Analysis, " Journal of Health Politics, Policy and Law, 17(1): 143-161, Spring 1992; G. Blackmon, and R. Zeckhauser, "State Tort Reform Legislation Assessing Our Control of Risks," in Tort Law and the Public Interest,, Peter H. Schuck (cd.) (New York: W.W. Norton & Co., 1991); P.M. Danzon, "The Frequency and Severity of Medical Malpractice Claims: New Evidence," Law and Contemporary Problems 49(2):57-84, Sprint 1986; F.A. Sloan, P.M. Mergenhagen, and R R. Bovbjerg, "Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis, " Journal of Health Politics, Policy and Law 14(4):663-689, Winter 1989; S. Zuckerman, R.R. Bovbjerg, F. and Sloan, "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums, " Inquiry 27(2)' 167-182, Summer 1990.

years.) In contrast, Zuckerman, Bovbjerg, and Sloan retained separate company-State-year observations, yielding 713 such observations (161). The largest multistate insurance company (the St. Paul Company) supplied Zuckerman, Bovbjerg, and Sloan (16 1) with corrected data for the years covered in Danzon's study (30). The degree of inaccuracy in the original data supplied to Danzon is unknown.

- National Samples of Claims: One study (129) used a sample of closed medical malpractice claims collected nationwide by the National Association of Insurance Commissioners (NAIC) from 1975 through 1978 and another such sample collected by the U.S. General Accounting Office (GAO) for 1984 (142). These samples yielded about 1,700 claims for each of the 5 years.

Methodological Issues

All six of the empirical studies suffer from methodological problems and limitations that make interpretation and comparison of their results difficult. Below we discuss some general problems with the way State tort reforms and the malpractice cost indicators were measured.

Tort Reform Measures

The studies identified State tort reforms either from direct examination of the relevant State statutes and regulations or from various published surveys of those laws, The specificity and accuracy of these surveys may have varied, and most did not reflect whether a reform had been challenged in court, as many had been. A court challenge can delay the actual implementation of a reform and affect the accuracy of the study findings. For example, the California tort reform package, which included a cap on noneconomic damage awards, was not upheld by the State Supreme Court until 1985, 10 years after it was enacted into law (Fein v. Permanence Medical Group, 695 P.2d 665 (Cal. 1985)).

For simplicity, the studies usually grouped often complex reforms into single categories, thereby obscuring important variations in those reforms. For example, most of the studies examined the effects of changes in State statutes of limitations. States have taken widely differing approaches to this reform (see ch. 2), For example. some States have limited the period of time within which injured minors have to file suit, while other States allow the suit to be brought many years after the incident. Similarly, some States allow suits involving foreign bodies left in a patient following surgery to be brought years after the incident, while other States do not. Many of the reforms that shortened statutes of limitations carved out such exceptions, which may significantly limit the effects of the reform (1 15),

States have taken equally diverse approaches to other tort reforms. including pretrial screening panels and voluntary, binding arbitration (see ch. 2 and app. A for details). These nuances cannot be fully captured in simple binary variables. The inferences that can be derived from the results of the empirical studies are thus limited to general patterns associated with the presence or absence of broad categories of reforms.

More importantly, collapsing different approaches to the same reform into a single binary variable will bias (toward zero) the estimated impacts of the truly effective approaches, because the weaker approaches will "water down" the effects of the stronger ones. Consequently, finding a significant effect of such a watered-down variable

suggests that the stronger approaches might have had even greater impacts than the finding indicates. However, it is impossible to deter-mine, based on these studies, which specific approaches might have had the more significant impacts.

Malpractice Cost Indicators

It is difficult to measure malpractice claim frequency accurately on a State-by-State basis. It is not known to what extent the different States and insurance companies that supplied the claims data for these studies may have used varying standards in defining a "claim. " First, in addition to claims filed in court. insurers may also include reports of adverse events from providers to insurers, informal complaints from patients to insurers or providers, or notices of intent to sue from attorneys to insurers or providers. Second, the "opening" date of a claim is ordinarily used in measuring claim frequency for a given time period. However, different States and insurance companies may have specified the "opening" date as being the date of injury, the date of initial contact with the insurer. or the date a lawsuit was filed. Third, for malpractice claims against institutions (i. e., hospitals), States and insurers may not always distinguish between claims for general liability (unrelated to health care -- e.g., an accident in the parking lot or a wrongful termination of employment) and claims for professional (physician and nurse) malpractice (51).

In addition, measuring trends in malpractice claim frequency may be distorted by changes in State malpractice laws. Certain tort reforms themselves may have led to changes in the way malpractice claims were recorded and counted, thereby creating illusory trends in claim patterns.[6] All of these variations in the nature of malpractice claims may have reduced the reliability of the studies' malpractice cost indicators, particularly claim frequency.

A final issue regarding three of these selected studies is the potential impact of other influences on malpractice insurance premiums. notably interest rates. Although they directly affect insurance companies investment income (which augments their premium income), at any given point in time interest rates tend to affect all companies equally. That is, the variation in interest rates occurs mainly over time rather than across companies or States. By using either cross-sectional research design or direct statistical adjustment, the studies examined here effectively control led for the effects of interest rates on malpractice premiums.

Another important determinant of the variation across States in malpractice premiums is State regulation of insurance premium increases. Of the three studies of insurance premiums or losses examined here. only one statistically controlled for this factor (161); the other two studies did not (9,12). Along with the other methodological limitations discussed above, this problem should be kept in mind when interpreting the results of these studies.

RESULTS

Based on the findings of these six empirical studies, OTA assessed the impact of each reform on the malpractice cost indicators: claim frequency, payment per paid claim. and insurance premiums or losses. Across the six studies, payment per paid claim and insurance premiums or losses were studied more comprehensively than was claim frequency. Consequently, claim frequency had less of an opportunity to show statistically significant results than did the other measures. That is, the more often the effect of a given reform is assessed (using separate but similar measures), the more likely it is that a significant effect will be found. Unless adjustments are made for such multiple comparisons, the results are biased in favor of finding a statistically significant effect.

The collective results of these six studies, detailed in appendix C, are summarized in table 3-3. In the table, the following symbols are used to represent the statistically significant findings of the six studies. (Two or more symbols separated by slashes indicate that two or more studies found significant results .)7

- A minus sign (–) means that a State tort reform showed the expected effect of reducing the malpractice cost indicator.
- A plus sign (+) indicates that the reform showed the unexpected effect of increasing the malpractice cost indicator.
- A zero (0) denotes results that were not statistically significant.
- A dot (.) means that the relationship was not examined in any of the six studies.

Caps on Damage Awards

Overall, caps on damage awards were the only type of State tort reform that consistently showed significant results in reducing the malpractice cost indicators. The most consistently observed effects of damage caps were in reducing payment per paid claim, observed in three studies that employed several different variables for the tort reform of damage caps and different measures of payment per paid claim (30, 129, 161). However, the only study that examined the impact of damage caps on claim frequency 8 found no significant effect of either a cap on total damages or a cap on noneconomic damages only (161).

Even though caps on damages directly affect only a small minority of cases, this minority often accounts for a disproportionate share of total malpractice payments (49, 142). In addition, it is the large, unexpected claim that makes it difficult for insurers to plan reserves. Minimizing these large awards may allow insurers to better match premiums to risk.

Sloan, Mergenhagen, and Bovbjerg found that, among the many State reforms they examined, caps on damage awards--whether for total damages or only for noneconomic damages--had the greatest impact on reducing payment per paid claim (129). However, neither type of damage cap affected the probability that a claim would result in payment. Caps on punitive damages alone showed no significant impacts on either payment per paid claim or the probability that the claim would result in payment.

Curiously, Zuckerman, Bovbjerg, and Sloan found that caps on noneconomic damages sign ificantly lowered malpractice payment per paid claim, whereas caps on total damages did not (161). One possible explanation is that statutes enacting a total cap on damages were most likely to be immediately challenged in court because limiting economic damages (e.g., medical expenses) regardless of the severity of injury has a potentially greater adverse impact on plaintiffs than does limiting only damages for pain and suffering.[9] Only eight States have passed caps on total damages (see ch. 2). If these statutes were challenged immediately after enactment, they might not have had their full potential effect.

Zuckerman, Bovbjerg, and Sloan also found that a cap on `total` damages was the most effective reform in reducing malpractice insurance premiums (161). Similarly, Blackmon and Zeckhauser found that limits on overall liability significantly reduced premiums as well as malpractice insurers' losses (12). The results for caps on noneconomic damages were less consistent, however. Blackmon and Zeckhauser found

that limits on only noneconomic and punitive damages significantly reduced malpractice premiums as well as insurers' losses (12). [10] In contrast, Zuckerman, Bovbjerg, and Sloan found no significant effect of noneconomic damage caps on premiums (161). Barker, however, found that any cap on damages significantly reduced the mean of the malpractice insurance loss ratio in the State (an indicator of expected premiums) (9).

To summarize. these five studies suggest that caps on damages are effective in lowering payment per paid claim and, hence, malpractice insurance premiums. The only study that assessed the effects of a damage cap on the frequency of claims failed to find such an effect.

Statutes of Limitations

The evidence regarding the impact of shorter statutes of I imitations on medical malpractice claim frequency was mixed. Danzon found that shortening the basic statute of limitations significantly reduced claim frequency (30). In contrast, both Adams and Zuckerman (2) and Zuckerman, Bovbjerg, and Sloan (161) found that shorter statutes of limitations raised claim frequency. A possible explanation is that shorter statutes of limitations force more plaintiffs to file their suits earlier, thereby raising claim frequency in the short run. In addition, Zuckerman, Bovbjerg, and Sloan found no significant effects of shorter "discovery periods" or shorter statutes of limitations for minors (161). Adams and Zuckerman examined the problem from the opposite perspective. i.e., whether the use of the discovery rule--which lengthens the time period for bringing a suit--affected claim frequency (2). They found no significant effect.

Adams and Zuckerman also compared the frequency of claims before 1976, when statutes of limitations were generally longer, to the frequency of claims brought between 1976 and 1981 (2). The initial upsurge in frequency in the first five years is not only consistent with the findings of Zuckerman, Bovbjerg, and Sloan (161), but it is also consistent with one of the objectives of lowering the statute of limitations: to force plaintiffs to tile claims closer to the date of injury. Whether shortening the statute of limitations reduces the overall number of claims filed in the long run, however, has not been adequately studied.

Reform of statutes of limitations showed no significant effect on payment per paid claim in the two studies that examined this question (129, 161).[11] Also, the claim-level analysis by Sloan, Mergenhagen, and Bovbjerg found no significant effect of shorter statutes of limitations on the probability that a claim would result in payment (129).

Two studies examined whether shorter statutes of limitations lowered malpractice insurance premiums, with mixed results. Zuckerman, Bovbjerg, and Sloan found that shorter statutes of limitations (except those for minors) significantly reduced such premiums (161). Blackmon and Zeckhauser, on the other hand, found no significant effect of shorter statutes of limitations on either premiums or losses for malpractice insurance (12), In addition, Barker found no significant impact of shorter statutes of limitations on the mean of the malpractice insurance loss ratio in the State (9).

Pretrial Screening Panels

As mentioned earlier, the numerous varieties of pretrial screening panels cannot easily be lumped into a single binary variable, so it is not surprising that the results of the empirical studies were so mixed regarding this reform. The two studies that examined the impact of screening panels (of any type) on the frequency of medical malpractice claims

Table 3-3--Summary of Results of Six Empirical Studies on State Medical Malpractice Reform[a]

Reform	Claim frequency	Payment per paid claim	Insurance premiums
Restrict the **statute of limitations:**			
a. Use date of event, not discovery	0	•	•
b. Shorten basic statute of limitations for medical malpractice	- / + / +	0/0	- / 0 / 0
c. Shorten statute of limitations for minors	0	0	0
d. Shorten extension of statute of limitations from date of discovery	0	0/0	–
Establish pretrial screening panels:			
a. Mandatory	0	0/+	•
b. Results admissible in trial	•	–	•
c. Any type	0/0	0/0/ +	
Limit contingent **attorney fees**	0/0	0/0/+	0/0
Modify the **standard of care:**			
a. Codify the standard of care	•	•	0
b. Do not adopt the "expanded locality rule"	0	•	•
c. Establish qualifications for expert witnesses	•	0	•
Require or allow awards to be reduced by amount of **collateral payments:**			
a. Require	0/0	- / - / -	0
b. Allow	0	0/0	0
c. Either require or allow	–	–	0/0
Impose **caps on damage awards:**			
a. Total damages	0	- / 0	–
b. Noneconomic damages only	0	- / -	0
c. Punitive damages only	•	0	•
d. Noneconomic or punitive damages	•	•	
e. Any type	•	–	
Require or allow **periodic payments:**			
a. Require	•	0	•
b. Allow	•	0	•
c. Either require or allow	•	•	0
Restrict the **joint and several** liability doctrine	•	•	

Table 3-3--Summary of Results of Six Empirical Studies on State Medical Malpractice Reform[a] (Continued)

Reform	Claim frequency	Payment per paid claim	Insurance premiums
Allow voluntary, binding arbitration:			
a. Codify the option of arbitration for medical malpractice	+	-/0/0	0
b. Allow pre-injury agreements to arbitrate	0	0	0
Restrict the use of ***res ipsa loquitur***	0	0	0
Restrict the use of ***ad damnum*** **clauses**	•	0	•
Limit the doctrine of **informed consent**	–	0	•
Allow **costs awardable** in frivolous suits	0	-/0	0

[a] Key to symbols:
– Results statistically significant and in expected direction (reducing direct malpractice costs)
+ Results statistically significant and in unexpected direction (increasing direct malpractice costs)
O Results not statistically significant
. Not examined in the studies reviewed here

NOTE: Each symbol (-, + ,0, or .) corresponds to the result of a single study. For example, " +/-/0" means that the reform was examined by three studies. Symbols based on the study by Danzon (Danzon, 1986) refer to her two-stage least-squares (TSLS) regression analysis (see text).

SOURCES: E.K. Adams, and S. Zuckerman, "Variation in the Growth and Incidence of Medical Malpractice Claims," Journal of Health Politics, Policy and Law 9(3):475-488, Fall 1984; D. K. Barker, "The Effects of Tort Reform on Medical Malpractice Insurance Markets: An Empirical Analysis, " Journal of Health Politics, Policy and Law, 17(1): 143-161, Spring 1992; G. Blackmon, and R. Zeckhauser, "State Tort Reform Legislation: Assessing Our Control of Risks," in Tort Law and the Public Interest, Peter H. Schuck (cd.) (New York W.W. Norton & Co., 1991); P.M. Danzon, "The Frequency and Severity of Medical Malpractice Claims: New Evidence," Law and Contemporary Problems 49(2):57-84, Spring 1986; F.A. Sloan, P.M. Mergenhagen, and R.R. Bovbjerg, "Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis," Journal of Health Politics, Policy and Law 14(4):663-689, Winter 1989; S. Zuckerman, R.R. Bovbjerg, and F. Sloan, "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums," Inquiry 27(2):167-182, Summer 1990.

found no significant result (30,161). However, one of those studies found that such panels significantly increased payment per paid claim (161). Sloan, Mergenhagen, and Bovbjerg found that pretrial screening panels--whether their use was mandatory or voluntary, or whether the screening results could be admitted as evidence in a subsequent trial--had no significant impact on the probability that a claim would result in payment (129). However, mandatory screening panels significantly increased payment per paid claim, whereas voluntary screening panels significantly reduced one measure of payment per paid claim (amount of indemnity payment only, without "loss-associated expenses").

A possible explanation of these mixed findings is that pretrial screening successfully weeds out smaller malpractice claims. perhaps because of the added cost of taking the claim through the pretrial screening procedure, leaving only cases with higher potential awards in the universe of cases. Some defense attorneys believe that pretrial screening panels may result in better trial preparation, thereby allowing plaintiffs to better develop their cases, hence leading to larger awards (48,121). On the other hand, such panels could raise the cost of pursuing a claim and thereby force the plaintiff to settle for less.

The difference in results depending on whether the use of screening panels was mandatory or voluntary is more difficult to interpret. however, First, of the 26 States that had pretrial screening panels in 1980, only eight made the use of such panels voluntary. Many of these were relatively small States, and when screening is discretionary it tends to be used infrequently (20). Consequently, the sample size of paid claims from States with voluntary panels was probably small.

Only one study examined whether pretrial screening panels (of any type) reduced malpractice insurance premiums, finding a significant effect only on obstetrics/gynecology premiums, but not on general practice or general surgery premiums (161).[12]

Standard of' Care

During the 1970s, a number of States passed laws codifying the standard of medical care. These laws did not really alter the legal standard used in medical malpractice cases but instead merely documented that physicians' conduct must meet the customary care provided in their profession, as defined in the physicians locality or similar localities (see ch. 2). Some States also set qualification requirements for expert witnesses who testify as to what is the prevailing standard of care. In addition, some States allowed the standard of care to be established by practices outside the immediate locality where the defendant physician practiced (the "expanded locality rule").

None of the empirical studies examined the impact of codifying the standard of care on the frequency of medical malpractice claims. One study examined the effect on claim frequency of adopting an expanded locality rule, but found no significant results (2). Regarding payment per paid claim, Sloan, Mergenhagen, and Bovbjerg found no significant impact of establishing qualifications for expert witnesses on either payment per paid claim or the probability that the claim would result in payment (129). Finally, in the only study related to malpractice insurance premiums, Barker found no significant effect of codifying the standard of care on the mean of the malpractice insurance loss ratio in the State (9).

The measures of standard of care reforms used in these three studies, however, may not have been accurate enough to detect any significant effects. First, with respect to adopting an expanded locality rule, by the time these reforms were enacted, many courts were already using such a rule (see ch. 2). Furthermore, moving

to an expanded locality would probably have affected rural areas to a greater extent than urban ones, because rural localities had much more limited expert witness pools under the strict locality rule. Because rural areas have fewer malpractice cases, the studies would have had difficulty detecting anything but very large effects. Second, codification of the existing standard of care did not alter the legal definition of negligence, and it is debatable whether mere codification had a significant impact on malpractice claim activity.

Collateral Source Offsets

The adoption of collateral source offsets should reduce average awards; and if the expected payment declines, fewer claims should be filed. Together, lower awards and fewer claims should reduce premiums.

The two studies that examined the effect of collateral source offsets on the frequency of medical malpractice claims (30, 161) found that **mandatory** offsets had no significant et'feet . However, Danzon's measure that included discretionary as well as mandatory offsets showed a significant reduction in claim frequency. Both of these studies also found that mandatory collateral source offsets significantly reduced payment per paid claim. Danzon's more general measure (including discretionary as well as mandatory offsets) also showed a significant impact in reducing payment per paid claim.

Sloan, Mergenhagen, and Bovbjerg found that one measure of payment per paid claim (indemnity payment plus "loss-associated expenses") was significantly lower in States with mandatory collateral source offsets (129). However, that study found no significant impacts of either mandatory or discretionary collateral source offsets on the probability that a claim would result in payment.

Blackmon and Zeckhauser (12) as well as Zuckerman, Bovbjerg, and Sloan (161) found no significant impact of collateral source offsets on malpractice insurance premiums. Nor did Blackmon and Zeckhauser find any significant effect of such offsets on insurers losses (12). Moreover, Barker found no significant impact of collateral source offsets on the mean of the malpractice insurance loss ratio in the State (9).

Limits on Attorney Fees

Neither of the two studies that examined the impact of limitations on attorney fees on the frequency of medical malpractice claims found significant effects (30,161). Ironically, one of these studies found that limits on attorney fees resulted in significantly higher levels of payment per paid claim (161). This could reflect a tendency for plaintiffs attorneys to turn down cases with low expected payment which would increase the average payment per paid claim. However, Danzon found no significant effect of attorney fee limits on payment per paid claim (30). Moreover, the claim-level analysis by Sloan, Mergenhagen, and Bovbjerg found no significant impact of such limits on either payment per paid claim or the probability that the claim would result in payment (129).

Studies of the impact of these limits on malpractice insurance premiums also failed to find significant effects. Neither Zuckerman, Bovbjerg, and Sloan (161) nor Blackmon and Zeckhauser (12) found any significant effects of limiting attorney fees on premiums. and Blackmon and Zeckhauser found no significant impact of such 1 imitations on insurers losses (an indicator of expected malpractice premiums) (12).

These results do not necessarily mean that limits on attorney fees won't affect malpractice claims or premiums. Many of the specific reforms of this type have not placed absolute limits on attorney fees, but instead give the courts discretion in adjusting contingent fees. As one commentator noted, lawyers may have expected judges to be liberal (1 15). The empirical studies, however, present no evidence as to how the courts regulated attorney fees. Even where courts set limits, in certain cases those limits were close to 33 percent, the average contingency fee without a limit. [13]

Voluntary, Binding Arbitration

Arbitration is rarely used in medical malpractice cases. Therefore, it is difficult to draw conclusions regarding this type of reform from the studies reviewed here, especially since they produced mixed results. Danzon found that arbitration provisions significantly increased the frequency of malpractice claims, but significantly reduced payment per paid claim (30). In contrast, Zuckerman, Bovbjerg, and Sloan found no significant impact of allowing pre-injury arbitration agreements on the frequency of malpractice claims, the amount of payment per paid claim, or the level of malpractice insurance premiums (161). Similarly, Sloan, Mergenhagen, and Bovbjerg found no significant impact of such provisions on either payment per paid claim or the probability that a claim would result in payment (129). Finally, Barker found no significant effect of codifying the option of arbitration on the mean of a State's loss ratio for medical malpractice insurance (9).

Because arbitration as implemented in the States has been voluntary and rarely used, the power of the studies to pick up significant effects is severely restricted. Also, the details of an arbitration scheme may be important in determining its effect on payment per paid claim (and, hence, frequency and premiums). Danzon recognized that her findings regarding claim frequency may have been anomalous. "since arbitration would probably only be adopted by a minority of patients and providers even in states with enabling legislation" (30). Her measure captured only those 15 States that developed specific legislation governing arbitration of malpractice claims. In most other States arbitration was already an option once an injury occurred. The enforceability of pre-injury arbitration contracts was thus addressed in some States by malpractice arbitration statutes, but in others it was often governed by case law (see ch. 2),

Res Ipsa Loquitur

The only empirical study that examined the effects of restricting the use of *res ipsa loquitur* on malpractice claim frequency found no significant results (2). Similarly, Sloan, Mergenhagen, and Bovbjerg found no significant impact of restricting this doctrine on either payment per paid claim or the probability that the claim would result in payment (129). And Barker found no effect of this reform on the mean malpractice insurance loss ratio in the State (9).

Informed Consent

The study by Adams and Zuckerman was the only one that examined the effects on malpractice claims frequency of using an expansive (i. e., patient-oriented) doctrine of informed consent (2). It found that, in States that required physicians to give patients sufficient information to enable them to make an informed decision, 14 there was a significantly greater number of medical malpractice claims. However, Sloan, Mergenhagen, and Bovbjerg found that statutory limits on this broader doctrine (i.e., specifying the type of information that

must be disclosed or mandating that the requirements for disclosure be determined by professional custom) did **not** have a significant impact on either payment per **paid** claim or the probability that a claim would result in payment (129). None of the empirical studies examined the impact of changes in informed consent requirements on malpractice insurance premiums or losses.

Costs Awardable

Only two studies examined the effect of State laws that allowed the judge in medical malpractice suits to make the losing party pay all attorney fees when the suit is frivolous or fraudulent. Zuckerman, Bovbjerg, and Sloan found no significant impacts of such "costs awardable" provisions" on medical malpractice claim frequency, payment per paid claim, or premiums (161). Sloan, Mergenhagen, and Bovbjerg found no significant impact of this type of reform on the probability that a claim would result in payment (129). However, that study did find that payment per paid claim was significantly lower in States that had enacted such a provision (129). With the exception of this one finding, the results are predictable because it is likely that few suits were judged frivolous or fraudulent.

Periodic Payments

Only two empirical studies examined the impact of mandatory or discretionary periodic payments on payment per paid claim (12. 129). Sloan, Mergenhagen, and Bovbjerg found no significant impact either on payment per paid claim or on the probability that the claim would result in payment (129). Similarly, Blackmon and Zeckhauser found no significant impact on malpractice insurance premiums or insurers' losses (12). Neither study examined the effect of this type of State tort reform on medical malpractice claim frequency.

Other Reforms

Each of the remaining State tort reforms [1]5 was examined by only one study, so no corroboration of results is possible. These one-study results are summarized briefly below.

- Blackmon and Zeckhauser found that restricting a State's law regarding joint and ***several*** **liability** (which traditionally allows a winning plaintiff to recover damages from all defendants or the entire amount from a single defendant) significantly reduced medical malpractice insurance premiums (1 2).
- Sloan, Mergenhagen, and Bovbjerg found that restricting the use of ad ***damnum*** clauses (which specify at the outset of a lawsuit the amount of damages demanded by the plaintiff) had no significant impact on either payment per paid claim or the probability that the claim would result in payment (129).

SUMMARY

Our review demonstrates that empirical evidence regarding the impact of State tort reforms on the malpractice cost indicators is quite limited. We focused on six studies that used empirical methods to systematically *analyze* the impacts of State tort reforms while controlling for nontort influences on the malpractice cost indicators. All of these studies had serious methodological flaws. For example, two of the three studies of malpractice premiums or losses failed to control for State regulation of insurance premium increases. Moreover, as usually happens when multiple measures of the same concepts are used in one or more studies, significant results tended to occur more often among the measures that were examined more often. Not surprisingly. the

six studies often produced conflicting results. Nevertheless, the limited available evidence suggests the following tentative conclusions.

Reforms that Significantly Reduced Direct Malpractice Costs

The following tort reforms showed consistent, significant impacts in reducing one or more of the malpractice cost indicators:

- Caps on damage awards
- Mandatory collateral source offsets.

Reforms with Mixed or Isolated Effects

The following reforms showed either mixed effects (i. e., some significant results in the positive direction and some in the negative direction) or isolated effects (i. e., only one significant result) on one or more of the malpractice cost indicators:

- Restricting the statute of limitations
- Establishing pretrial screening panels
- Limiting the doctrine of informed consent
- Allowing costs awardable in frivolous suits.

Reforms that Were Not Found to Significantly Reduce Direct Malpractice Costs

The following tort reforms showed no significant impacts in reducing one or more of the malpractice cost indicators:

- Limits on attorney fees[16]
  Modifying the legal standard of care
- Mandatory or discretionary periodic payments
- Restricting the use of ***res** ipsa loquitur*

Reforms Examined Only by Single Studies

As noted earlier, each of the following reforms was examined by only one study, so no corroboration of results is possible:

- Restricting the joint-and-several liability doctrine
- Restricting the use of *ad damnum* clauses.

Reforms Not Yet Systematically Studied

None of the empirical studies reviewed in this report examined the impact of two of the more recent types of State tort reform on the malpractice cost indicators: (a) alternative dispute resolution (although four studies examined the effects of voluntary, binding arbitration); and (b) the use of practice guidelines as legal standards of care.

Alternative Dispute Resolution

Alternative dispute resolution (ADR) is an approach to avoiding formal litigation that includes both voluntary, binding arbitration (see the preceding section) and a variety of nonbinding approaches. The latter include neutral evaluation, court-annexed arbitration, summary jury trials (SJTs), and mediation (see ch. 2 for a description of ADR approaches). None of these approaches has been extensively used in medical malpractice cases. Thus, few opportunities are likely to arise in the near future for using systematic empirical methods to examine the effects of ADR on medical malpractice claim frequency, payment per paid claim, and insurance premiums or losses.

Of course, the fact that ADR has not been extensively used does not preclude the possibility that it could have a significant impact on the malpractice cost indicators if it were used. The direction of that impact, however, is unknown, Arbitration may reduce the administrative costs of resolving certain claims, but a reduction in the cost of resolving a claim could lead to an increase in malpractice claim frequency. For now, the reluctance to use ADR when it is not

mandatory, coupled with questions about its constitutionality when mandatory, suggests that binding ADR is unlikely to have much of an impact on direct malpractice costs.

Use of Practice Guidelines as the Legal Standard of Care

It will be some time before even anecdotal evidence is available regarding the impact of guideline-oriented tort reforms in Maine, Minnesota. and Vermont on the malpractice cost indicators. However, given the limited number of guidelines likely to be adopted and the small percentage of claims they would be likely to affect. a significant impact of these reforms on overall malpractice costs does not seem likely.

A number of factors involved in guidelines development and use may limit both the feasibility and potential impact of tort reforms that adopt specific guidelines as legal standards of care (see ch. 2). However, as their development continues, guidelines are likely to play an increasingly important role in determining the standard of care under the existing system, absent specific tort reform.

CONCLUSION

Based on the six empirical studies reviewed in this chapter, only caps on damage awards and collateral source offsets appear to consistently reduce one or more of the malpractice cost indicators. As predicted, both reforms reduce payment per paid claim, and caps on damages also lead to lower insurance premiums. The hypothesized effect that limiting potential claim payments would discourage medically injured patients from filing suit is not supported by these studies. It may be surprising that other reforms did not show the predicted effect of reducing one or more of the malpractice cost indicators. Problems with malpractice claims data make any conclusions on claim frequency tentative at best. However, the paucity of evidence regarding other approaches to tort reform, particularly novel alternatives to the present litigation system, suggests that these conclusions on other reforms should be tempered with a good deal of caution.

In this paper, OTA focused its assessment of the impact of tort reforms on the indicators that best reflect direct malpractice costs. They may also act as malpractice "signals" that influence physicians' practice patterns. However, it is by no means certain that these measures influence health care costs indirectly, through signals to physicians. OTA's larger study of "defensive medicine" will address this broader question of whether physicians alter their clinical choices (most importantly, by ordering more diagnostic tests than may be medically indicated) at least in part out of fear of malpractice suits. It will also attempt to shed more light on which malpractice signals affect physician behavior and the potential impact of tort reform on these signals.

Even if tort reforms do reduce medical malpractice costs, does this mitigate the deterrent effect on physician behavior, removing the incentive for more thorough diagnostic assessment of patients? If so, does this jeopardize the overall quality of patient care? And finally, do reduced malpractice costs really contribute significantly to restraining overall health care costs? These are the ultimate questions to be addressed in assessing the variety of tort reforms that have been tried in the States or proposed for national action.

Footnotes for Chapter 3

[1] The final report of OTA's assessment of defensive medicine will contain a review of the major single-State studies. That review will include the recent study by Gronfein and Kinney (49), which compares three States but focuses on the impact of a single tort reform (a cap on total damage awards coupled with a patient compensation fund) in Indiana.

[2] The study by Adams and Zuckerman did not examine tort reforms, but instead asked whether certain common-law doctrines -- which were used more frequently in malpractice cases during the 1970s -- were associated with higher claim frequency during that same period (2). For the sake of consistency, our tables that summarize the results of these six studies have recast Adams and Zuckerman's measures so that the expected result would be to reduce malpractice claim frequency.

[3] Barker used a binary variable to indicate whether or not the State's statute of limitations was greater than 3 years (9).

[4] We excluded another measure employed by Danzon: the logarithm of the raw number of malpractice claims filed (30). This measure of the sheer volume of claims tends to be higher in larger States because it does not take into account the number of insured physicians in the State as a denominator.

[5] The A.M. Best Company is a private insurance rating service.

[6] In several States (e.g., California, New York, Indiana, and Florida), the malpractice reform package included a requirement that malpractice insurers report all malpractice claims to the State department of insurance or the medical licensing board (141).

[7] Although Danzon used both ordinary least-squares (OLS) and two-stage least-squares (TSLS) regression analysis, she noted that the latter results "were probably more reliable" (30), Accordingly, our summary of her results here are based only on her TSLS analysis. However, both her OLS and TSLS results are presented in appendix C.

[8] Danzon examined the impact of damage caps on payment per paid claim, but not on claim frequency (30).

[9] Caps on total damages have been overruled more often than caps on noneconomic damages (105).

[10] Because punitive damages are rarely awarded in malpractice suits (see ch. 2), this reduction is probably due to caps on noneconomic damages.

[11] Danzon examined the effect of statutes of limitations on malpractice claim frequency, but not on payment per paid claim (30).

[12] Zuckerman, Bovbjerg, and Sloan hypothesized that pretrial screening may be particularly good at screening out nonmeritorious obstetric cases or encouraging settlement (161). obstetric cases are unique because of the emotional impact of having a severely impaired baby and the tendency to assume that the birthing process was to blame, especially if there was no prior indication of any impairment.

[13] GAO found that in 52 percent of claims the average attorney fee was between 31 and 40 percent. In about 96 percent of claims, attorney fees represented 40 percent or less of the indemnity payment (142), See also (127).

[14]It is not clear from the study whether this is an objective (i.e., reasonable patient) standard or a subjective (i.e., particular patient) standard, or whether medical custom is relevant in determining adequacy of consent.

[15]One study did not examine tort reforms, but instead asked whether certain common-law doctrines were associated with higher malpractice claim frequency (2). That study found no significant impacts for the following doctrines:

- Allowing the usc of the *respondeat superior* doctrine (under which a hospital can be sued for the actions of the physicians who practice at that hospital);
- Restricting the use of charitable immunity as a defense by hospitals based on [heir non-profit status; and
- Restricting the usc of government immunity as a defense by hospitals based on their public ownership.

[16]One study found that limits on attorney fees significantly **increased** malpractice payment per paid claim (161).

EXPLANATION OF METHODS USED BY OTA TO COMPILE DATA

The tables, figures, and accompanying notes in appendix A *were* derived from a variety of sources and synthesized by OTA to reflect the most recent information available on selected State medical malpractice reforms.

The primary published sources were 1991 and 1993 editions of a compendium developed for the Federal Agency for Health Care Policy and Research (AHCPR), [1] selected State statutes. and judicial cases. Two additional sources were used to update. cross-check, and supplement the AHCPR compendia.[2]

After compiling information from these sources into summary tables, OTA sent draft copies of the information to the attorneys genera] in all 50 States on March 24, 1993, for confirmation or amendment. Information was changed to reflect respondents comments. Where conflicts arose between the attorney general response and information found elsewhere. the attorneys generals responses were favored. Unresolved questions were addressed through follow-up phone conversations with attorney general respondents and statutory research. The revised drafts ***were*** sent again to all 50 State attorneys general on June 25, 1993, for a final review and any corrections were incorporated.

For States that responded to the first survey only. information is current to March 1993. For States that responded to the second survey. information is current to June 1993. For the 10 States[3] that did not respond to either review and the District of Columbia, information was cross-checked and supplemented through followup telephone calls and/or review of the relevant State codes where possible. Where confirmation was not possible, information in this appendix reflects that presented in the 1993 edition of the AHCPR compendium.

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1 U.S Department of Health and Human Services, Agency for Health Care Policy and Research, "Compendium of State Systems for Resolution of Medical Injury Claims," prepared by S.M. Spernak, Center for Health Policy Research, The George Washington University (Rockville, MD: AHCPR, April 1993), AHCPR Pub. No. 93-0053; U.S. Department of Health and Human Services, Agency for Health Care Policy and Research, "Compendium of State Systems for Resolution of Medical Injury Claims," prepared by S.M. Spernak and P.P. Budetti, Center for Health Policy Research, The George Washington University (Rockville, MD: DHHS, February 1991), DHHS Pub. No. (PHS)91-3474.

2 These sources were: Fisk, M. C., "The Reform Juggernaut Slows Down," The National Law Journal 15(10): 1,.34-37, Nov. 9, 1992; American Nurses Association, "Report to ANA Board of Directors on Tort Reform, Part 3: Presentation of Selected Summary of State and Local Legislation Related to Tort Reform and Review of Insurance Company Practices and Policies Related to Nursing Negligence with Recom-mendations," December 1991.

3 DE, FL, HI, KS, KY, MS, NJ, NM, TX, WV.

Table A-l--Collateral Source Offset Provisions,[a] by State, 1993

Mandatory	Discretionary	No provision
co*	AK*	AR
CT	AL	DC
FL	AZ	GA[O]
1A	CA	HI
IL*	DE	LA
ID	IN	MO*
KS[O]*	KY	MS
MA*	MD*	NC
ME	N D[O]*	NE
MI	OR	N H[O]
MN*	SD	NV*
MT*		OK
NJ		P A[O]
NM		SC
NY		TX
OH*		VA
RI*		v-r
TN		WA*
UT		WI
		WV
		WY

aTh[e] traditional collateral source rule forbade evidence of the plaintiff's collateral sources of income and reimbursement (e.g., medical insurance, disability payments) from being entered into evidence, States classified as "mandatory" or "discretionary" in this table have modified the traditional evidence rule to allow certain types of collateral sources to be admitted as evidence. Statutes which require that the plaintiff's award be offset by certain collateral sources are classified as mandatory, Statutes that leave the decision of whether to offset to the jury or judge are classified as discretionary, States with no provision have not modified their traditional collateral source rules, It is of note that a number of States reduce the malpractice award by the collateral source payments, but credit the plaintiff with any premiums he or she has paid or will pay to obtain the insurance (e.g., MN, MI, CT, RI, IL and NY).

O = provision overturned,

* See additional notes on following pages.

SOURCE: Office of Technology Assessment, 1993.

ADDITIONAL NOTES FOR TABLE A-1

Cases Overturning Collateral Source Offset Rules:

Georgia--Denton v. Con-Way Southern Express Inc,, 402 S.E.2d 269 (Ga. 1991) (statute mandating evidence of collateral sources violates guarantee of impartial and complete governmental protection).

Kansas--see explanation below.

New Hampshire--Carson v. Maurer, 424 A.2d. 825 (N.H. 1980).

North Dakota--Arneson v. Olson, 270 N.W.2d 125 (N. D. 1978) held an earlier statute for collateral source offsets unconstitutional.

Pennsylvania--The Pennsylvania Supreme Court struck down as unconstitutional the State statute providing for pretrial screening panels. The collateral source provision was a part of that statute and was nullified. Mattes v. Thompson 421 A.2d. 190 (1980).

Selected Additional Information:

Alaska--Collateral source offset determined by the court (Alaska Stat. Supp. Sees. 9.55.548; 9.17.070 (1992)).

Colorado--Collateral source offset determined by the court (Colo. Rev. Stat. Sec. 13-64-402 (1992)).

Illinois--Reduction of collateral source is for 50 percent of collateral payments for lost wages or disability benefits and 100 percent of medical benefits (with exceptions), but no more than 50 percent of the total verdict (735 ILCS 5/2-1 205 (West 1992)).

Kansas--When claimant demands $150,000 or more, evidence of collateral sources admissible. Reduction of award by collateral source amount is subject, however, to certain limitations (KSA Sees. 60-3801 - 3807 (Supp. 1992)). This statute applies to all personal injury suits. The original statute abrogating collateral source for medical malpractice suits only was struck down (Farley v. Engelken 740 P.2d 1058 (1987)). Also, in Wentling v. Medical Anesthesia Services, P. A., 701 P.2d 939 (Kan. 1985), court held that collateral source offsets were unconstitutional in wrongful death medical malpractice cases.

Maryland--An award of damages by a medical malpractice arbitration panel may be reduced by the amount of damages reimbursed by certain collateral sources (Md. Cts. & Jud. Proc. Code Ann. Sec. 3-2A-05(h) (Michie 1989)). (See table A-5 and Additional Notes to table A-5 for description of Maryland's arbitration panel provision.)

Massachusetts--Collateral source offset determined by the court (Mass, Gen. Laws Ann. ch. 231, Sec. 60G (Lexis 1992)).

Minnesota--Offset is mandatory if defendant brings in evidence of payments made to plaintiff by collateral sources (Minn. Stat. Sec. 548.36 (1992)).

Missouri--Damages paid by defendant (or his insurer or any authorized representative) prior to trial may be introduced as evidence. Such introduction shall constitute a waiver of any right to a credit against a judgment (R. S. MO. Sec. 490.715 (1991)).

Montana--Collateral offset determined by judge after jury verdict (Mont. Code Ann. Sec. 27-1-308 (1992)).

Nevada--In actions against providers of health care, damage awards must be reduced by the amount of any prior payment made by health care provider to the injured person or claimant to meet reasonable expenses and other essential goods or reasonable living expenses (Nev. Rev. Stat. Sec. 42.020 (Supp. 1991)).

ADDITIONAL NOTES FOR TABLE A-1 (Continued)

North **Dakota--Under North Dakota law, collateral** source "does not include life insurance, other death or retirement benefits, or any insurance or benefit purchased by the party recovering economic damages" (N. D.C.C. Sec. 32-03.2-06 (Lexis 1991). (An earlier collateral source offset provision was overturned in the courts--see above.)

Ohio--Collateral sources do not include insurance benefits paid for by plaintiff or employer (Ohio Rev. Code Ann. Sec. 2305.27 (Baldwin 1992)).

Rhode Island--Collateral source is mandatory if evidence is admitted (R. i. Gen. Laws Sec. 9-19-34 (1992)).

Washington--Washington's statute allows information on collateral source to be entered into trial, except the collateral source rule excludes insurance purchased by the plaintiff or insurance purchased by the employer for the plaintiff (RCW Sec. 7.70.080). However, offset of collateral sources is governed by case law, and in practice there is no offset for collateral sources. See Sutton v. Shufelberger, 643 P.2d 920 (Ct. App. Wash. 1982); Bowman v. Whitelock, 717 P.2d. 303 (Ct. App. Wash. 1986).

SOURCE: Office of Technology Assessment, 1993.

Table A-2--Caps on Damages[a] and State Patient Compensation Funds, by State, 1993

Noneconomic cap	Economic and noneconomic	No statutory limits	PCF (Patient Compensation Fund)
AK: $500,000'	AL: Total recovery capped at $1 mill ion.*	AR	FL: Physicians may participate in fund by obtaining liability coverage of $250,000 per claim and $500,000 per occurrence. Fund will pay malpractice awards exceeding maximum physician liability of $250,000 per claim, up to $1 million per claim and $3 million aggregate per policy.
CA: $250,000		AZ	
FL: $350/250,000	CO: Total recovery capped at $1 million. $250,000 cap on noneconomic. *	CT	
HI: $375,000		DC	
ID: $400,000'		DE	
KS: $250,000'	IN: $750,000	GA	
MD: $350,000	LA: $500,000'	1A	
MA: $500,000	NE: $1,250,000	I LO	
MO: $465,000'	NM: $500,000'	KY	
OR: $500,000	SD: $1 ,000,000'	ME	
UT: $250,000	VA: $1,000,000	MN	
WV: $1,000,000		MS	IN: Provider not liable for that portion of any malpractice award which exceeds $100,000 Any amount due the plaintiff which is in excess of the total liability of all health care providers, shall be paid from the PCF, with total payments from the PCF not to exceed $750,000.
WI: $1,000,000		MT	
		NC	
		*ND	
		NH	
		NJ	
		NV	
		NY	
		OH	
		OK	
		PA	
		RI	KS: Physicians must carry $200,000 in malpractice insurance per claim ($600,000 per annum) then can choose one of three options for excess coverage from PCF. For each, option, the physician pays the initial $200,000 in damages and then the fund will pay some portion of the remainder depending on how the physician chooses to distribute fund liability across potential claims: 1) fund liable for next $100,000 per claim ($300,000 aggregate per provider); 2) fund liable for next $300,000 ($900,000 aggregate per provider); and 3) fund liable for up to $800,000 per claim.
		SC	
		TN	
		*TX	
		v-r	
		WA	
		WY	

Table A-2-Caps on Damages[a] and State Patient Compensation Funds, by State, 1993 (Continued)

Noneconomic cap	Economic and noneconomic	No statutory limits	PCF (Patient Compensation Fund)
			LA: Provider liability limited to $100,000 for injuries or death to plaintiff. Fund will pay total amount recoverable for all injuries or death of a plaintiff exclusive of future medical care and related benefits, up to $400,000 for private providers. The State pays all damages up to $500,000 for State health care providers.
			NE: The PCF shall cover liability exceeding $200,000 up to $1.25 million.
			NM: Health care provider liability is capped at $100,000, with the remainder to be paid by the PCF. Total payment from PCF not to exceed $500,000 per occurrence per year.
			PA: The fund shall pay any amount exceeding $100,000 per occurrence, up to $1 million per claim.
			SC The fund will pay awards in excess of $100,000 per claim (no upper limit).
			WI: Physicians must have $400,000 of malpractice coverage per incident and $1,000,000 in coverage per annum. The fund will pay for damages exceeding the physician's coverage. Each health care provider is also assessed an annual fee to help finance the fund.

[a]NOTE: OTA's review did not include caps that apply only, or separately, to claims against State-employed or State-owned health care providers.

O = provision overturned,
R = provision repealed.

*See additional notes on following pages.

SOURCE: Office of Technology Assessment, 1993.

ADDITIONAL NOTES FOR TABLE A-2

Cases Overturning Caps on Damages:

Alabama--Moore v. Mobile Infirmary, 592 So.2d 156 (Ala. 1991) ($400,000 cap on noneconomic and punitive damages overturned, but $1 million cap on total recovery not challenged--see notes below).

Florida--Smith v. Department of Insurance, 507 So.2d 1080 (Fla. 1987).

Idaho--Jones v. State Board of Medicine 555 P.2d 399 (Idaho 1976) *cert denied* 431 U.S. 914 (1977).

Illinois--Wright v. Central DuPage Hospital, 347 N.E.2d 736 (Ill. 1976).

Kansas--Kansas Malpractice Victims Coalition v. Bell, 757 P.2d 251 (Kan. 1988) (cap on total damages and noneconomic damages in medical malpractice cases overturned).

New Hampshire--Brannigan **v.** Usitalo, **587** A.2d 1232 (N.H. 1991).

North Dakota--Arneson v. **Olson, 270 N.** W.2d. **125** (N.D. **1978).**

Ohio--Morris v. Savoy, 576 N.E.2d 765 (Ohio 1991).

Texas--Lucas v. U. S., 757 S.W.2d 687 (Tex. 1988); Baptist Hospital of S.E. Texas v. Barber, 672 S.W.2d 296 (Tex. App. 1984), *aff'd.* 714 S.W.2d 310 (Tex. 1986).

Washington--Sophie v. Fibreboard Corporation, 771 P.2d 711 (Wash. 1989).

Selected Additional Information:

Alabama--Total recovery in medical malpractice cases must not exceed $1 million. If jury returns a verdict in excess of $1 million, judge must reduce it to $1 million or lesser amount as deemed appropriate. Mistrial declared if jury is informed of cap beforehand. Total cap is adjusted annually to reflect changes in the consumer price index. (Ala. Rev. Stat. Sec. 6-5-547 (1987)) Separate cap on noneconomic damages was overturned (see above).

Alaska--Limit does not apply to damages for disfigurement or severe physical impairment (Alaska Stats. Supp. Sec. 9.17.010 (1992)).

Colorado--Court has some discretion to exceed cap limit (Colo. **Rev. Stat. Sec. 13-64-302 (1992)).**

Florida--In arbitration, noneconomic damages limited to $250,000 per incident. Economic damages limited to 80 percent of wage loss and loss of earning capacity and medical expenses, offset by collateral sources, If defendant refuses to arbitrate, the claim will proceed to trial and there will be no limit on damages. In addition, if plaintiff wins at trial, she will be awarded prejudgment interest and attorney fees up to 25 percent of award. If claimant rejects arbitration, noneconomic damages at trial limited to $350,000. Economic damages limited to 80 percent of wage losses and medical expenses (Fla. Stat. Sees. 766.207-209 (1993 Supp.)). This provision was recently challenged. The trial court found the provision unconstitutional, as did the District Court of Appeals. However, the Supreme Court of Florida reversed holding the limitation on damages imposed if the plaintiff does not accept arbitration is not unconstitutional. University of Miami v. Echarte, 585 So.2d 293 (Fla. App. 3 Dist. 1991) *reversed arm' remanded* University of Miami v. Echarte, 618 So.2d 189 (Fla. 1993).

Idaho--Original cap applied to malpractice suits only and was overturned (see above). Existing cap applies to all torts. Cap increases or decreases yearly ac-

ADDITIONAL NOTES FOR TABLE A-2 (Continued)

cording to the State's adjustment of the average annual wage (Idaho Code Sec. 6-1603 (Lexis 1993)).

Kansas--Original cap for malpractice suits only was overturned (see above). Existing cap applies to all personal injury suits.

Louisiana--The total amount of damages for a medical malpractice claim against a "qualified provider" may not exceed $500,000, plus interest and costs, exclusive of future medical care and related benefits. Qualification under the patient compensation fund requires a private health care provider to pay into the fund and provide evidence of insurance up to $100,000 per claim. "Qualified providers" exclude State health care providers. For qualified providers, the provider is liable for up to $100,000 and the State patient compensation fund for the remaining amount not to exceed $400,000 exclusive of future medical care and related benefits. For State health care providers, total damages, exclusive of future medical care and related benefits, may not exceed $500,000 (LA-R.S. Sec. 40:1299.42-45; LA-R.S. Sec. 40: 1299.39-39.1) Future medical expenses and related benefits in excess of $500,000 are paid as submitted.

Massachusetts--Pain and suffering capped at $500,000 unless there is substantial or permanent loss or impairment of bodily function or substantial disfigurement or other circumstances making limitation unfair (Mass. Gen. Laws Ann. ch. 231, Sec. 60H (Lexis 1992)).

Michigan--Noneconomic damages limited to $225,000 unless there has been a death, intentional tort, injury to reproductive system, foreign body wrongfully left inside the patient's body, concealment of injury by health care provider, limb or organ wrongfully removed or patient has lost vital bodily function. The limit on damages increases each year by the increase in Consumer Price Index (M.C. L. Sec. 600.1483 (1990)). The exceptions to the cap are so extensive that, as of August 1993, the cap had yet to be applied to a single case (154).

Missouri--Noneconomic damages recoverable by injured party capped at $465,000 per defendant per occurrence (1993 limit). Original limit was $350,000, but this is adjusted annually to reflect changes in the implicit price deflator for personal consumption published by the U.S. Department of Commerce (R. S.Mo., Sec. 538.210 (1986)).

New Mexico--The limitation on caps on damages does not apply to past and future medical care and related benefits (N.M. Stat. Ann. Sec. 41-5%,41-5-7 (Michie 1989)). These expenses will be paid on an ongoing basis. In 1995, the cap on damages will be increased to $600,000 and the Patient Compensation Fund will require the physician to be responsible for the first $200,000 of a malpractice claim (N.M. Stat. Ann. Sec. 41-5-6 (Michie 1989)).

North Dakota--Awards in excess of $250,000 may be reviewed for reasonableness (N.D.C.C. **Sec. 32-03.2-08** (Lexis **1991)).**

South Dakota--South Dakota's medical malpractice cap is currently being challenged in the court on constitutional grounds (Schultz, J. S., Legal Counsel, Division of Administration, Office of Administrative Services, Department of Health, South Dakota, letter to the Office of Technology Assessment, U.S. Congress, Washington, DC, April 2, 1993).

Texas--The $500,000 limit on damages in medical malpractice (Vernon's Texas Civil Stat. Art. 4590i, Sec. 16.02-11.03 (Supp. 1992)) was struck down as unconstitutional in Lucas v. U. S., 757 S.W.2d 687 (Tex. 1988). The Texas Supreme Court subsequently decided that the damage limitation was constitutional in wrongful death cases only (Rose v. Doctors Hosp., 801 S.W.2d 841 (Tex. 1990)).

SOURCE: Office of Technology Assessment, 1993.

Table A-3--Periodic Payment of Awards,[a] by State, 1993

Mandatory	Discretionary	No provision
AL > $150,000'	AK*	DC
AZ	AR >$100,000	GA
CA > $50,000	CT > $200,000*	Hl
co >$150,000	DE	KS°
IL > $250,000'	FL >$250,000	KY
LA > $500,000'	1A	MA
ME > $250,000	ID >$100,000	MS
Ml	IN	NC
MO >$1 00,000'	MD	NE
NM	MN >$100,000	NH°
OH >$200,000	MT >$100,000	NJ
SD >$200,000	ND*	NV
UT >$100,000	NY > $250,000'	OK
WA >$100,000'	OR	PA
	RI > $150,000'	TN
	SC >$100,000	TX
		VA
		VT
		Wl
		WV
		WY

aperiodic payment provisions are often not triggered unless the award reaches a threshold amount The specific thresholds are noted parenthetically in the table, Periodic payment provisions apply only to future damages. The schedule of payments is either negotiated by the parties or determined by the court. Some statutes offer guidelines for determining the schedule, The mandatory category includes statutes in which periodic payment is mandatory upon reaching the threshold or upon unilateral request by defendant or plaintiff.

O = Provision overturned,

* See additional notes on following page.

SOURCE Office of Technology Assessment, 1993

ADDITIONAL NOTES FOR TABLE A-3

Cases **Overturning Periodic Payment Provisions:**

Kansas--Kansas Malpractice Victims Coalition v. Bell, 757 P.2d 251 (Kan. **1988).**

New Hampshire--Carson v. Maurer, 424 A.2d 825 (N.H. **1980).**

Selected Additional Information:

Alabama--A recent Alabama Supreme Court case overturned a periodic payment provision that applied to personal injury suits, excluding malpractice. This provision was similar to the medical malpractice periodic payment provision, thereby calling its constitutionality into question (Clark v. Container Corp., 589 So.2d 184 (Ala. 1991)).

Alaska--Periodic payment of future damages is discretionary in personal injury cases except if requested by injured party (Alaska Stat. Supp. Sec. 09.17.040 (1992)).

Connecticut--When award reaches $200,000 or more, parties have 60 days to negotiate periodic payment agreement. If no agreement reached, a lump sum award will be awarded (Corm. Gen. Stat. Sec. 52-225 d).

Florida--Mandatory periodic payment of future losses exceeding $250,000, but defendant may elect to pay lump sum for future economic loss and expenses, reduced to future present value (Fla. Stat. Sec. 766.78 (1986)).

Illinois--Both parties can agree to elect periodic payment, or, if future damages exceed $250,()()(), plaintiff can unilaterally elect periodic payment. Defendant can elect periodic payment if: 1) the future economic damages are in excess of $250,000, 2) defendant can produce a security (e.g. bond, annuity) in the amount of the claim for both past or future damages, or $500,000, whichever is less, and 3) future damages likely to occur over a period of more than one year (735 ILCS Sec. 5/2-1705 (West 1992)).

Louisiana--If damages exceed $500,000, the PCF or the State pays future medical care and related benefits as they are submitted. (See table A-2 for a description of Louisiana's cap on damages provision.)

Missouri--Mandatory periodic payment of future damages at request of any party (R. S. MO. Sec. 538.220, (1991)).

New York--Any requirement to pay periodically applies to no more than the portion of future damages in excess of $250,000. The parties may agree to lump sum payments of future damages otherwise payable periodically (N.Y. CPLR Sec. 5031 (McKinney 1992)).

North Dakota--The court has discretion to permit the trier of fact to make a special finding regarding future economic damages if an injured party claims future economic damages for continuing institutional or custodial care that will be required for a period of more than two years (N. D.C.C. Sec. 32-03.2-09 (1989)).

Rhode Island--Mandatory conference for purposes of determining viability of voluntary agreement for periodic damage (R.I. Gen. **Laws Sees. 9-21-12; 9-12-13** (Lexis **1991)).**

Washington--Mandatory at the request of parties (Wash. Rev. Code Sec. 4.56.260 (1986)).

SOURCE: Office of Technology Assessment, 1993.

Table A-4--Statutes of Limitations,[a] by State, 1993

	Years within date of injury	Years within date of discovery	Maximum number of years	Foreign object exception**
AL:	2 years	6 months	4 years	
AK:		*2 years		
AR:	2 years			1 year
AZ:		2 years		
CA:	3 years	1 year	3 years	1 year
CO:		2 years	3 years	2 years
CT:		2 years	3 years	
DC:	3 years			
DE:	2 years	3 years		
FL:	2 years	2 years	4 years	
GA:	2 years*		5 years	1 year
Hl:		2 years	6 years	
ID:	2 years			1 year*
IN:		2 years		
IL:		2 years	4 years	
1A:		2 years	6 years	2 years
KS:		2 years	4 years	
KY:		1 year	5 years	
LA:	1 year*	1 year	3 years	
MA:	3 years		7 years	General Exception
ME:	3 years		3 years	Upon "reasonable discovery"
MD:	5 years	3 years		Exception for minors only
Ml:	2 years*	6 months	6 years	6 months
MN:	2 years*			
MS:		2 years		
MO:		2 years	10 years	2 years after discovery 10 years max.
MT:	3 years	3 years	5 years	
NE:	2 years	1 year	10 years	
NV:	4 years	2 years		
NH:	3 years	3 years		
NJ:		2 years*		
NM:	3 years*			
NY:	2 years, 6 months			1 year
NC:	3 years		4 years	1 year after discovery, 10 year max
ND:		2 years	6 years	
OH:		1 year		
OK:		2 years	3 years 0.	
OR:		2 years	5 years	
PA:	2 years	2 years		
Rl:	3 years	3 years		
SC:	3 years	3 years	6 years	2 years
SD:	2 years			
TN:		1 year	3 years	1 year
TX:	2 years*			
UT:		2 years	4 years	1 year

Table A-4--Statutes of Limitations,[a] by State, 1993 (Continued)

Years within date of injury	Years within date of discovery	Maximum number of years	Foreign object exception**
VT: 3 years	2 years	7 years	2 years
VA: 2 years		10 years	1 year
WA: 3 years	1 year	8 years	1 year
WV: 2 years	2 years	10 years	
WI: 3 years	1 year	5 years	1 year
WY: 2-2.5 years	2 years		

Explanatory Notes for Table A-4

Column **1: Statutory time limit** for bringing a suit is measured from the time the injury oc**curs or from the date of termination of the medical treatment that led to the claim.**

Column 2: The statutory time limit for bringing suit is measured from the time at which the plaintiff could have reasonably discovered the injury. Often States allow the time limit to run from either the time of injury or the time of discovery, depending on the nature of the injury.

Column 3: The maximum period in which a claim can be brought, regardless of whether the limit is measured from the date of injury or act or the date of discovery. In most States, this maximum does not apply to the foreign body exception (see column 4).

Column 4: Because of the difficulty of discovering a foreign body (e.g., a surgical sponge) left inside a patient during invasive procedures, a number of States make special exceptions to the statute of limitations for these cases.

[a] This table does not cover special provisions for minors, disabled plaintiffs or cases involving fraud Or concealment on the part of the healthcare provider,

O = provision overturned.

* See additional notes on following page.

** Within year of discovery, maximum number of years do not apply unless stated,

SOURCE: Office of Technology Assessment, 1993,

ADDITIONAL NOTES FOR TABLE **A-4**

Selected Additional Information:

Alaska--General statute of limitations is two years from date the "cause of action" accrues (Alaska Stat. Sec. 09.10.070 (1962)). Cause of action does not accrue until person discovers or reasonably should have discovered injury. (Dalkovski v. Glad, 774 P.2d 202 (Alaska 1989); Cameron v. State, 822 P.2d 1362 (Alaska 1991)).

Georgia--The statute of limitations in a medical malpractice action may be tolled (i. e., does not accrue) in cases where the parties agree to submit the case to arbitration (0. C.G.A. **Sec. 9-9-63).**

Louisiana--Time limitation is suspended upon filing a request for review by a medical review panel until 90 days following issuance of the panels opinion (LA-R.S. 40:1299.391A (2)(a); LA-R.S. 40:1299.47A (2)(a)).

Michigan--Special exceptions made in cases involving undiscovered injuries to reproductive system or the presence of a foreign body wrongfully left inside the patient, and in cases where the discovery of basis for claim was prevented by the fraudulent conduct of the health care provider (M.C. L. Sec. 600.5838a(2) (a-c) and (3) (1990)). Claims may be brought two years from injury if discoverable or six months from discovery, whichever is later (M.C.L. Sec. 600.5805(4) (1990)).

Minnesota--Statute of limitations is 2 years from termination of treatment (Minn. Stat. Sec. 541.07 (1992)). Discovery rule has been rejected (Francis v. Hansing 449 N.W. 2d 479 (Minn. Ct. App. 1989); Willette v. Mayo Foundation, 458 N.W. 2d 120 (Minn. Ct. App. 1990)).

New Jersey--Years within date of injury apply after accrual of claim (N.J. Rev. Stat. Sec. 2A: 14-2 (1986)). Claim accrues upon reasonable discovery of injury.

New Mexico--The statute is tolled upon submission to pretrial screening panel and shall not run until 30 days after panel makes final decision (N. M. Stat. Ann. Sec. 41-5-22 (Michie 1989)).

Ohio--Suit must be brought within one year from the date of a "cognizable event" or termination of the physician-patient relationship, whichever occurs later (Flowers v. Walker, 589 N.E.2d 1284 (Ohio 1992); Frysinger v. Leech, 512 N.E.2d 337 (Ohio 1987)).

Oklahoma--Oklahoma's statute includes a limitation on damages brought 3 years after the injury, but limitation declared unconstitutional. Wofford v. Davis, 764 P.2d 161 (Okla. 1988); Reynolds v. Porter, 76o P.2d 816 (Okla. 1988).

Texas--Statute has been held unconstitutional by the Texas Supreme Court when the injury was not discoverable (See e.g. Neagle v. Krusen, 678 S.W.2d 918 (Tex. 1984); Neagle v. Krusen, 678 S.W.2d 11 (Tex. 1985); Deluna v. Rizkallah, 754 S.W.2d 366 (App. 1st Dist. 1988); but see Rascoe v. Anablawi, 730 S.W.2d 460 (App. 9th Dist. 1987)). The courts have essentially modified the statute into a discovery standard.

SOURCE: Office of Technology Assessment, 1993.

Table A-5--Pretrial Screening Panels, by State, 1993

Pretrial Screening Panels[a]		
Mandatory	Voluntary	No provision
AK*	AR	AL
HI*	CT	AZ[R]
ID*	DE*	CA
IN	KS*	co*
LA*	NH*	DC
MA*	VA	FL[O]
MD*		GA
ME		1A
Ml		I LO*
MT		KY
NE*		MN
NM*		MO[O]
NV		MS
TN		NC*
UT		
VT*		

N D[R]	
N J[R]	
N Y[R]*	
OH	
OK	
OR	
PA[O]*	
R I[O]	
Sc	
SD	
TX	
WA	
@ *	
WV	
WY[O]	

[a] "Mandatory" includes provisions that allow a waiver of the pretrial screening process upon the request of one or both parties. "Voluntary" refers to provisions that allow but do not require parties to submit their claim to pretrial screening panels.

R = Provision repealed
O = provision over-turned

* See additional notes on following pages.

SOURCE: Office of Technology Assessment, 1993.

ADDITIONAL NOTES TO TABLE A-5

Cases **Overturning Pretrial Screening Panels:**

Florida--Aldana v. Holub, 381 So.2d 231 (Fla. 1980).

Illinois--Bernier v. Burrio, 497 N.E.2d 763 (Ill. 1986).

Missouri--State ex rel. Cardinal Glennon Memorial Hospital v. Gaertner, 583 S.W.2d 107 (Me. Bane. 1979).

Pennsylvania--Mandatory nonbinding arbitration panel provision struck down by Pennsylvania Supreme Court in Mattes v. Thompson, 421 A.2d 190 (Pa. 1980) and Heller v. Frankston, 475 A.2d 1291 (Pa. 1984).

Rhode island--Boucher v. Sayeed, **459** A.2d **87** (R.I. 1983).

Wyoming--Hoem **v. State, 756 P.2d 780** (Wyo. 1988).

Selected Additional Information:

Alaska--Mandatory unless the parties agree to arbitrate or the court determines an advisory panel is not necessary (Alaska Stats. Sec. 09.55.536 (Lexis 1992)).

Colorado--Court may refer cases for mediation at its discretion (Colo. **Rev. Stat. Sec. 13-22-301** *et.* **seq. (1992)). In addition, the State requires in every action against a licensed professional that the plaintiff file a "Certificate of Review" declaring that the plaintiff has consulted a person with expertise in the area of the alleged conduct and the expert has concluded that the filing of the claim does not lack substantial justification** (Colo. **Rev. Stat. Sec. 13-20-602 (1987)).**

Delaware--Any party can demand that a claim be submitted to a "malpractice screening panel. " Results are admissible as prima facie evidence at any subsequent trial. Expert witness testimony may be required for panel (Del. Code Ann. tit. 18, Sees. 6801-6814 (1976)).

Hawaii--Mandatory submission of claim to "medical conciliation panel" but decisions, conclusions, findings, or recommendations of panel are not admissible at trial (Hawaii Rev. Stat. Sees. 671-11 *et. seq.* (Lexis 1992)).

Idaho--Proceedings of informal pretrial screening are confidential and not admissible at any subsequent trial (Idaho Code Sees. 6-1001-1011 (1976)).

Illinois--The State requires medical malpractice plaintiffs to file an affidavit and report of a reviewing health care professional supporting his or her determination that a meritorious cause of action exists. This may be referred to as a "certificate of review" (735 ILCS 5/2-622 (West 1992).

Kansas--Decision of panel is admissible at subsequent trial (Kan. Stat. Ann. Sees. 60-3501-3509 (1987)).

Louisiana--Pretrial screening mandatory unless both parties agree to waive it (La-R.S. Sec. 40:1299 .47 B(C).

Maine--Mandatory pretrial screening, except if parties agree to waive. Decision is admissible in subsequent trial only if unanimous and unfavorable to claimant as to negligence or causation (24 Me. Rev. Stat. Ann. Sec. 2857 (1990)).

Maryland--All medical injury claims must be submitted to a "health claims arbitration panel" for review prior to trial, unless all parties agree in writing to waive the requirement (which rarely occurs). Although this is called an arbitration panel, it operates more like a pretrial screening panel, with very formal rules of discovery and procedure. The Panel's decision on fault and is admissible at subsequent trial and is "presumed to be correct" (Md. Cts. & Jud. Proc. Code Ann. Sec. 3-2A-03 to -06 (Michie 1989)). The statute was un-

ADDITIONAL NOTES TO TABLE A-5 (Continued)

successfully challenged by plaintiffs on constitutional grounds, Attorney General v. Johnson, 385 A.2d 57 (Md. 1978) *appeal dismissed* 439 U.S. 805 (1978).

Massachusetts--If the panel finds for the defendant and the plaintiff goes to court, they must first file a bond of at least $6000 **that will be payable to the defendant if plaintiff ultimately loses bond covers court costs and fines.** For indigent plaintiffs, the amount of the bond may be reduced, not eliminated (Mass. Ann. Laws ch. 231, Sec. 60B (Lexis 1992)).

Nebraska--Parties can agree to waive the panel (Neb. Rev. Stat. Sec. 44-2840(4) (1988)).

New Hampshire--Decision of panel not admissible at subsequent trial (N. H. Rev. Stat. Ann. Sec. 519-A:1to -A:10 (1972)).

New Mexico--Decision of panel not admissible at subsequent trial (N. M. Stat. Ann. Sec. 41-5-20 (Michie 1989)).

New York--A precalender conference in each malpractice case is mandated by law in order to promote settlement, simplify issues and set a timetable for discovery **and further judicial proceedings. There is no formal hearing on the merits of the case** (N.Y. **CPLR Sec. 3406** (McKinney **1985)).**

North Carolina--Pilot program (ends in 1995) in which parties to Superior Court civil litigation may be required at the court's discretion to attend a pretrial settlement conference conducted by a mediator (N.C. Gen. Stat. Sec. 7A-38(1991)).

Pennsylvania--Panels providing "mandatory nonbinding arbitration" were ruled unconstitutional (see above). However, these panels continued to exist and hold "voluntary nonbinding" settlement conferences. In addition, some jurisdictions have standing judicial orders for pretrial settlement conferences for all medical malpractice cases.

Vermont--[implementation of the following provisions (part of a law passed in 1991) is contingent on future passage of a universal health care coverage plan.] Requires all medical malpractice claims be submitted to nonbinding arbitration prior to a trial. Parties may agree in advance that the arbitrator's decision will be limited to matters of law. If parties do not agree to make the arbitration decision binding, they can proceed to trial. Arbitration decision is admissible at trial but is not definitive (12 V.S.A. Sees. 701 et seq. (1991)).

Washington--Mandatory mediation of all medical malpractice claims prior to trial. Results not admissible at subsequent trial unless both parties agree (State of Washington, Engrossed Second Substitute Senate Bill 5304, 53rd Legislature, 1993 Regular Session).

Wisconsin--Repealed VOl untary pretrial screening provision and replaced with mandatory mediation for all medical injury claims ((Wis. Stat. Sees. 655.01-.03 (1977--repealed in 1986; Wis. Stat. Sees. 655.42 et seq. (1985--amended 1989)).

SOURCE: Office of Technology Assessment, 1993.

Table A-6--Attorney Fee Limits,[a] by State, 1993

Sliding scale	Maximum %	Court-determined/ court approved	No statutory limits
CA: 40% of first $50,000	IN-15%*	AZ	AK
33.33% of next $50,000	MI-33.33%	HI	AL
25°/0 of next $50,000	OK-500/o	1A	AR
15°/0 damages that exceed $600,000	TN-33.33%	KS	**CO**
	UT-33.33°A	MD*	DC
CT: 33.33% of first $300,000		NE	FL[R]
25°/0 of next $300,000		NH[O]*	GA
20% of next $300,000		WA	ID
15% of next $300,000			KY
10% damages that exceed $1.2 million			LA
			MN
DE: 35% of first $100,000			MO
25% of next $100,000			MS
10% of damages that exceed $200,000			MT
			NC
IL: *33.33% of first $150,000			ND
25% of next $850,000			NM
20% of damages exceeding $1 million			NV
			OH
MA: 40% of first $150,000			OR[R]
33.33% of next $150,000			PA[O]
30% of next $200,000			RI
25% of damages that exceed $500,000*			SC
			SD
ME:33.33% of first $100,000			TX
25°A of next $100,000			VA
20% of damages that exceed $200,000			VT
			WV
NJ: 33.33°4 of first $250,000			WY
25°A of next $250,000			
20°A of next $500,000			
Amount shall not exceed 25°/0 **for a minor or an incompetent plaintiff**			
NY: 30°/0 of **first $250,000**			
25°/0 of next $250,000			
20°/0 of next $500,000			
15% of next $250,000			
10% of damages exceeding $1.25 million			

Table A-6--Attorney Fee Limits,[a] by State, 1993 (Continued)

Sliding scale	Maximum %	Court-determined/ court approved	No statutory limits
WI: 33.33% of first $1 million OR 25% of first $1 million recovered if liability is stipulated within **180 days, and not later than 60 days before the first day of trial and 20% of any amount exceeding $1 million**			

[a]NOTE: Most attorney fee limits are not direct limits on the amount attorneys can charge their clients. Rather, they are limits on the portion of the damage award that may go toward attorney fees,

O = Provision **overturned,**
R = Provision **repealed.**

* See additional notes on following page.

SOURCE: Office of Technology Assessment, 1993.

ADDITIONAL NOTES FOR TABLE A-6

Cases **Overturning Limits on Attorney Fees:**

Pennsylvania--Mattos v. Thompson (421 A.2d **190** (Pa. 1980)) and Heller v. Frankston (475, A.2d 1291 (Pa. 1984)) declared the Health Care Services Malpractice Act unconstitutional because of its mandatory arbitration provision. These rulings also nullified the attorney fee limitations of the Act.

New **Hampshire--Carson v. Maurer (424** A.2d 825 (N. H. 1980)) overturned an earlier provision. Another provision has since been implemented.

Selected Additional Information:

Illinois--Where attorney performs extraordinary services involving more than usual participation of time and effort, the attorney may apply to the court for additional compensation (735 ILCS Sec. 5/2-1 114 (1992)).

Indiana--For compensation paid from State Patient Compensation Fund, attorney fees may not exceed 15 percent of payments (Burns Ind. Code Sec. 16-9.5-5-1. (Lexis 1992)). However, there are no limits on attorney fees for funds not paid out of the Patient Compensation Fund.

Massachusetts--Court will reduce attorney fees further if they cause plaintiff's final compensation to be less than unpaid past and future medical expenses (Mass. Gen. Laws Ann. ch. 231 Sec. 601 (1986)).

Maryland--Only when legal fees are in dispute must the court or pretrial screening panel approve fees before lawyer collects (Md. Cts. Jud. Proc. Code Ann. Sec. 3-2A-**07** (Michie **1989)).**

New Hampshire--Court determined attorney fee limits apply only if fees are greater than $200,000 (N.H. Rev. Stat. Ann. Sec. 508:4-e (1986)).

SOURCE: Office of Technology Assessment, 1993,

Table A-7--Arbitration Provisions[a] by State, 1993

Specific provision for medical malpractice claims	General arbitration provision	
AK	AL	NC
CA	AR	ND[R]
CO*	AZ	NE*
FL*	CT	NH
GA	DC	NM
HI*	DE	NV
IL	1A	OK
LA*	ID	OR
MI	IN	PA
NJ*	KS	RI
NY*	KY	SC*
OH*	MA	TN
SD	MD	TX*
UT*	ME	VT
VA	MN	WA
	MO	WI*
	MS	WV
	MT	WY

[a]NOTE: Voluntary, binding arbitration provisions only, unless otherwise noted. This table does not indicate statutory provisions for court-annexed, nonbinding arbitration. Several States have provisions authorizing mandatory, nonbinding arbitration for civil suits where expected damages are below a certain threshold (most thresholds range from $10,000 to $50,000). However, because the vast majority of medical malpractice cases involve expected awards in excess of these thresholds, the provisions are rarely relevant to medical malpractice, One exception is the State of Hawaii, which requires court-ordered nonbinding arbitration for all civil tort actions having a probably jury award (exclusive of costs and interest) of $150,000 or less (Hawaii Rev. Stats. Sec. 601-20 (Lexis 1992)). However, medical malpractice claimants may elect to bypass court-ordered arbitration if a decision has been rendered under the State's mandatory medical malpractice pretrial screening provision (Hawaii Rev. Stats. Sec. 671-16,5 (Lexis 1992)).

[b]Many States have adopted the Uniform Arbitration Act (UAA) (Uniform Arbitration Act, Uniform Laws Annotated (Vol. 7) (St. Paul, MN: West Publishing Company, 1992)).

R = provision repealed
O = provision overturned

* See additional notes on following pages,

SOURCE: Office of Technology Assessment, 1993.

ADDITIONAL NOTES FOR TABLE A-7

Selected Additional Information:

Colorado--A medical malpractice insurer can not require a physician to utilize arbitration agreements with patients as a condition of malpractice insurance (Colo. **Rev. Stat. Sec.** 13-64-403 **(1992)). Mandatory arbitration pilot program for all claims ended July 1, 1990** (Colo. **Rev. Stat. Sec. 13-22-402).**

Florida--In any arbitration, noneconomic damages limited to $250,000 and economic damages limited to past and future medical expenses and 80 percent of wage loss and loss of earning capacity. Defendant will pay claimant's reasonable attorney fees up to 15 percent of award, reduced to present value. Defendant will also pay all costs of arbitration proceedings and fees of arbitration. If defendant refuses to arbitrate, the claim will proceed to trial and there will be no limit on damages. In addition, if plaintiff wins at trial, she will be awarded prejudgment interest and attorney fees, up to 25 percent of award. If claimant rejects arbitration, non-economic damages at trial limited to $350,000. Economic damages **limited to 80 percent of wage losses and medical** expenses (Fla. Stat. Sees. **766.207, 766.209 (1993** Supp.)). **This provision was recently challenged.** The trial court found the provision unconstitutional, as did the District Court of Appeals. However, the Supreme Court of Florida recently held the limitation on damages imposed if the plaintiff does not accept arbitration is not unconstitutional. University of Miami v. Echarte, 585 So. 2d. 293 (Fla. App. 3 Dist. 1991) *reversed and remanded* **University of Miami v.** Echarte, **618** So.2d **189** (Fla. 1**993).**

Hawaii--Mandatory nonbinding arbitration for all civil actions in tort having probable jury award value exclusive of costs and interest of $150,000 or less (Hawaii Rev. Stat. Sec. 601-20 (1986)). Medical malpractice claims may bypass court ordered arbitration after the claim has been submitted to a medical claim conciliation panel that has rendered a decision (Hawaii Rev. Stat. Sec. 671.16.5 (Lexis 1992)).

Louisiana--No arbitration for claims against State (public) health care providers (LA-R.S. **Sec. 40:1299.39.1A(1)). No arbitration for claims against health care providers who are not "qualified" under** the PCF requirements (LA-R.S. 40:1299.41 (D)).

Nebraska--Pre-in jury arbitration agreements are not presumed to be valid, enforceable and irrevocable (R. R.S. Neb. Sec. 25-2602 (Lexis 1992)).

New Jersey--Voluntary arbitration of medical injury claims upon written agreement if greater than $20,000. Applies to all personal injury torts except certain automobile claims (NJ Stat. Sec. 2A:23A-20 (1991)).

New York--Allows defendant to concede liability if the plaintiff agrees to arbitrate. If **plaintiff refuses, defendant's concession** of liability cannot be used for any other purpose (N.Y. CPLR Sect 3045 (McKinney 1991)). HMOS can put arbitration clauses in contract, but cannot require arbitration as a condition of joining HMO (N.Y. Public Health § 4406-2 (McKinney 1991)).

Ohio--The Ohio statute permits parties to submit a claim to nonbinding arbitration or to enter an agreement to submit the claim to binding arbitration. Such agreements may be made pre-injury. (Ohio Rev. Code Sees. **2711.21-271.24 (1992)). The former provision which requiring submission to arbitration prior to trial and allowed the arbitration decision to be entered into subsequent judicial**

ADDITIONAL NOTES FOR TABLE A-7 (Continued)

proceedings was declared unconstitutional **by a** lower court. Simon v. St. Elizabeth Medical Center 355 N.E.2d 903 (Ohio Ct. Common Pleas 1976).

South Carolina--Statutory provision that sets forth conditions under which arbitration agreements for existing and future controversies will be considered valid, enforceable and irrevocable, does not apply to arbitration agreements for personal injury claims (S. C. Code **Ann. Sec. 15-48-10 (1991)).**

Texas--Uniform Arbitration Act procedures only apply to personal injury if upon advice of counsel to both parties and both attorneys sign written opinions to this effect (Vernons Ann. Tex. Civ. St. **art. 224** (1992)).

Utah--Upon written agreement by all parties, the **mandatory** prelitigation **hearing panel proceeding may be considered a binding arbitration hearing and proceed under the provisions of the general arbitration statute (Utah Code Ann. Sec. 78-14-16 (1985).**

Wisconsin--Mediation required prior to initiating or continuing court action (M/is. Stat. Sec. **655.465 et. seq. (1989-1990)). Therefore, general arbitration provision unlikely to be used.**

SOURCE: Office of Technology Assessment, 1993.

The fact that certain tort reforms have been found to violate State constitutions is important when considering whether and how to implement malpractice tort reform at the Federal level. A number of the reforms examined in this report have been challenged in State courts, and in some cases they have been overturned or repealed (see app. A). OTA has not undertaken an extensive review of these cases; however, caps on damages and pretrial screening panels appear to have been particularly vulnerable to successful constitutional challenges (138). The following provides a brief discussion of the Federal and State constitutional harriers to tort reform.

Federal Constitutional Review

Medical malpractice tort reform legislation is typically challenged under the equal protection and due process clauses of the Fifth amendment and the right to jury trial guaranteed by the Seventh amendment of the U.S. Constitution. Very few Federal courts have overturned malpractice tort reform and it is highly unlikely the Supreme Court would overturn federal malpractice tort reform because the lowest level of scrutiny is applied in reviewing the constitutionality of tort reform statutes (1 38).

The due process and equal protection clauses act to protect individuals and groups of individuals from being unfairly singled out and discriminated against by a legislative action. Analysis of economic legislation, such as tort reform, under the due process clause only examines whether the legislature has been arbitrary or irrational in achieving its legislative purpose (Duke Power Company v. Carolina Environmental Study Group, Inc. 438 U.S. 59 (1978)). The **equal** protection clause requires that a law apply equally to all persons within a class and that differing treatment be based on differences that have a reasonable tendency to further the objectives of the statute. Malpractice tort reforms are challenged under equal protection because they treat people injured by medical malpractice differently than people injured by other tortious conduct: they single out certain plaintiffs in medical malpractice and limit their damages (e. g., caps on damages), or defendants in other tort actions are treated differently than defendants in medical malpractice (105).

The determinative factor in constitutional review of a statute is the level of scrutiny applied by the court. When evaluating tort reform under the due process clause the Supreme Court applies the lowest level of scrutiny -- the "rational basis test" -- which only requires that the statute have a rational relationship to a legitimate legislative objective. Under this standard, a reform will be held constitutional provided the legislature had a reasonable basis for passing the statute, even if in retrospect their assumptions about the effect of the reform prove to be incorrect. The court does not judge whether the statute was "wise or desirable, " and "misguided laws" can also be held constitutional (James v. Strange, 407 U.S. 128 (1972)). For example, if a tort reform is passed because the legislature believes it is necessary to lower health care costs or avoid an insurance crisis, the reform will be upheld if it is at least debatable that such a crisis could exist and that the reform could help abate it (138).

The Supreme Court also uses minimal scrutiny in examining tort reform under the equal protection clause.[1] This low level of scrutiny almost guarantees that a reform will be held constitutional. Again, the statute will not declared unconstitutional unless "the classification rests on grounds wholly irrelevant to the achievement of the State's objective" (McGowan v. Maryland, 366 U.S. 420 (1%1)). The court will uphold the statute even though the legislative determination may be disputed: debated or even opposed by strong contrary arguments (Vance v. Bradley, 440 U.S. 93 (1979)).

The Seventh amendment guarantees a person the right to jury trial for all suits in which the amount of the controversy exceeds $20 and the legal claim is of a type that could have been tried at common law, which includes certain tort actions (138). Pretrial screening panels are one reform that is often challenged under the Seventh amendment. The Federal courts have uniformly rejected these challenges, holding that delays produced by administrative remedies that must be completed before proceeding to trial do not deprive a plaintiff of their right to trial (138). In addition, the admissibility of the panel's decision does not deprive the plaintiff of the right to jury trial since the decision is not dispositive, but merely additional evidence (138).

State Constitutional Review

Most State constitutions contain equal protection and due process clauses that are either identical or very similar to the those found in the U.S. Constitution. In addition, State constitutions guarantee a right to trial in the State court (138). However, when interpreting their own constitutions, the State courts are not bound by the Federal standards for review (138). It is for this reason that tort reforms have been held unconstitutional under the equal protection and due process clauses of State constitutions. In most cases, the statute is overturned on equal protection grounds because the State court uses a stricter scrutiny standard than the Federal courts.

A number of State courts have applied a heightened scrutiny and overturned malpractice reform.[2] As one court explained, State courts are generally much less deferential than Federal courts to economic legislation that singles out one group of individuals or rights, especially when that legislation infringes on the right to trial (Condemarin v. University Hospital. University of Utah 775 P.2d 348 (Utah 1989)). A number of courts that have applied an "intermediate level of scrutiny"[3] to malpractice reform have found the provisions unconstitutional on equal protection and in a few cases on due process grounds.[4] At least two courts have even applied the strictest level of scrutiny, holding that the right to a judicial remedy for medical malpractice is a fundamental right.[5]

State courts have overturned reforms because under intermediate scrutiny the court evaluates the assumptions made by the legislature in passing the legislation. A number of courts have found these assumptions lacking. For example, in Arenson v. Olson the court struck down a cap on damages that was intended to reduce malpractice insurance premiums, noting evidence from another State that malpractice insurance rates were not related to claims involving large damages. The court concluded that either the legislature was misinformed or the situation had changed dramatically (Arenson v. Olson. 270 N.W.2d 125 (N.D. 1978)). In Kenyon v. Hammer, the court found no evidence supporting the legislature's assertion that elimination of the discovery rule for the statute of limitations was necessary in order to reduce either malpractice premiums or the cost of medical care (Kenyon v. Hammer, 688 P.2d 961 (Az. 1984)), In Hoem v. State of Wyoming, the court wrote that, in reviewing malpractice tort reforms, courts should take a more "skeptical attitude toward the evidence presented by the medical profession and the insurance industry and toward the conclusion reached by the State legislature" that a crisis exists (Hoem v. State of Wyoming, the University of Wyoming, 756 P.2d 780 (Wyo. 1988)).

Some reforms have been found to violate State constitutional provisions guaranteeing the right to trial or the State's broader guarantee of access to the courts.[6] In addition, some State constitutions have specific provisions guaranteeing rights to tort plaintiffs. For example, State constitutions in Arizona, Pennsylvania, and Montana

specifically limit the legislature's right to restrict damages recoverable in tort actions (138).

Not all challenges to medical malpractice reforms have been successful. Some State courts have rejected arguments for heightened scrutiny and have upheld malpractice reforms.[7] Some of these more recent cases involve reforms that apply to all torts, not just medical malpractice. These "generic" reforms may be better able to withstand a challenge on equal protection grounds **(14).** Moreover, while cases overturning caps on damages have received significant attention, most reforms in the States have survived, either by judicial decision upholding the reform or from lack of a judicial challenge (14). Indeed, both California and Indiana courts upheld very comprehensive reform packages, both of which included caps on damages.[8] In addition, recent decisions indicate that some State courts are less likely to subject tort reform legislation to heightened scrutiny (15).

Alternative Dispute Resolution, No-Fault, and State Constitutions

While a number of States have been willing to enact reforms that change the rules that apply in civil trials, few States have embraced broader procedural reforms that would remove malpractice disputes from the civil judicial system. This may be due in part to the fact that it is difficult to make alternative dispute resolution (ADR) procedures binding and mandatory without running afoul of constitutional protections such as the right to trial, equal protection, access to courts, and due process (47). Nonjudicial schemes could be set up as alternatives to the tort system, analogous to the workers' compensation programs. However, to pass constitutional muster, the reform must provide a benefit that offsets the plaintiff's loss of the right to a judicial proceeding (156). Several States have already begun to employ a "quid pro quo" reasoning in evaluating tort reform under the due process clause (138) (Fein v. Permanence Medical Group, 474 U.S. 892 (1985) (White, dissent)).

To date. the only no-fault reforms that have been implemented are the Virginia and Florida birth-injury, no-fault programs. The constitutionality of these statutes with respect to nonparticipating physicians has been upheld in both States; however, the constitutionality of removing those cases from the judicial process has not yet been specifically challenged.9

Federal Malpractice Reform and State Constitutional Challenges

Tort reform initiated at the Federal level could face a challenge under State constitutions depending on how the Federal government would choose to implement such reforms. If Federal monies were tied to the requirement that certain reforms be implemented, challenges would almost certainly be brought in State courts and may be brought in Federal courts as well.[10] As discussed above, tort reforms are likely to withstand Federal challenge, but may not withstand all State challenges. This implementation approach could give rise to the awkward situation in which a State court has declared a particular type of reform unconstitutional, thereby making it difficult for the State to qualify for the federal funds. This is a policy issue that would need to be addressed if the federal government chose to encourage States to adopt specific reforms. The alternative, passing Federal medical malpractice reforms, may be equally sensitive from a States' rights perspective.

Footnotes for Appendix B

[1]Higher levels of scrutiny are reserved for statutes that discriminate against people on the basis of race, alienage, national origin, sex, and illegitimacy, or which impinge upon fundamental rights, such as privacy, voting, or the right to interstate travel (117).

[2]At least one court overturned caps on noneconomic damages using the lowest level of scrutiny. In Morris v. Savoy the Ohio Supreme Court found no evidence demonstrating a rational connection between limiting awards and reducing malpractice insurance rates (Morris v. Savoy (576 N.E.2d 765 (Ohio 1991)).

[3]Under intermediate scrutiny, the statute will be upheld if it is determined the State's interest is "important" and the means adopted to serve that interest has a fair and substantial relationship to the object of the legislation (Kenyon v. Hammer, 688 P.2d 961 (Ariz. 1984)). Strict scrutiny requires that the statute serves a compelling State interest and is necessary to achieve the legislative objective (Kenyon v, Hammer, 688 P.2d 961 (Ariz. 1984)). Very few statutes can withstand [his level of scrutiny (138).

[4]Farley v. Engleken, 740 P.2d 1058 (Kan. 1987); Arenson v. Olson, 270 N.W.2d 125 (N.D. 1978); Brannigan v. Usitalo 587 A.2d 1232 (N.H. 1991); Carson v. Maurer 424 A.2d 825 (N.H. 1980); Condemarin v. University Hospital, University of Utah, 775 P.2d 348 (Utah 1989); Jones v. State Board of Medicine, 555 P.2d 399 (Idaho 1976) *cert. denied* 431 U.S. 914 (1977). The courtin Jones did not overrule the statute, but instead remanded the case with instructions to the court to scrutinize the cap in light of the heightened standard of review. The court on remand found the limitation unconstitutional (Jones v. State Board of Medicine, Nos. 55527 and 55586 (4th Dis. Idaho, Nov. 3. 1980) *as cited in (105).*

[5]White v. State, 661 P.2d 1272 (Mont. 1983) (applying "strict scrutiny" to damage cap) *overturned* Meech v. Hillhaven West. Inc., 776 P.2d 488 (Mont. 1989) (held that strict scrutiny did not apply when reviewing the constitutionality of a limit on damages in personal injury suits); Kenyon v. Hammer, 688 P.2d 961 (Ariz. 1984) (overturning statute of limitation).

[6]*See e.g.,* Smith v. Dept. of Insurance, 507 So.2d **1080** (Fla. 1987) (overturning cap on damages); State ex. rel. Cardinal Glennon Memorial Hosp. for Children v. Gaertner, 583 S.W.2d 107 (Mo. 1979) (overturning pretrial screening panel); Mattes v. Thompson, 421 A.2d 190 (Pa. 1980) (overturning pretrial screening panel); Sofie v. Fibreboard Corp., 771 P.2d 711 (Wash. 1989) (overturning cap on damages).

[7]State ex. rel. Strykowski v. Wilkie, 261 N.W.2d 434 (Wis. 1978) (upholding patient compensation fund, including periodic payments for future damages); Fein v. Permanence Medical Group, 695 P.2d 665 (Cal. 1985) (upholding California's package of tort reforms); Johnson v. Saint Vincent Hospital Inc., 404 N.E.2d 585 (Ind. 1980) (upholding $500,000 total cap on damages); Samsel v. Wheeler Transportation Serv.. Inc., 789 P.2d 541 (Kan. 1990) (upholding $250,000 cap on noneconomic damages for all personal injuries); Etheridge v. Medical Center Hosp., 376 S.E.2d 525 (Vir. 1989) (cap on total damages constitutional); Murphy v. Edmonds, 601 A.2d 102 (Ct. App. Md. 1992) (cap on noneconomic damages of $350,000 constitutional); Adams v. The Children's Hospital, 832 S.W.2d 898 (Me. 1992) cert. *denied 113* S. Ct. **511 (1992)** (upholding $430,000 cap on noneconomic damages, periodic payment provision and modified joint and several liability); Murphy v. Edmonds 601 A.2d 102 (Md. 1992) (upholding $350,000 cap on noneconomic damages applicable to all persona] injury cases including malpractice); Scholz v. Metropolitan Pathologists, P. C., 851 P.2d 901 (Colo. 1993) *reh'g. denied* Scholz v. Metropolitan Pathologists, P. C., 1993 Colo. Lexis 502 (Colo. June 7, 1993) (upholding $1 million cap on damages in medical malpractice of which no more than $250,000" could be attributable to pain and suffering); Prendergast v. Nelson, 256 N.W.2d 657 (Neb. 1977).

[8]Fein v. permanence Medical Group, 696 P.2d 665 (Cal. 1985) *appeal dismissed* 474 U.S. 892 (1985); Johnson v. St. Vincent Hospital, Inc. 404 N.E.2d 585 (Ind. 1980).

[9]In reviewing the constitutionality of the statute, the Virginia Supreme Court applied the least stringent review standard (King v. Virginia Birth-Related Neurological Injury Compensation Program, 410 S.E.2d 656 (Va. 1991)). Therefore, the statute is likely to withstand a challenge by plaintiffs as well. The review in the Florida court was somewhat more limited, focusing more specifically on the financing mechanism provision (James F. Cov v, Florida Birth-Related Neurological Injury Compensation Plan, 595 So.2d 943 (Fla. 1992) *cert. denied* McGibonv v. Florida Birth-Related Neurological Injury Compensation Plan, 113 S. Ct. 194 (1992)). Currently several cases brought by plaintiffs challenging the constitutionality of the Florida program arc pending in State courts (37).

[10]The Supreme Court has held that Congress may attach conditions to the receipt of Federal funds provided that the conditions are intended to serve general public purposes, arc unambiguous, arc related to a Federal interest in a national project or program, and are not barred by other Federal constitutional provisions (South Dakota v. Dole, 484 U.S. 203 (1987)).

This appendix presents more detailed results of the six empirical studies of the impact of State tort reforms on the malpractice cost indicators reviewed in chapter 3. Appendix tables C-1 through C-3 summarize the studies' results for each malpractice cost indicator, respectively: claim frequency, payment per paid claim, and insurance premiums or losses. In each table (i. e., for each indicator), the results for each study that used that indicator (referenced by the first author's last name) are listed for each of the State tort reform measures that the study employed. (Table 3-3 in the text summarizes the contents of these three tables.)

Because the nature of the data used for a given indicator differed greatly among the studies (see the ch. 3 subsection on "Malpractice Cost Indicators"), tables C-1 through C-3 depict only the direction of the studies results, and not their specific quantitative values. A minus sign (–) means that the results were in the expected direct ion--i .e., presence of that tort reform reduced the malpractice cost indicator. A plus sign (+) means that results were in the unexpected direction--i. e., presence of that tort reform increased the malpractice cost indicator. A dot **(0)** means that the study did not examine the impact of that tort reform on that malpractice cost indicator.

To gauge the relative importance of the findings, the tables also indicate the level of statistical significance reported for each result: The greater the number of asterisks shown beside a given plus or minus sign, the higher was the level of statistical significance reported for the result. To indicate overall trends in the direction of the results, plus and minus signs are shown for every reported coefficient, regardless of how large or small they were in absolute magnitude. However, we must emphasize that results that were not statistically significant at all (i. e.. with no asterisks beside them) should be interpreted as being essentially zero. Unlike in text table 3-3, no zeros appear in appendix tables C-1 through C-3: Every result has a plus or minus sign. and a dot means " not examined in the study. "

Table C-I--Results of Empirical Studies on the Impact of State Tort Reforms on Medical Malpractice Claim Frequency[a]

Reform	Study[b]			
		Danzon		
	Adams	OLS	TSLS	Zuckerman
Restrict the statute of limitations:				
a. Use date of event, not discovery	–	•	•	•
b. Shorten basic statute of limitations for medical malpractice				
c. Shorten statute of limitations for minors	•	•	•	–
d. Shorten extension of statute of limitations from date of discovery	•	•	•	+
Establish pretrial **screening panels:**				
a. Mandatory	•			•
b. Results admissible in trial	•	•	•	•
c. Any type	•			
Limit **attorney fees**	•			
Modify the standard of care:				
a. Codify the standard of care	•	•	•	•
b. Do not adopt the "expanded locality rule"		•	•	•
c. Establish qualifications for expert witnesses	•	•	•	•
Require or allow awards to be reduced by amount of collateral payments:				
a. Require	•			
b. Allow	•	•	•	
c. Either require or allow	•			•
Impose caps **on damage awards:**				
a. Total damages	•	•	•	
b. Noneconomic damages only	•	•	•	
c. Punitive damages only	•	•	•	•
d. Noneconomic or punitive damages	•	•	•	•
e. Any type	•	•	•	•
Require or allow periodic payments:				
a. Require	•	•	•	•
b. Allow	•	•	•	•
c. Either require or allow	•	•	•	•

Table C-l--Results of Empirical Studies on the Impact of State Tort Reforms on Medical Malpractice Claim Frequency[a] (Continued)

Reform	Study[b]			
		Danzon		
	Adams	OLS	TSLS	Zuckerman
Restrict the joint and several liability doctrine	•	•	•	•
Allow **voluntary, binding arbitration:**				
a. Codify the option of arbitration for medical malpractice	•	+ **	+ **	•
b. Allow pre-injury agreements to arbitrate	•	•	•	–
Restrict the use of ***res ipsa loquitur***	–	•	•	•
Restrict the use of ***ad damnum*** **clauses**	•	•	•	•
Limit the doctrine of informed consent	— ***	•	•	•
Allow costs awardable in frivolous suits	•	•	•	–

[a] Kev to symbols:

– Result in the expected direction (reducing malpractice claim frequency)
+ Result in the unexpected direction (increasing malpractice claim frequency)
• **Not** examined in the studies reviewed here
* Significant **at the** .10 **level**
** Significant **at the** .05 **level**
*** Significant **at the** .01 **level**

[b] Study measures:

Adams: Number of malpractice claims for 1976-1981 reported by physicians in a 1982 survey,
Danzon (OLS): Number of claims filed per insured physician, reported by insurance companies for 1975-1984, claims-made policies only, ordinary least-squares regression.
Danzon (TSLS): Number of claims filed per insured physician, reported by insurance companies for 1975-1984, claims-made policies only, two-stage least-squares regression.
Zuckerman: Number of claims filed per insured physician, reported by insurance companies for 1975-1986, claims-made policies only.

SOURCES: E. K. Adams, and S. Zuckerman, "Variation in the Growth and Incidence of Medical Malpractice Claims," **Journal of Health Politics, Policy and Law** 9(3):475-488, **Fall 1984; P.M.** Danzon, "The Frequency and Severity of Medical Malpractice Claims: New Evidence," Law and Contemporary Problems 49(2):57-84, Spring 1986; S. Zuckerman, R.R. Bovbjerg, and F. Sloan, "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums, " Inquiry 27(2): 167-182, Summer 1990.

Table C-2--Results of Empirical Studies on the Impact of State Tort Reforms on Medical Malpractice Payment Per Paid Claim[a]

Reform	Study[b]					
	Danzon		Sloan			
	OLS	TSLS	Prob. of payment	Amount of payment	Amount + LAE	Zuckerman
Restrict the statute of limitations:						
a. Use date of **event, not discovery**	•	•	•	•	•	•
b Shorten basic statute of limitations for medical malpractice	•	•		☞	☞	
c Shorten statute of limitations for minors	•	•	•	•	•	☞
d Shorten extension of statute of limitations from date of discovery	•	•		–	–	☞
Establish pretrial screening panels:						
a. Mandatory		☞		+**	+*	•
b. Results admissible in trial	•	•	–	–*	–	•
c. Any type		☞		–	–	+*
Limit **attorney fees**			+	+	+	+***
Modify the standard of care:						
a. Codify the standard of care	•	•	•	•	•	•
b. Do not adopt the "expanded locality rule"	•	•	•	•	•	•
c. Establish qualifications for expert witnesses	•	•	↘	+	☞	•
Require or allow awards to be reduced by amount of collateral payments:						
a. Require	☞	☞	–	–	–*	–*
b. Allow	•	•	+	+		–
c. Either require or allow	☞	☞	•	•	•	•
Impose caps on damage awards:						
a. Total damages	•	•	+	–**	–***	–
b. Noneconomic damages only	•	•	–	–**	–*	–*
c. Punitive damages only	•	•	•	+	–	•
d. Noneconomic or punitive damages	•	•	•	•	•	•
e. Any type	☞	☞	•	•	•	•
Require or allow periodic payments:						
a. Require	•	•	–	–	–	•
b. Allow	•	•	+	☞		•
c. Either require or allow	•	•	•	•	•	•

Table C-2--Results of Empirical Studies on the Impact of State Tort Reforms on Medical Malpractice Payment Per Paid Claim[a] (Continued)

Reform	Study[b]					
			Sloan			
	Danzon		Prob. of payment	Amount of payment	Amount of payment + LAE	Zuckerman
	OLS	TSLS				
Restrict the joint and several liability doctrine	•	•	•	•	•	•
Allow voluntary, binding arbitration:						
a. Codify the option of arbitration for medical malpractice	–	–**	•	•	•	•
b. Allow pre-injury agreements to arbitrate	•	•				
Restrict the use of ***res ipsa loquitur***	•	•				•
Restrict the use of **ad *damnum*** clauses	•	•				•
Limit the doctrine of informed consent	•	•				•
Allow costs awardable in frivolous suits	•	•		+	+	

[a]Key to symbols:

– Result in the expected direction (reducing payment per paid claim)
+ Result in the unexpected direction (increasing payment per paid claim)
• Not examined in the studies reviewed here
* Significant at the ,10 level
** Significant at the **,05 level**
*** Significant **at the .01 level**

[b]Study **measures:**

Danzon(OLS): Average payment amount per paid claim for all claims (i.e., under both claims-made and occurrence policies), 1975-1984, ordinary least-squares regression

Danzon(TSLS): Average payment amount per paid claim for all claims (i.e., under both claims-made and occurrence policies), 1975-1984, two-stage least-squares regression

Sloan: Probability that the claim would result in payment, 1975-1978 and 1984
Amount of indemnity payment for the claim, 1975-1978 and 1984
Amount of indemnity payment plus "loss-associated expense" (mainly defense attorneys' fees) for the claim, 1975-1978 and 1984

Zuckerman: Average payment amount per paid claim for all claims (i. e., under both claims-made and occurrence policies), 1975-1986

SOURCES: P.M. Danzon, "The Frequency and Severity of Medical Malpractice Claims, New Evidence, " Law and Contemporary Problems 49(2):57-84, Spring 1986; F.A. Sloan, P.M. Mergenhagen, and R.R.Bovbjerg, "Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis," Journal of Health Politics, Policy and Law 14(4):663-689, Winter 1989; S, Zuckerman,R.R.Bovbjerg, and F. Sloan, "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums," Inquiry 27(2): 167-182, Summer 1990,

Table C-3--Results of Empirical Studies on the Impact of State Tort Reforms on Medical Malpractice Insurance Premiums or Losses[a]

	Study[b]					
	Zuckerman (premiums)			Blackmon		Barker
Reform	General practice	General surgery	Ob/Gyn	Premiums	Losses	Premiums
Restrict the statute of limitations:						
a. Use date of event, not discovery	•	•	•	•	•	•
b. Shorten basic statute of limitations for medical malpractice	☞	☞	☞	☞	☞	
c. Shorten statute of limitations for minors	☞	☞	+	•	•	•
d. Shorten extension of statute of limitations from date of discovery	☞	☞	☞	•	•	•
Establish pretrial screening panels:						
a. Mandatory	•	•	•	•	•	•
b. Results admissible in trial	•	•	•	•	•	•
c. Any type			☞	•	•	•
Limit attorney fees		–	–	–	–	•
Modify the standard of care:						
a. Codify the standard of care	•	•	•	•	•	
b. Do not adopt the "expanded locality rule"	•	•	•	•	•	•
c. Establish qualifications for expert witnesses	•	•	•	•	•	•
Require or allow awards to be reduced by amount of collateral payments:						
a. Require	–	+	–	•	•	•
b. Allow	+	+	+	•	•	•
c. Either require or allow	•	•	•	☞		☞
Impose caps on damage awards:						
a. Total damages	–***	–***	–***	•	•	•
b. Noneconomic damages only	+	+	☞	•	•	•
c. Punitive damages only	•	•	•	•	•	•
d. Noneconomic or punitive damages	•	•	•	☞	☞	•
e. Any type	•	•	•	•	•	☞
Require or allow periodic payments:						
a. Require	•	•	•	•	•	•
b. Allow	•	•	•	•	•	•
c. Either require or allow	•	•	•	☞		•

Table C-3--Results of Empirical Studies on the Impact of State Tort Reforms on Medical Malpractice Insurance Premiums or Losses[a] (Continued)

Reform	Study[b]					
	Zuckerman (premiums)			Blackmon		Barker
	General practice	General surgery	Ob/Gyn	Premiums	Losses	Premiums
Restrict the joint and several liability doctrine	•	•	•	–*	–	•
Allow voluntary, binding arbitration:						
a. Codify the option of arbitration for medical malpractice	•	•	•	•	•	
b. Allow pre-injury agreements to arbitrate	–	–		•	•	•
Restrict the use of res *ipsa loquitur*	•	•	•	•	•	
Restrict the use of *ad damnum* clauses	•	•			•	•
Limit the doctrine of informed consent	•	•	•	•	•	•
Allow costs awardable in frivolous suits	–	+		•	•	•

[a] Key to symbols:

- Result in the expected direction (reducing malpractice premiums or losses)
+ Result in the unexpected direction (increasing malpractice premiums or losses)
. Not examined in the studies reviewed here
* Significant at the ,1O level
** Significant at the .05 level
*** Significant at the .01 level

[b] Study measures,

Zuckerman: Malpractice insurance premiums for general practice, 1975-1986
Malpractice insurance premiums for general surgery, 1975-1986
Malpractice insurance premiums for obstetrics/gynecology, 1975-1986
Blackmon: Change in malpractice insurance premiums between 1985 and 1988
Change in malpractice insurers' losses from 1985 to 1988
Barker Mean loss ratio, malpractice insurance industry total, 1977-1986

SOURCES: D.K. Barker, "The Effects of Tort Reform on Medical Malpractice Insurance Markets: An Empirical Analysis," Journal of Health Politics, Policy and Law, 17(1):143-161, Spring 1992; G.Blackmon, and R Zeckhauser, "State Tort Reform Legislation: Assessing Our Control of Risks," in Tort Law and the Public Interest, Peter H, Schuck (cd.) (New York: W.W. Norton & Co., 1991);F.A. Sloan, P.M. Mergenhagen, and R.R.Bovbjerg, "Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis," Journal of Health Politics, Policy and Law 14(4):663-689, Winter 1989; S. Zuckerman, R.R.Bovbjerg, and F. Sloan, "Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums," Inquiry 27(2): 167-182, Summer 1990,

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