
INTRODUCTION

The medical malpractice system has been the subject of debate and reform for many years (11, 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 in 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 premiums 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 in 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 (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 encompasses 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 claims¹¹ (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?

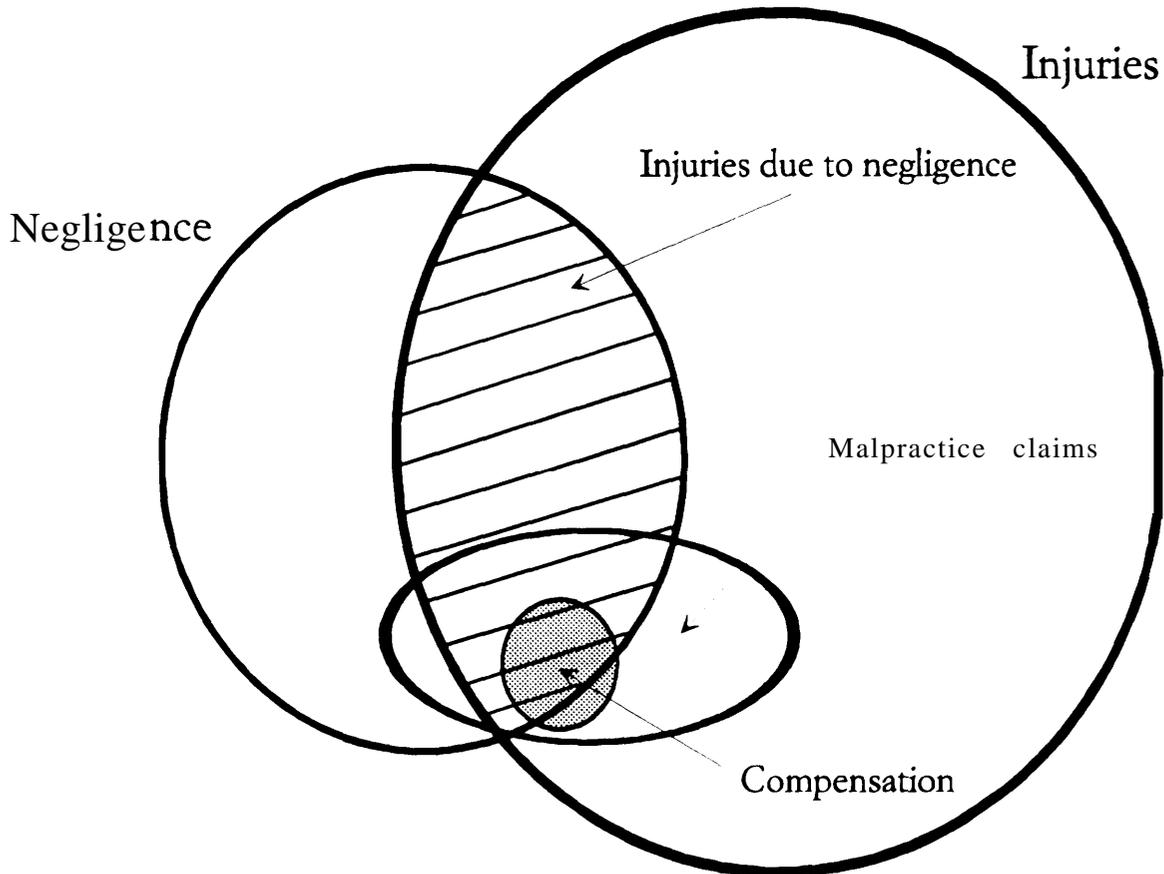
All medical malpractice begins with an injury to a patient caused by a physician or other health care provider, but not all injuries result from malpractice. Medical malpractice occurs in a subset of injuries that directly result from a provider's negligence. Negligence is "conduct that falls below the 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). ¹⁶ 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 profession. 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 (111, 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 vividly 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 I-I--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,

^aThese 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	Average annual rate of change,	
						1990	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 ed.) (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

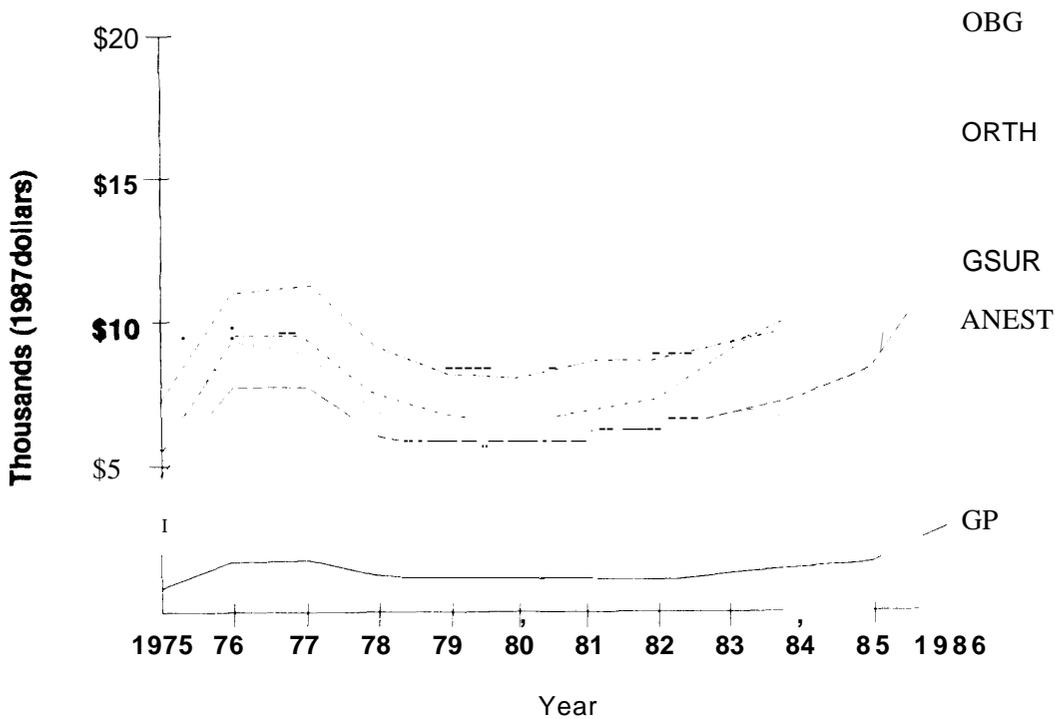
aggregate premium payments for malpractice insurance throughout the country show an inflation-adjusted increase between 1985 and 1991 of 6 percent (see table 1-5). In recent years, however, premiums have actually declined nationally. When inflation is taken into account, aggregate premiums declined approximately 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

- ¹Malpractice 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 losses. 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 investors 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 to 40 percent of hospitals are self-insured (93), and a small proportion of physicians do not carry malpractice insurance.
- ⁴A detailed memorandum describing OTA's procedure for estimating the cost of self-insurance is available upon request.
- ⁵The other major goal of the malpractice system is to compensate victims for their losses.
- ⁶The 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 definition of defensive medicine would limit it to tests and procedures that are 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.
- ⁸The 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 are 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 Services. 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 to 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 to 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.

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

¹⁴Prior to formal 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).

¹⁵This 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)

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

¹⁷Negligence 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 liability (127).

¹⁸See (34,119). 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 to the plaintiff.) (94).

¹⁹Before the 1970s 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 joined to expand the pool of insurers. By 1986, about 37 percent of physicians were insured through physician-sponsored companies (120).

²⁰In 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 the parties (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).

²¹In contrast to 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,

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

²³Although 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 physicians 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.
- 25 This 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 claims-made \$100,000 per incident and \$300,000 per annum.
- 27 According to 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).
- 29 Only 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.
- 30 Managed 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). Competition 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 services. Plans would exert greater influence on their participating doctors and hospitals to curb such practices.