

August 2003

**MEDICAL
MALPRACTICE**

**Implications of Rising
Premiums on Access
to Health Care**





Highlights of [GAO-03-836](#), a report to congressional requesters

Why GAO Did This Study

The recent rising cost of medical malpractice insurance premiums in many states has reportedly influenced some physicians to move or close practices, reduce high-risk services, or alter their practices to preclude potential lawsuits (known as defensive medicine practices). States have revised tort laws under which malpractice lawsuits are litigated to help constrain malpractice premium and claims costs. Some of these tort reform laws include caps on monetary penalties for noneconomic harm, such as for plaintiffs' pain and suffering. Congress is considering legislation similar to some states' tort reform laws.

GAO examined how health care provider responses to rising malpractice premiums have affected access to health care, whether physicians practice defensive medicine, and how growth in malpractice premiums and claims payments compares across states with varying tort reform laws. Because national data on providers' responses to rising premiums are not reliable, GAO examined the experiences in five states with reported malpractice-related problems (Florida, Nevada, Pennsylvania, Mississippi, and West Virginia) and four states without reported problems (California, Colorado, Minnesota, and Montana) and analyzed growth in malpractice premiums and claims payments across all states and the District of Columbia.

www.gao.gov/cgi-bin/getrpt?GAO-03-836.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Kathryn G. Allen at (202) 512-7118.

MEDICAL MALPRACTICE

Implications of Rising Premiums on Access to Health Care

What GAO Found

Actions taken by health care providers in response to rising malpractice premiums have contributed to localized health care access problems in the five states reviewed with reported problems. GAO confirmed instances in the five states of reduced access to hospital-based services affecting emergency surgery and newborn deliveries in scattered, often rural, areas where providers identified other long-standing factors that also affect the availability of services. Instances were not identified in the four states without reported problems. In the five states with reported problems, however, GAO also determined that many of the reported provider actions were not substantiated or did not affect access to health care on a widespread basis. For example, although some physicians reported reducing certain services they consider to be high risk in terms of potential litigation, such as spinal surgeries and mammograms, GAO did not find access to these services widely affected, based on a review of Medicare data and contacts with providers that have reportedly been affected. Continuing to monitor the effect of providers' responses to rising malpractice premiums on access to care will be essential, given the import and evolving nature of this issue.

Physicians reportedly practice defensive medicine in certain clinical situations, thereby contributing to health care costs; however, the overall prevalence and costs of such practices have not been reliably measured. Studies designed to measure physicians' defensive medicine practices examined physician behavior in specific clinical situations, such as treating elderly Medicare patients with certain heart conditions. Given their limited scope, the study results cannot be generalized to estimate the extent and cost of defensive medicine practices across the health care system.

Limited available data indicate that growth in malpractice premiums and claims payments has been slower in states that enacted tort reform laws that include certain caps on noneconomic damages. For example, between 2001 and 2002, average premiums for three physician specialties—general surgery, internal medicine, and obstetrics/gynecology—grew by about 10 percent in states with caps on noneconomic damages of \$250,000, compared to about 29 percent in states with limited reforms. GAO could not determine the extent to which differences in premiums and claims payments across states were caused by tort reform laws or other factors that influence such differences.

In commenting on a draft of this report, three independent reviewers with expertise on malpractice-related issues generally concurred with the report findings, while the American Medical Association (AMA) commented that the scope of work was not sufficient to support the finding that rising malpractice premiums have not contributed to widespread health care access problems. While GAO disagrees with AMA's point of view, the report was revised to better clarify the methods and scope of work for this issue.

Contents

Letter		1
	Results in Brief	5
	Background	8
	Implications of Rising Malpractice Premiums on Access to Health Care	12
	Physicians Reportedly Practice Defensive Medicine, but Prevalence and Costs of Such Practices Are Not Reliably Measured	26
	States with Certain Noneconomic Damage Caps Had Lower Recent Growth in Malpractice Premium Rates and Claims Payments	30
	External Comments and Our Evaluation	38
Appendix I	National and State Provider Associations Contacted	42
Appendix II	Scope and Methodology	44
Appendix III	Summary of Selected Research Designed to Measure Defensive Medicine Prevalence and Costs	53
Appendix IV	GAO Contacts and Staff Acknowledgments	56
	GAO Contact	56
	Acknowledgments	56
Related GAO Products		57
Tables		
	Table 1: Assertions of Numbers of Physicians Moving, Retiring, or Closing Practices in Response to Malpractice Pressures in Five States	17
	Table 2: State Provider Associations GAO Contacted	42
	Table 3: Tort Reforms and Average Rates of Premium Increases in Nine States	45
	Table 4: State Tort Reform Categories, Based on Reforms in Place as of 1995	49

Table 5: Summary of Selected Research Designed to Measure Defensive Medicine Prevalence and Costs	53
--	----

Figures

Figure 1: Rates of Medicare-Covered Orthopedic Surgeries in Pennsylvania Have Increased	19
Figure 2: Rates of Medicare-Covered Spinal Surgeries in Five States with Reported Problems Have Recently Increased	22
Figure 3: Rates of Medicare-Covered Joint Revisions and Repairs in Five States with Reported Problems Have Not Recently Declined	23
Figure 4: Rates of Medicare-Covered Mammograms in Florida and Pennsylvania Remain above the National Average	24
Figure 5: Premium Rates for Three Physician Specialties Rose After 2000, but to a Lesser Extent in States with Noneconomic Damage Caps	32
Figure 6: Recent Premium Growth Was Lower for Three Physician Specialties in States with Noneconomic Damage Caps	33

Abbreviations

AHA	American Hospital Association
AMA	American Medical Association
CBO	Congressional Budget Office
CMS	Centers for Medicare & Medicaid Services
ER	emergency room
FSMB	Federation of State Medical Boards
HCPCS	Health Care Common Procedure Coding System
HEALTH	Help Efficient, Accessible, Low-cost, Timely Healthcare Act of 2003
HHS	Department of Health and Human Services
ISO	Insurance Services Office
MLM	Medical Liability Monitor
MMCC	Medicare Managed Care Contract
NAIC	National Association of Insurance Commissioners
NCSL	National Conference of State Legislatures
NPDB	National Practitioner Data Bank
OB/GYN	obstetrics/gynecology
OTA	Office of Technology Assessment
PCF	patient compensation fund
PIAA	Physician Insurers Association of America

This is a work of the U.S. government and is not subject to copyright protection in the United States. It may be reproduced and distributed in its entirety without further permission from GAO. However, because this work may contain copyrighted images or other material, permission from the copyright holder may be necessary if you wish to reproduce this material separately.



G A O

Accountability * Integrity * Reliability

United States General Accounting Office
Washington, DC 20548

August 8, 2003

The Honorable F. James Sensenbrenner, Jr.
Chairman
Committee on the Judiciary
House of Representatives

The Honorable W.J. “Billy” Tauzin
Chairman
Committee on Energy and Commerce
House of Representatives

The Honorable Steve Chabot
Chairman
Subcommittee on the Constitution
Committee on the Judiciary
House of Representatives

Medical malpractice insurance premium rates increased rapidly in some states beginning in the late 1990s after several years of relative stability, similar to previous cycles of rising premiums that occurred during the 1970s and 1980s. Between 2001 and 2002, premium rates for the specialties of general surgery, internal medicine, and obstetrics/gynecology (OB/GYN) increased by about 15 percent on average nationally, and over 100 percent for certain of these specialists in some states. In response to these rising premiums, representatives of health care providers—including physicians, hospitals, and nursing homes—and the media have reported that physicians have moved out of states experiencing the highest increases, retired, or reduced or eliminated certain high-risk services. Policymakers are concerned that, if these provider actions are occurring, they may limit consumers’ access to health care. Additionally, fear of malpractice litigation may encourage physicians to practice “defensive medicine,” for example, ordering additional tests or procedures, thus increasing total health care costs. In an effort to mitigate rising malpractice costs, states have passed various tort reform laws, some of which include caps to restrict the size of damage award payments and other measures to limit

costs associated with malpractice litigation, and Congress is considering similar federal legislation.¹

Because of your concerns about rising malpractice insurance premiums and associated implications for the health care system, we agreed to examine the following questions:

1. How have health care provider responses to rising malpractice insurance premiums affected consumers' access to health care?
2. What is known about how rising premiums and fear of litigation cause health care providers to practice defensive medicine?
3. How does the growth in medical malpractice insurance premiums and insurer payments for malpractice claims compare in states with varying levels of tort reform laws?

GAO also recently issued a related report that more fully describes the extent of malpractice insurance premium growth and the factors that contributed to that growth.² Its findings are summarized on pages 9 through 11 of this report.

To evaluate how actions taken by health care providers in response to malpractice premium increases have affected consumers' access to health care, we interviewed providers and their representatives, including the American Medical Association (AMA), the American Health Care Association, the American Hospital Association (AHA), and many of their state-level counterparts. (See app. I for the complete list of national and state associations we contacted during the course of our work.) In the absence of reliable national sources of data concerning provider responses to rising malpractice premiums, we focused our review on nine states selected to encompass a range of malpractice premium pricing and tort

¹Medical malpractice lawsuits are generally based on principles of tort law. A tort is a wrongful act or omission by an individual that causes harm to another individual. Typically, a legal claim of malpractice would be based on a claim that the negligence of a provider caused injury and the injured party would seek damages. To reduce malpractice claims payments and insurance premiums and for other reasons, some have advocated changes to tort laws, such as placing caps on the amount of damages or limits on the amount of attorney fees that may be paid under a malpractice lawsuit. These changes are collectively referred to as "tort reforms."

²U.S. General Accounting Office, *Medical Malpractice Insurance: Multiple Factors Have Contributed to Increased Premium Rates*, [GAO-03-702](#) (Washington, D.C.: June 27, 2003).

reform environments. Five of these states were among those cited by AMA and other national health care provider organizations as malpractice “crisis” or “problem” states based on such factors as higher than average increases in malpractice insurance premium rates, physicians’ reported difficulties obtaining malpractice insurance coverage, and reports of actions taken by providers in response to the malpractice-related pressures of rising premiums and litigation. The remaining four states were not cited by provider groups as experiencing malpractice-related problems.³ In the five states with reported problems, provider organizations reported through surveys and anecdotal reports several actions taken by physicians in response to rising malpractice premiums. Although we did not attempt to confirm each report cited by state provider groups, we targeted follow-up contacts with local providers where the reports suggested potentially acute consumer access problems or where multiple reports were concentrated in a geographic area. In these five states, we contacted 49 hospitals and 61 physician practices or clinics to corroborate the reports and explore the implications for consumers’ access to health care. We also analyzed Medicare part B physician claims data from 1997 through 2002 to assess whether utilization of certain services deemed to be of higher risk for a malpractice claim, such as spinal surgery and mammograms, has declined for the Medicare-covered population.⁴ Because of limitations in the Medicare data that precluded its use in analyzing utilization of certain other physician services such as hospital emergency and obstetrical care, we relied exclusively on the reports of access problems provided by state provider associations and our follow-up with local providers to assess access to these services.

To determine what is known about the extent of defensive medicine practices, we reviewed available empirical studies, including those examining the costs of defensive medicine and the potential impact of tort reform laws on mitigating these costs. We also explored the issue with medical provider organizations and examined the results of recent surveys in which physicians were asked about their own defensive medicine practices.

³The five states with reported problems are Florida, Mississippi, Nevada, Pennsylvania, and West Virginia; the four states without reported problems are California, Colorado, Minnesota, and Montana.

⁴Part B of the Medicare program covers claims for services provided by physicians, while part A covers claims from hospitals and other institutions.

To assess premium growth, we analyzed malpractice premium rates reported by insurers to the Medical Liability Monitor (MLM) for the specialties of general surgery, internal medicine, and OB/GYN—the only three specialties for which these data are reported—across all states and the District of Columbia from 1996 through 2002.⁵ To assess growth in malpractice claims payments, we analyzed state-level data on claims paid on behalf of all physicians reported by insurers to the National Practitioner Data Bank (NPDB) from 1996 through 2002 for all states and the District of Columbia.⁶ We compared trends in 12 states with tort reforms that include caps on noneconomic damages, such as for plaintiffs' pain and suffering (4 states with a \$250,000 cap and 8 states with a \$500,000 or less cap⁷) to 11 states (including the District of Columbia) with more limited tort reforms and to the average for all states. We focused our analysis on those states with noneconomic damage caps as a key tort reform because such caps are included in proposed federal tort reform legislation and because published research generally reports that such caps have a greater impact on medical malpractice premium rates and claims payments than some other tort reform measures. We also reviewed available empirical studies that examined the relationship between tort reforms and malpractice insurance premiums and claims payments.

We conducted our work from September 2002 through June 2003 according to generally accepted government auditing standards. Appendix II provides more details about our scope and methodology, and a list of related GAO products is included at the end of this report.

⁵MLM is a private research organization that annually surveys professional liability insurance carriers in 50 states and the District of Columbia to obtain their base premium rates for the specialties of internal medicine, general surgery, and OB/GYN. Annual survey data were available through 2002.

⁶NPDB, under the jurisdiction of the Secretary of Health and Human Services, is a nationwide source of information on physicians who have been named in a medical malpractice settlement or judgment. Insurers are required by law to report malpractice payments made on behalf of these physicians and are subject to civil penalties for noncompliance. 42 U.S.C. § 11131 (2000).

⁷The eight states with a \$500,000 or less cap do not include the four states with a \$250,000 cap.

Results in Brief

Actions taken by health care providers in response to malpractice pressures have contributed to localized health care access problems in the five states we reviewed with reported problems.⁸ We confirmed instances in the five states where actions taken by physicians in response to malpractice pressures have reduced access to services affecting emergency surgery and newborn deliveries. These instances were not concentrated in any one geographic area and often occurred in rural locations, where maintaining an adequate number of physicians may have been a long-standing problem, according to some providers. For example, the only hospital in a rural county in Pennsylvania no longer has full orthopedic on-call surgery coverage in its emergency room (ER) because three of its five orthopedic surgeons left in the spring of 2002, largely in response to the high cost of malpractice insurance. Similarly, pregnant women in rural central Mississippi must now travel about 65 miles to the nearest hospital obstetrics ward to deliver because family practitioners at the local hospital, faced with rising malpractice insurance premiums, stopped providing obstetrics services. In both areas, providers also cited other reasons for difficulties recruiting physicians to their rural areas. We did not identify similar examples of access reductions attributed to malpractice pressures in the four states without reported problems. In the five states with reported problems, however, we also determined that many of the reported provider actions taken in response to malpractice pressures were not substantiated or did not widely affect access to health care. For example, some reports of physicians relocating to other states, retiring, or closing practices were not accurate or involved relatively few physicians. In these same states, our review of Medicare claims data did not identify any major reductions in the utilization of certain services some physicians reported reducing because they consider the services to be high risk, such as certain orthopedic surgeries and mammograms. Continuing to monitor the effect of providers' responses to rising malpractice premiums on access to care will be essential, given the import and evolving nature of this issue.

⁸We define loss of access as the direct loss or newly limited availability of a health care provider or service resulting largely from actions taken by providers in response to malpractice concerns. We did not assess the impact on access that may result from the added costs malpractice pressures impose on the health care system (e.g., the combined cost of malpractice insurance premiums, litigation, and defensive medicine practices) and thus on the costs and affordability of health insurance because data to reliably measure malpractice-related costs in total are not available.

In response to rising premiums and their fear of litigation, research indicates that physicians practice defensive medicine in certain clinical situations, thereby contributing to health care costs; however, the overall prevalence and costs of such practices have not been reliably measured. Recent surveys of physicians indicate that many practice defensive medicine, but limitations to these surveys suggest caution in interpreting and generalizing the results. For example, the surveys typically ask physicians if or how they have practiced defensive medicine but not the extent of such practices. In addition, very few physicians tend to respond to these surveys, raising doubt about how accurately their responses reflect the practices of all physicians. Some empirical research has identified defensive medicine practices, but under very specific clinical situations that cannot be generalized more broadly. For example, one study examined Medicare patients with two specified heart diseases and concluded that certain tort reforms that reduce malpractice pressures, such as caps on damages, may reduce hospital expenditures for treatment of the two conditions by 5 to 9 percent. However, subsequent preliminary research that expanded this study to additional Medicare patients with a broader set of conditions did not find similar savings.

Limited available data indicate that rates of growth in malpractice premiums and claims payments have been slower on average in states that enacted certain caps on damages for pain and suffering—referred to as noneconomic damage caps—than in states with more limited reforms.⁹ Premium rates reported for the specialties of general surgery, internal medicine, and OB/GYN were relatively stable on average in most states from 1996 through the late 1990s and then began to rise, but more slowly among states with certain noneconomic damage caps. For example, from 2001 through 2002, average premium rates rose approximately 10 percent in states with noneconomic damage caps of \$250,000 compared with approximately 29 percent in states with more limited tort reforms. Although payments for claims against all physicians from 1996 through 2002 tended to be lower and grew less rapidly on average in states with caps on noneconomic damages than in states with limited reforms, the averages obscured wide variation in claims payments and rates of growth across states and over time. Moreover, claims payments we reviewed were

⁹Damage caps may apply to three types of damages awarded to plaintiffs in a medical malpractice suit: noneconomic damages, which compensate for harm that is not easily quantifiable (such as pain and suffering); economic damages, which compensate for lost wages and other financial harms; and punitive damages, which punish providers for especially egregious conduct.

limited to claims against physicians and did not include claims against institutional providers such as hospitals and nursing homes. Differences in both premium rates and claims payments are also affected by factors other than damage caps, including the presence of other tort reform measures, the presence of state laws regulating the premium rate-setting process, and certain market forces, including the level of market competition among insurers and interest rates that affect insurers' investment returns.¹⁰ We could not determine the extent to which differences in premiums and claims payments across states were attributable to states' tort reform laws or to these additional factors.

We received comments on a draft of this report from three independent health policy researchers and AMA. Each of the researchers has expertise in malpractice-related issues and has conducted and published research on the effects of malpractice pressures on the health care system, and two of the three are physicians. The health policy researchers generally concurred with our findings. AMA, however, questioned our finding that rising malpractice premiums have not contributed to widespread health care access problems, expressing concern that the scope of our work limited our ability to fully identify the extent to which malpractice-related pressures are affecting consumers' access to health care. We disagree that the scope of our work limited our ability to identify the extent of malpractice-related access problems. In the absence of current and reliable national data on provider responses to rising malpractice premiums, we used a variety of qualitative and quantitative methods as a basis for our findings on the effect of provider actions on access to care in the five states we reviewed with reported problems. While we did not attempt to generalize our findings beyond these five states, we believe that—because they are among the most visible and often-cited examples of “crisis” states—the experiences of these five states provide important insight into the overall problem. In response to AMA's comments, however, we clarified the report's discussion of the scope of work and methods used for this issue.

¹⁰For more information on the factors that influence malpractice premium rates, see [GAO-03-702](#).

Background

In the United States, patients injured while receiving health care can sue health care providers for medical malpractice under governing state tort law, usually the law of the state where the injury took place. Laws governing medical malpractice vary from state to state, but among the goals of tort law are compensation for the victim and deterrence of malpractice.

Nearly all health care providers buy medical malpractice insurance to protect themselves from potential claims that could cause financial harm or even bankruptcy absent liability coverage. For example, the average reported claims payment made on behalf of physicians and other licensed health care practitioners in 2001 was about \$300,000 for all settlements, and about \$500,000 for trial verdicts.¹¹ Under a malpractice insurance contract, the insurer agrees to investigate claims, to provide legal representation for the health care provider, and to accept financial responsibility for payment of any claims up to a specified monetary level during an established time period. The most common policies sold by insurers provide \$1 million of coverage per incident and \$3 million of total coverage per year. The insurer provides this coverage in return for a fee—the medical malpractice premium.

Medical malpractice premium rates differ widely by medical specialty and geography. Premiums paid by traditionally high-risk specialties, such as obstetrics, are usually higher than premiums paid by other specialties, such as internal medicine. Premium rates also vary across and within states. Across states, for example, a large insurer in Minnesota charged base premium rates of \$3,803 for the specialty of internal medicine, \$10,142 for general surgery, and \$17,431 for OB/GYN in 2002 across the entire state.¹² In contrast, a large insurer in Florida charged base premium rates in Dade County of \$56,153 for internal medicine, \$174,268 for general surgery, and \$201,376 for OB/GYN, and \$34,556, \$107,242, and \$123,924, respectively, for these same specialties in Palm Beach County. In addition to the wide range in premium rates charged, the extent to which premiums

¹¹See Physician Insurers Association of America (PIAA), *PIAA Claim Trend Analysis, 2001 Edition* (Rockville, Md.: 2002). Averages are based on a compilation of medical malpractice claims data from more than 20 PIAA member companies that insure about 20 to 25 percent of all physicians. Most claims are resolved out of court. Among the closed claims PIAA reviewed in 2001 that resulted in an award to plaintiffs, about 96 percent were closed through an out-of-court settlement and about 4 percent through a trial verdict.

¹²Base premium rates exclude discounts, rebates, and surcharges that may affect the actual premium rate charged.

increase over time also varies by specialty and geographic area. Beginning in the late 1990s, malpractice premiums began to increase at a rapid rate for most, but not all, physicians in some states. For example, between 1999 and 2002, the Minnesota insurer increased its base premium rates by about 2 percent for each of the three specialties, in contrast to the Florida insurer that increased its base premium rates by about 98, 75, and 43 percent, respectively, for the three specialties in Dade County.

Rising Claims Costs Among Factors Contributing to Malpractice Insurance Premium Increases

Since 1999, medical malpractice premium rates for certain physicians in some states have increased dramatically. In a related report issued in June 2003, we examined the extent and causes of these recent increases.¹³ More specifically, we reported on (1) the extent of increases in medical malpractice insurance rates in seven states,¹⁴ (2) factors that have contributed to the increases, and (3) changes in the medical malpractice insurance market that may make the current period of rising premium rates different from earlier periods of rate hikes. Key findings from that report include the following.

- Among the seven states we analyzed, the extent of medical malpractice premium increases varied greatly not only from state to state but across medical specialties. For example, among the largest writers of medical malpractice insurance in the seven states, increases in base premium rates for general surgeons from 1999 to 2002 ranged from 2 percent in Minnesota to 130 percent in and around Harrisburg, Pennsylvania. Across specialties, one carrier raised premiums for the area in and around El Paso, Texas, during this period by 95 percent for general surgery, 108 percent for internal medicine, and 60 percent for OB/GYN.
- Multiple factors have contributed to the recent increases in medical malpractice premium rates. First, since 1998, the greatest contributor to increased premium rates in the seven states we analyzed appeared to be increased losses for insurers on paid medical malpractice claims. However, a lack of comprehensive data at the national and state levels on insurers' medical malpractice claims and the associated losses prevented us from fully analyzing the composition and causes of those losses. Second, from 1998 through 2001, medical malpractice insurers experienced decreases in their investment income as interest rates fell on the bonds that generally make up around 80 percent of these insurers'

¹³GAO-03-702.

¹⁴The states are California, Florida, Minnesota, Mississippi, Nevada, Pennsylvania, and Texas.

investment portfolios.¹⁵ While almost no medical malpractice insurers experienced net losses on their investment portfolios over this period, a decrease in investment income meant that income from insurance premiums had to cover a larger share of insurers' costs. Third, during the 1990s, insurers competed vigorously for medical malpractice business, and several factors, including high investment returns, permitted them to offer prices that, in hindsight for some insurers, did not completely cover their ultimate losses on that business. As a result of this, some companies became insolvent or voluntarily left the market, reducing the downward competitive pressure on premium rates that had existed through the 1990s. Fourth, beginning in 2001, reinsurance rates for medical malpractice insurers also increased more rapidly than they had in the past, raising insurers' overall costs.¹⁶

- While the medical malpractice insurance market as a whole had experienced periods of rapidly increasing premium rates in the mid-1970s and mid-1980s, the market has changed considerably since then. These changes are largely the result of actions insurers, health care providers, and states have taken to address increasing premium rates. Beginning in the 1970s and 1980s, insurers began selling "claims-made" rather than "occurrence-based" policies, enabling insurers to better predict losses for a particular year.¹⁷ Also in the 1970s, physicians, facing increasing premium rates and the departure of some insurers, began to form mutual nonprofit insurance companies. Such companies, which may have some cost and other advantages over commercial insurers, now make up a significant portion of the medical malpractice insurance market. More recently, an increasing number of large hospitals and groups of hospitals or physicians have left the traditional commercial insurance market and sought alternative arrangements, for example, by self-insuring. While such arrangements can save money on administrative costs, hospitals and physicians insured through these arrangements assume greater financial responsibility for malpractice claims than they would under traditional insurance arrangements and thus may face a greater risk of insolvency. Finally, since the periods of increasing premium rates during the mid-

¹⁵State insurance regulators generally require insurers to reduce their requested premium rates in line with expected investment income. That is, the higher the expected income from investments, the more premium rates must be reduced.

¹⁶Reinsurance is insurance for insurance companies, which insurance companies routinely use as a way to spread the risk associated with their insurance policies.

¹⁷Claims-made policies cover claims reported during the year in which the policy is in effect. Occurrence-based policies cover claims arising out of events that occurred but may not have been reported during the year in which the policy was in effect. Most policies sold today are claims-made policies.

1970s and mid-1980s, all states have passed at least some laws designed to reduce medical malpractice premium rates. Some of these laws are designed to decrease insurers' losses on medical malpractice claims, while others are designed to more tightly control the premium rates insurers can charge. These market changes, in combination, make it difficult to predict how medical malpractice premiums might behave in the future.

States Use Tort Reform to Help Contain Costs Associated with Medical Malpractice

In order to improve the affordability and availability of malpractice insurance and to reduce liability pressure on providers, states have adopted varying types of tort reform legislation.¹⁸ Tort reforms are generally intended to limit the number of malpractice claims or the size of payments in an effort to reduce malpractice costs and insurance premiums. Also, some believe tort reforms can lower overall health care costs by reducing certain defensive medicine practices. Such practices include the overutilization by physicians of certain diagnostic tests or procedures primarily to reduce their exposure to malpractice liability, therefore adding to the costs of health care.¹⁹ State tort reform measures adopted during the past three decades include

- placing caps on the amount that may be awarded to plaintiffs for damages in a malpractice lawsuit, including noneconomic, economic, and punitive damages;
- abolishing the “collateral source rule” that prevents a defendant from introducing evidence that the plaintiff’s losses and expenses have been paid in part by other parties such as health insurers, or damage awards from being reduced by the amount of any compensation plaintiffs receive from third parties;
- abolishing “joint and several liability” to ensure that damages are recovered from defendants in proportion to each defendant’s degree of responsibility, not each defendant’s ability to pay;
- allowing damages to be paid in periodic installments rather than in a lump sum;
- placing limits on fees charged by plaintiffs’ lawyers;

¹⁸States have also experimented with approaches to constrain malpractice-related costs in addition to tort reforms. For example, Virginia created a no-fault compensation program for birth-related neurological injuries, and Maine temporarily used standardized clinical practice guidelines to provide physicians with a defense against potential malpractice lawsuits.

¹⁹Physicians may also reduce or eliminate certain services they believe place them at risk of malpractice litigation. Such practices may also be referred to as defensive medicine.

-
- imposing stricter statutes of limitations that shorten the time injured parties have to file a claim in court;
 - establishing pretrial screening panels to evaluate the merits of claims before proceeding to trial; and
 - providing for greater use of alternative dispute resolution systems, such as arbitration panels.

Among the tort reform measures enacted by states, caps on noneconomic damage awards that include pain and suffering have been the focus of particular interest. Cap proponents believe that such limits can result in several benefits that help reduce malpractice insurance premiums, such as helping to prevent excessive awards and overcompensation and ensuring more consistency among jury verdicts. In contrast, cap opponents believe that factors other than award amounts affect premiums charged by malpractice insurers and that caps can result in undercompensation for severely injured persons.

Congress is currently considering federal tort reform legislation that includes several elements adopted by states to varying degrees, including placing caps on noneconomic and punitive damages, allowing evidence at the trial of a plaintiff's recovery from collateral sources, abolishing joint and several liability, and placing a limit on contingency fees, among others.²⁰

Implications of Rising Malpractice Premiums on Access to Health Care

Actions taken by health care providers in response to rising malpractice premiums have contributed to reduced access to specific services on a localized basis in the five states reviewed with reported problems.²¹ We confirmed instances where physician actions in response to malpractice pressures have resulted in decreased access to services affecting emergency surgery and newborn deliveries in scattered, often rural areas of the five states. However, we also determined that many of the reported physician actions and hospital-based service reductions were not substantiated or did not widely affect access to health care. For example, our analysis of Medicare utilization data suggests that reported reductions

²⁰On March 13, 2003, the House of Representatives passed the Help Efficient, Accessible, Low-cost, Timely Healthcare (HEALTH) Act of 2003 (H.R. 5); on June 27, 2003, a similar version (S. 11) of this bill was introduced in the Senate.

²¹Provider groups in the four states without reported problems neither cited nor provided evidence of provider actions taken in response to malpractice pressures that could affect consumer access to care.

in certain high-risk services, such as some orthopedic surgeries and mammograms, have not widely affected consumer access to these services. To help avoid consumer access problems, some hospitals we contacted have taken certain steps, such as assuming the costs of physicians' liability insurance, to enable physicians to continue practicing.

Health Care Provider Actions Taken in Response to Malpractice Pressures Have Limited Access to Certain Services in Some Localities

We confirmed examples in each of the five states where access to services affecting emergency surgery and newborn deliveries has been reduced. In these instances, some of which were temporary, patients typically had to travel farther to receive care. The problems we confirmed were limited to scattered, often rural, locations and in most cases providers identified long-standing factors in addition to malpractice pressures that affected the availability of services.

- **Florida:** Among several potential access problems we reviewed in Florida, the most significant appeared to be the reduction in ER on-call surgical coverage in Jacksonville. We confirmed that at least 19 general surgeons who serve the city's hospitals took leaves of absence beginning in May 2003 when state legislation capping noneconomic damages for malpractice cases at \$250,000 was not passed. According to one hospital representative, the loss of these surgeons reduced the general surgical capacity of Jacksonville's acute care community hospitals by one-third. The administrator of the practice that employs these surgeons told us that at least 8 are seeking employment in other states to avoid the high malpractice premiums in Florida. Hospital officials in Jacksonville told us that other providers, including some orthopedic surgeons and cardiovascular surgeons, had also taken leave as of May 2003 due in part to the risks associated with practicing without surgeons available in the ER for support in the event of complications. According to one Jacksonville area hospital official, her hospital has lost the services of 75 physicians in total due to leaves of absence taken by the physicians. Hospital and local health department officials said that the losses of surgeons have caused a reduction in ER on-call surgical coverage at most acute care hospitals in the city; the health department official said patients requiring urgent surgical care presenting at an ER that does not have adequate capacity must be transferred to the nearest hospital that does, which could be up to 30 miles away. Within the first 11 days after most of the physicians took leave, 120 transfers took place.²² Although the hospital

²²Some providers have also reported reductions in certain nonurgent elective services that may require surgical backup in the event of complications, such as cardiac surgery.

officials we interviewed expected that some of the physicians would eventually return to work, they believe timing may depend on passage of malpractice reform legislation during a special legislative session expected to take place this summer.

- **Mississippi:** Reductions in ER on-call surgical coverage and newborn delivery services have created access problems in certain areas of Mississippi. We confirmed that some surgeons along the Gulf Coast who formerly provided on-call services at multiple hospitals are restricting their coverage to a single ER and others are eliminating coverage entirely in an effort to minimize their malpractice premiums and exposure to litigation. Officials of two of five hospitals we spoke with in the three Gulf Coast counties told us they have either completely lost or experienced reduced ER on-call surgical coverage for certain services. These reductions in coverage may require that patients be transferred greater distances for services. Some family practitioners and OB/GYNs have stopped providing newborn delivery services, creating access problems in certain rural communities. An official from one hospital in a largely rural county in central Mississippi told us that it closed its obstetrics unit after five family practitioners who attended deliveries stopped providing newborn delivery services in order to avoid a more than 65 percent increase in their annual premium rates. Pregnant women in the area now must travel about 65 miles to the nearest obstetrics ward to deliver. Loss of obstetrics providers in other largely rural areas may require pregnant women in these areas to travel farther for deliveries. A provider association official told us that malpractice pressures have worsened long-standing difficulties associated with recruiting physicians to the state, and providers also said that low Medicaid reimbursement rates and insufficient reimbursement for trauma services also influence physician practice decisions.
- **Nevada:** Reductions in ER on-call surgical coverage have created access problems in Clark County. To draw attention to their concerns about rising medical malpractice premiums, over 60 orthopedic surgeons in the county withdrew their contracts with the University of Nevada Medical Center, causing the state's only Level I trauma center to close for 11 days in July 2002.²³ The center reopened after a special arrangement was made for surgeons to temporarily obtain malpractice coverage through the Medical Center and the governor announced his support for state tort reform, prompting the return of approximately 15 of the surgeons, according to medical center staff. Another hospital in the county has closed its orthopedics ward and no longer provides orthopedic surgical

²³Trauma centers are designated based on the level of service sophistication, with Level I trauma centers equipped to handle the most complex trauma cases.

coverage in its ER as orthopedic surgeons have sought to reduce their malpractice exposure by decreasing the number of hospitals in which they provide ER coverage, according to a hospital official. Clark County has had long-standing problems with ER staffing due in part to its rapidly growing population, according to providers.

- **Pennsylvania:** Some areas in Pennsylvania have experienced reductions in access to emergency surgical services and newborn delivery services. For example, one rural hospital recently lost three of its five orthopedic surgeons. As a result, orthopedic on-call coverage in its ER has declined from full-time to only one-third of each month. At the same hospital, providers reported that four of the nine OB/GYNs who provide obstetrical care in two counties stopped providing newborn delivery services because their malpractice premiums became unaffordable and another left the state to avoid high premiums. Some pregnant women now travel an additional 35 to 50 miles to deliver. According to a hospital official, the remaining four OB/GYNs were each in their sixties and near retirement. This hospital reported that the loss of the physicians was largely due to the rising cost of malpractice insurance, but also identified the hospital's rural location, and the area's large Medicaid population and low Medicaid reimbursement rates as factors contributing to the physicians' decisions to leave. Trauma services in Pennsylvania have also been affected in some localities. For example, a suburban Philadelphia trauma center closed for 13 days beginning in December 2002 because its orthopedic surgeons and neurosurgeons reported they could not afford to renew their malpractice insurance. The situation was resolved when a new insurance company offered more affordable coverage to the surgeons and the governor introduced a plan to reduce physician payments to the state medical liability fund, according to a hospital official.
- **West Virginia:** Access problems due to malpractice concerns in West Virginia involved ER specialty surgical services. One of the state's major medical centers lost its Level I trauma designation for approximately 1 month in the early fall of 2002 due to reductions in the number of orthopedic surgeons providing on-call coverage. During this time, patients who previously would have been treated at this facility had to be transferred to other facilities at least 50 miles away. The hospital's Level I designation was restored when additional physicians agreed to provide on-call coverage after the state extended state-sponsored liability insurance coverage to physicians who provide a significant percentage of their services in a trauma setting. The state's northern panhandle lost all neurosurgical services for about 2 years when three neurosurgeons who served the area either left or stopped providing these services in response to malpractice pressures, requiring that all patients needing neurosurgical care be transferred 60 miles or more, limiting patients' access to urgent neurosurgical care. Full-time neurosurgical coverage was restored to the

area in early 2003 through an agreement with a group of neurosurgeons at one of the state's major academic medical centers. A hospital official from this area reported that efforts to recruit a permanent full-time neurosurgeon have been unsuccessful. Provider groups told us that malpractice concerns have made efforts to recruit and retain physicians more difficult; however, they also identified the rural location, low Medicaid reimbursement rates, and the state's provider tax on physicians as factors that have made it difficult to attract and retain physicians.²⁴

Some Reported Provider Actions Were Not Substantiated or Did Not Widely Affect Access to Health Care

Despite some confirmed reductions in ER on-call surgical coverage and newborn delivery services that were related to physicians' concerns about malpractice pressures and affected access to health care, we also identified reports of provider actions taken in response to malpractice pressures—such as reported physician departures and hospital unit closures—that were not substantiated or that did not widely affect access to health care. Our contacts with 49 hospitals revealed that although 26 confirmed a reduction in surgeons available to provide on-call coverage for the ER, 11 of these reported that the decreases had not prevented them from maintaining the full range of ER services and 3 reported that the surgeons had returned or replacements had been found. Hospital association representatives reported that access to newborn delivery services in Florida had been reduced due to the closures of five hospital obstetrics units. However, we contacted each of these hospitals and determined that these units were located in five separate urban counties, and each hospital reported that demand for its now closed obstetrics facility had been low and that nearby facilities provided obstetrics services.²⁵ In West Virginia, although access problems reportedly developed because two hospital obstetrics units closed due to malpractice pressures, officials at both of these hospitals told us that a variety of factors, including low service volume and physician departures unrelated

²⁴West Virginia's health care provider tax was imposed in 1993 as a 2 percent tax on physicians' gross revenues. The tax is gradually being phased out and will be eliminated in 2010. The tax rate is currently 1.4 percent. According to AMA, only one other state has a similar tax on physicians.

²⁵Each of the five hospitals that closed its obstetrics unit told us that demand for obstetrical services in its community was low. One hospital reported that there was a greater need in the community for additional emergency room beds than obstetrics beds, and two hospitals reported that their obstetrics units were originally opened based on managed care contract requirements even though there was not a clear need for obstetrics services at these facilities.

to malpractice, contributed to the decisions to close these units. One of the hospitals has recently reopened its obstetrics unit.

Provider groups also asserted that some physicians in each of the five states are moving, retiring, or closing practices in response to malpractice pressures. In the absence of national data reporting physician movement among states related to malpractice concerns, we relied on state-level assertions of departures that were based on a variety of sources, including survey results, information compiled and quantified by provider groups, and unquantified anecdotal reports. (See table 1.)

Table 1: Assertions of Numbers of Physicians Moving, Retiring, or Closing Practices in Response to Malpractice Pressures in Five States

	Neurosurgeons	Orthopedic surgeons	Other surgeons	OB/GYNs	Other physicians
Florida	a	a	a	a	a
Mississippi	5	3	11	5	50
Nevada	0	2	9	34	28
Pennsylvania	12	30	30	24	63
West Virginia	a	a	a	a	a

Source: State provider organizations.

Note: GAO summarized data from state provider organizations, generally for 2001 through 2003.

*Provider organizations provided anecdotal reports that were not systematically collected or quantified.

Although some reports have received extensive media coverage, in each of the five states we found that actual numbers of physician departures were sometimes inaccurate or involved relatively few physicians.

- Reports of physician departures in Florida were anecdotal, not extensive, and in some cases we determined them to be inaccurate. For example, state medical society officials told us that Collier and Lee counties lost all of their neurosurgeons due to malpractice concerns; however, we found at least five neurosurgeons currently practicing in each county as of April 2003. Provider groups also reported that malpractice pressures have recently made it difficult for Florida to recruit or retain physicians of any

type; however, over the past 2 years the number of new medical licenses issued has increased and physicians per capita has remained unchanged.²⁶

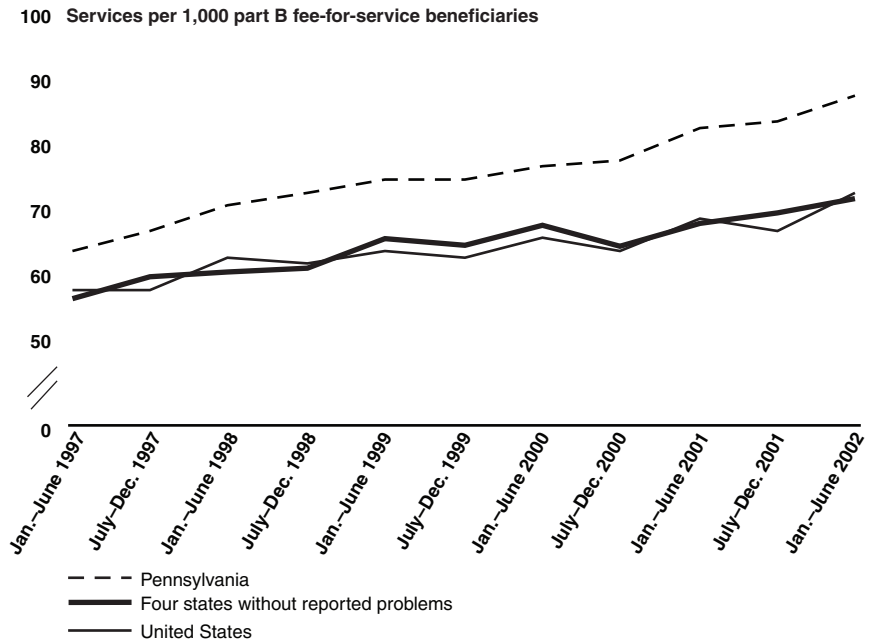
- In Mississippi, the reported physician departures attributed to recent malpractice pressures were scattered throughout the state and represented 1 percent of all physicians licensed in the state. Moreover, the number of physicians per capita has remained essentially unchanged since 1997.²⁷
- In Nevada, 34 OB/GYNs reported leaving, closing practices, or retiring due to malpractice concerns; however, confirmatory surveys conducted by the Nevada State Board of Medical Examiners found nearly one-third of these reports were inaccurate—8 were still practicing and 3 stopped practicing due to reasons other than malpractice. Random calls we made to 30 OB/GYN practices in Clark County found that 28 were accepting new patients with wait-times for an appointment of 3 weeks or less. Similarly, of the 11 surgeons reported to have moved or discontinued practicing, the board found 4 were still practicing.
- In Pennsylvania, despite reports of physician departures, the number of physicians per capita in the state has increased slightly during the past 6 years.²⁸ The Pennsylvania Medical Society reported that between 2002 and 2003, 24 OB/GYNs left the state due to malpractice concerns; however, the state's population of women age 18 to 40 fell by 18,000 during the same time period. Departures of orthopedic surgeons comprise the largest single reported loss of specialists in Pennsylvania. Despite these reported departures, the rate of orthopedic surgeries among Medicare enrollees in Pennsylvania has increased steadily for the last 5 years, as it has nationally. (See fig. 1.)

²⁶The Florida Board of Medicine reported that 3,239 new licenses were issued in 2000, 3,577 in 2001, and 3,858 in 2002. The number of physicians practicing in Florida per thousand in the population was 3.1 in both 2001 and 2002. Estimates of physicians per capita are based on counts of physicians practicing in the state reported by the Federation of State Medical Boards of the United States, Inc. (FSMB), and include osteopathic physicians.

²⁷Between 1997 and 2002 the number of physicians in Mississippi increased slightly, from 1.9 to 2.0 per thousand in the population. Physician counts were reported by the Mississippi State Board of Medical Licensure and include osteopathic physicians and podiatrists.

²⁸Physicians practicing in Pennsylvania increased slightly between 1997 and 2001 from 2.6 to 2.8 per thousand in the population and have remained essentially unchanged between 2001 and 2002 at 2.8 per thousand in the population. Counts of physicians practicing in the state were reported by FSMB and include osteopathic physicians.

Figure 1: Rates of Medicare-Covered Orthopedic Surgeries in Pennsylvania Have Increased



Notes: GAO analysis of Medicare part B claims data.

Rates are based on Medicare part B allowed services per thousand Medicare part B fee-for-service beneficiaries and include all musculoskeletal surgeries provided by orthopedic surgeons.

- In West Virginia, provider groups did not provide us with specific numbers of physician departures, but did offer anecdotal reports of physicians who have moved out of state or left practice. Despite these reports, the number of physicians per capita increased slightly between 1997 and 2002.²⁹

²⁹From 1997 through 2002, the number of physicians practicing in West Virginia increased from 2.0 to 2.2 per thousand in the population. Counts of physicians practicing in the state were reported by FSMB and include osteopathic physicians.

Some Providers Report Reducing Certain Services, but Access to Care Not Widely Affected

Some providers in each of the five states also reported that physicians have recently cut back on certain services they believe to be high risk to reduce their malpractice insurance premiums or exposure to litigation. Evidence was based on surveys conducted by state and national medical and specialty provider groups and anecdotal reports by state provider groups, generally between 2001 and 2002. The most frequently cited service reductions included spinal surgeries and joint revisions and repairs (all five states), mammograms (Florida and Pennsylvania), and physician services in a nursing home setting (Florida and Mississippi).

Survey data used to identify service cutbacks in response to physician concerns about malpractice pressures are not likely representative of the actions taken by all physicians. Most surveys had low response rates—typically 20 percent or less.³⁰ Moreover, surveys often did not identify any one specific service as widely affected or identified service reductions in a nonspecific manner. For example, in responding to one recent survey, neurologists reported reducing 12 different types of services; however, the most widely reported reduction for any one service type was reported by fewer than 4 percent of respondents.³¹ AMA recently reported that about 24 percent of physicians in high-risk specialties responding to a national survey have stopped providing certain services; however, the response rate for this survey was low (10 percent overall), and AMA did not identify the number of responses associated with any particular service.³²

Our analysis of utilization rates among Medicare beneficiaries for three of the specific services frequently cited as being reduced—spinal surgery, joint revisions and repairs, and mammography—did not identify recent reductions. For example, utilization of spinal surgeries among Medicare beneficiaries in the five states generally increased from July 2000 through June 2002, and is currently higher than the national average. (See fig. 2.) Utilization of joint revision and repair services among Medicare beneficiaries in the five states is slightly below, but has generally tracked

³⁰ A survey of orthopedic surgeons in Mississippi yielded a response rate of 10 percent and surveys of orthopedic surgeons in Florida and Pennsylvania and of neurologists nationally all yielded response rates of about 20 percent.

³¹ Preliminary results as of January 23, 2003, of a joint AMA and American Academy of Neurology survey.

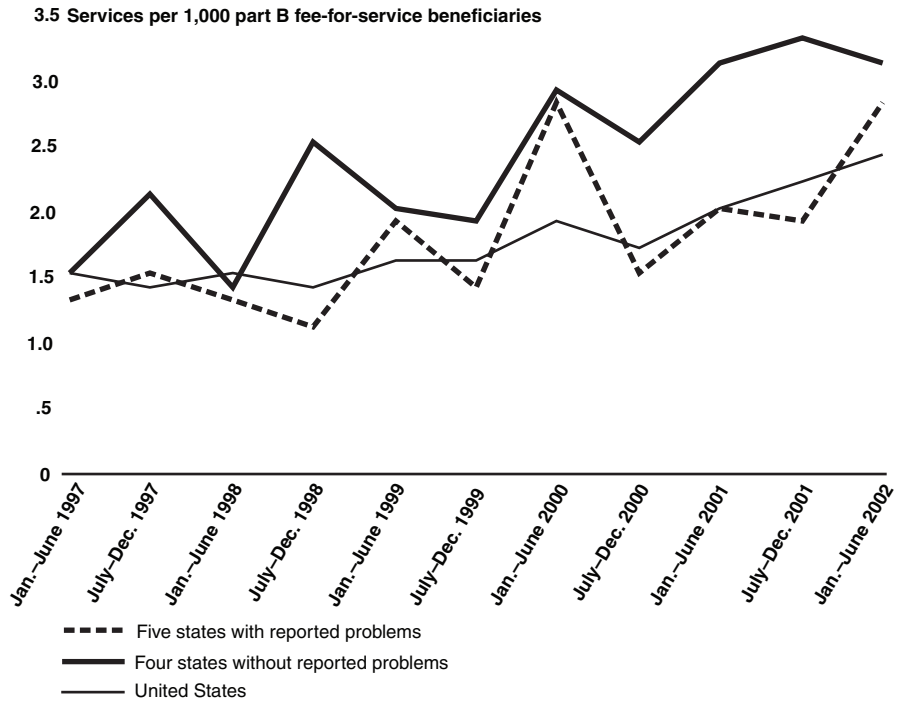
³² AMA, *National Physician Survey on Professional Medical Liability* (Chicago, Ill.: April 2003). We attempted to obtain data from this survey specific to the nine states we reviewed. However, AMA did not release the data out of concern that response rates for these states were unacceptably low.

the national average and has not recently declined.³³ (See fig. 3.) Contrary to reports of reductions in mammograms in Florida and Pennsylvania, our analysis showed that utilization of these services among Medicare beneficiaries is higher than the national average in both Florida, where utilization rates have recently increased, and in Pennsylvania, where the pattern of utilization has not recently changed. (See fig. 4.) We also contacted selected hospitals and mammography facilities reported to have had problems in these two states and found that the longer wait times cited by provider organizations were more likely due to causes other than malpractice pressures.³⁴

³³Joint revision and repairs reported by orthopedic surgeons as those reduced due to malpractice concerns include certain hip, knee, and shoulder procedures.

³⁴We contacted mammography facilities reported to have had problems in Pennsylvania and Florida. Representatives from both Pennsylvania mammography facilities contacted told us that increased demand for radiology services was the primary cause for longer wait times. One facility in Florida indicated that long wait times were due to a shortage of radiology technicians rather than radiologists. A representative of another Florida facility told us that malpractice concerns were leading to wait times of 3 or more months and that demand for these services was also increasing. We contacted six mammography facilities near this Florida facility and found relatively short wait times. Wait times for screening mammograms ranged from 0 to 20 days at four locations and 20 to 30 days at two locations, while wait times for diagnostic mammograms among all six locations ranged from 30 to 40 days, but in all cases could be scheduled sooner if a physician deemed it necessary. We recently reported on the nation's overall capacity to provide mammography services. See U.S. General Accounting Office, *Mammography: Capacity Generally Exists to Deliver Services*, GAO-02-532 (Washington, D.C.: Apr. 19, 2002).

Figure 2: Rates of Medicare-Covered Spinal Surgeries in Five States with Reported Problems Have Recently Increased

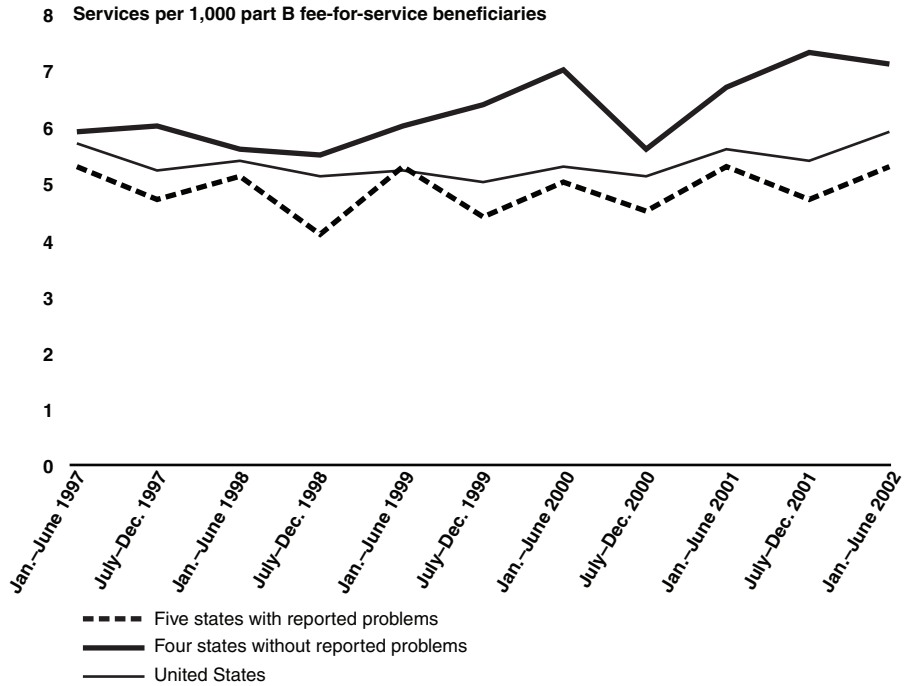


Source: CMS.

Notes: GAO analysis of Medicare part B claims data.

Rates are based on Medicare part B allowed services per thousand Medicare part B fee-for-service beneficiaries and include all musculoskeletal spine surgeries performed by orthopedic surgeons.

Figure 3: Rates of Medicare-Covered Joint Revisions and Repairs in Five States with Reported Problems Have Not Recently Declined

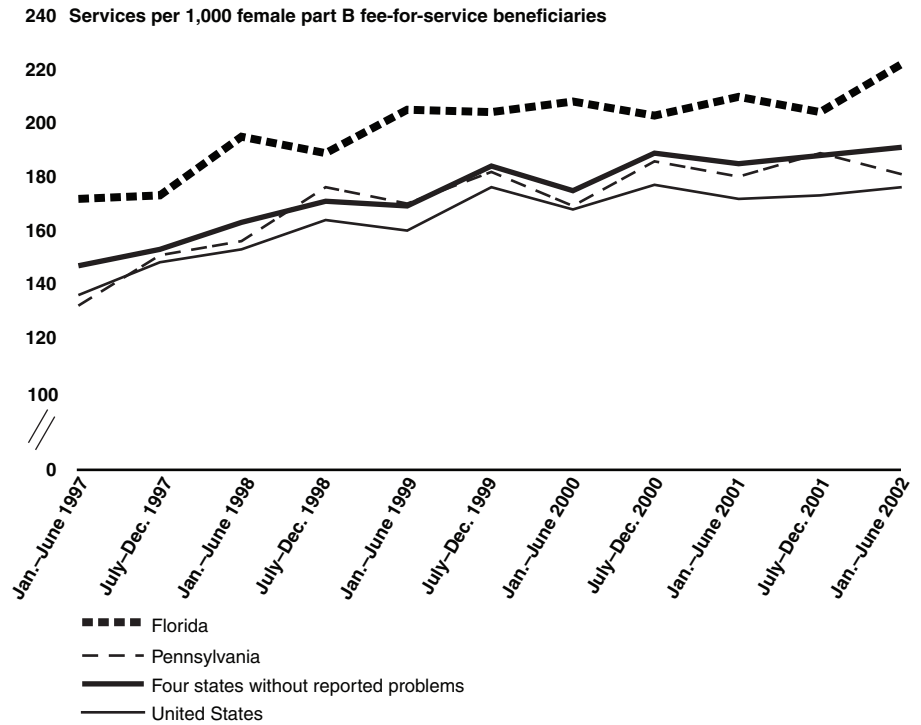


Source: CMS.

Notes: GAO analysis of Medicare part B claims data.

Rates are based on Medicare part B allowed services per thousand Medicare part B fee-for-service beneficiaries and include selected services (hip, knee, and shoulder repairs/revisions that were identified as high risk) provided by orthopedic surgeons.

Figure 4: Rates of Medicare-Covered Mammograms in Florida and Pennsylvania Remain above the National Average



Source: CMS.

Notes: GAO analysis of Medicare part B claims data.

Rates are based on Medicare part B allowed services per thousand female Medicare part B fee-for-service beneficiaries and include all mammograms performed by radiologists.

Although data limitations preclude an analysis of physician services in a nursing home setting, interviews with industry representatives did not reveal widespread reductions of services provided in these facilities. Nursing home representatives in all five states reported that facilities are facing increasing malpractice pressures due to higher premiums or decreased availability of coverage and in two states reported that these pressures are causing some physicians to stop providing services in these facilities. However, they also told us that residents still receive needed physician services.

Health Care Providers Have Taken Actions to Avoid Access Problems

Some health care providers have taken certain actions to avoid access problems in the face of malpractice-related pressures. Several hospital officials we contacted reported they are assuming physicians' liability insurance costs to avoid any access problems related to malpractice pressures. Officials in 9 of 49 hospitals contacted in the five states reported that, in order to retain needed staff, they have either hired physicians as direct employees, thereby covering their malpractice insurance premiums in full, or provided them with partial premium subsidies. An unpublished survey completed by The Hospital & Healthsystem Association of Pennsylvania found that 5 of 89 hospitals or health systems responding had taken these measures to maintain adequate staffing. An official at a small hospital in a largely rural Mississippi county told us that the hospital recently hired six family practitioners who provide all of its obstetrics services in order to assume their liability insurance costs and prevent loss of these services after the physicians' premiums increased significantly. An official at a West Virginia hospital reported that increasing numbers of newly recruited physicians are coming to the area as direct employees of hospitals.

In addition, where allowed by state law, some providers are going without malpractice insurance coverage. For example, a provider group in Mississippi reported that increasing numbers of nursing homes are going without coverage for some period of time because insurers are not renewing their policies or are raising premiums to rates that are unaffordable. According to an official from one insurer of Mississippi nursing homes, more than 40 homes statewide were without coverage at some point during 2002 as compared to fewer than 5 homes in 2001. Similarly, while Florida law does not require that physicians carry malpractice insurance, hospitals may impose such a requirement on affiliated physicians.³⁵ One hospital contacted in the state told us it has

³⁵Florida law imposes certain requirements on physicians who decide to go without coverage. For example, physicians with hospital staff privileges who decide not to carry commercial coverage must maintain assets or credit of at least \$750,000 annually to cover potential malpractice claims. Under certain circumstances, physicians may waive this requirement but are required to inform all patients if they do.

loosened this requirement in response to physicians' concerns over increasing malpractice premiums.³⁶

Physicians Reportedly Practice Defensive Medicine, but Prevalence and Costs of Such Practices Are Not Reliably Measured

Several recently published surveys report that physicians practice defensive medicine in response to malpractice pressures.³⁷ In addition, most published studies designed to measure the prevalence of and costs associated with such practices generally conclude that physicians practice defensive medicine in specified circumstances and that doing so raises health care costs. However, because the surveys generally had low response rates and were not precise in measuring the prevalence of these practices, and because the studies examined physician practice behavior in only narrowly specified clinical situations, the results cannot be used to reliably estimate the overall prevalence or costs of defensive medicine practices.

Physicians Report Practicing Defensive Medicine, but Surveys Must Be Interpreted with Caution

Physicians responding to surveys reported that they practice defensive medicine to varying extents, but low response rates and imprecise measurements of defensive medicine practices preclude generalizing these responses to all physicians. For example, a 2003 AMA survey found that, of the 30 percent of responding physicians who reported recently referring more complex cases to specialists, almost all indicated that professional liability pressures were important in their decision; and an April 2002 survey conducted by the American Academy of Orthopaedic Surgeons found that, of the 48 percent of responding orthopedists who reported that the costs of malpractice insurance caused them to alter their practice, nearly two-thirds reported ordering more diagnostic tests.³⁸ However, the

³⁶ A March 2003 survey conducted by AHA reported that some hospitals are taking on more risk in response to malpractice pressures. This includes not purchasing coverage, allowing their physicians to practice without coverage, paying higher deductibles, reducing coverage levels, and increasingly becoming self-insured. In addition to actions taken by health care providers, some states have taken steps to make malpractice insurance more affordable or easier to obtain.

³⁷ Because of the potential for increased health care costs, we highlight the practice of defensive medicine associated with the overutilization of certain diagnostic tests or procedures to reduce exposure to malpractice liability. Such practices are sometimes referred to as "positive defensive medicine." Physicians may also reduce or eliminate certain services they believe place them at risk of malpractice litigation. Such practices are sometimes referred to as "negative defensive medicine."

³⁸ AMA, *National Physician Survey on Professional Medical Liability* (Chicago, Ill.: April 2003). American Academy of Orthopaedic Surgeons, *Medical Malpractice Insurance Concerns – Final Report* (Rosemont, Ill.: April 2002).

response rates for the AMA and AAOS surveys were about 10 and 15 percent, respectively, raising questions about how representative these responses were of all physicians nationwide. Another 2002 survey of 300 physicians conducted by a polling firm found that, due to concerns about medical malpractice liability, 79 percent of respondents reported ordering more tests, 74 percent reported referring patients to specialists more often, and 41 percent reported prescribing more medications than they otherwise would based only on medical necessity.³⁹ However, these survey results do not indicate whether the respondents practice the cited defensive behaviors on a daily basis or only rarely, or whether they practice them with every patient or only with certain types of patients.

Officials from AMA and several medical, hospital, and nursing home associations in the nine states we reviewed told us that defensive medicine exists to some degree, but that it is difficult to measure; and officials cited surveys and published research but could not provide additional data demonstrating the extent and costs associated with defensive medicine. Some officials pointed out that factors besides defensive medicine concerns also explain differing utilization rates of diagnostic and other procedures. For example, a Montana hospital association official said that revenue-enhancing motives can encourage the utilization of certain types of diagnostic tests, while officials from Minnesota and California medical associations identified managed care as a factor that can mitigate defensive practices. According to some research, managed care provides a financial incentive not to offer treatments that are unlikely to have medical benefit.⁴⁰

³⁹Harris Interactive, *The Fear of Litigation Study – The Impact on Medicine*, a special report prepared at the request of Common Good (Rochester, N.Y.: April 2002), http://ourcommongood.com/medicine/item?item_id=3396 (downloaded June 4, 2003).

⁴⁰Daniel P. Kessler and Mark B. McClellan, “Medical Liability, Managed Care, and Defensive Medicine,” working paper #7537, National Bureau of Economic Research (Cambridge, Mass.: 2000).

Some Research Identifies Defensive Medicine in Certain Clinical Situations

Most research that has attempted to measure defensive practices has examined physician practices under specific clinical situations.⁴¹ For example, based on clinical scenario surveys, records review, and a synthesis of prior research, a 1994 study concluded that the percentage of diagnostic procedures related to defensive medicine practices is higher in specific clinical situations, such as the management of head injuries in ERs and cesarean deliveries in childbirth, but lower when measured across multiple procedures.⁴² The same study also surveyed physicians about nine hypothetical clinical scenarios likely to encourage defensive medicine practices and found the share of physicians reporting taking at least one clinical action primarily out of concern about malpractice varied widely depending on the situation—from 5 percent for back pain to 29 percent for head trauma. A more recent 1999 study that used records review found that reduced malpractice premiums for OB/GYNs were related to a statistically significant but small decrease in the rate of cesarean sections performed for some groups of mothers, a procedure researchers believe to be influenced by physicians' concerns about malpractice liability.⁴³

Some studies have also concluded that certain tort reforms may reduce defensive medicine as evidenced by slower growth in health care expenditures; however, these studies have not fully considered the range of factors that can influence medical spending.⁴⁴ For example, a 1996 study using records review found that for a population of elderly Medicare patients treated for acute myocardial infarction or ischemic heart diseases, certain tort reforms led to reductions of 5 to 9 percent in hospital

⁴¹Researchers generally rely on two approaches to measure the extent of defensive medicine practices. They (1) use surveys to present a clinical scenario, ask physicians to choose a treatment and provide a rationale for their decision, and may also examine the variation in survey responses across groups facing different amounts of malpractice pressure, or (2) review clinical or other records to compare actual treatment approaches and health care expenditures across groups of physicians facing different amounts of malpractice pressure.

⁴²U.S. Congress, Office of Technology Assessment, *Defensive Medicine and Medical Malpractice*, OTA-H-602 (Washington, D.C.: U.S. Government Printing Office, 1994).

⁴³Lisa Dubay, Robert Kaestner, and Timothy Waidmann, "The Impact of Malpractice Fears on Cesarean Section Rates," *Journal of Health Economics*, vol. 18, no. 4 (1999): 491-522.

⁴⁴Researchers have found that physician practice patterns and health care spending can vary greatly across geographic regions for many reasons. See Jonathan Skinner and John E. Wennberg, "How Much Is Enough? Efficiency and Medicare Spending in the Last Six Months of Life," working paper #6513, National Bureau of Economic Research (Cambridge, Mass.: April 1998).

expenditures.⁴⁵ However, this study did not control for other factors that can affect hospital costs, such as the extent of managed care penetration in different areas. When controlling for managed care penetration in a 2000 follow-up study, the same researchers found that the reductions in hospital expenditures attributable to direct tort reforms dropped to about 4 percent.⁴⁶ Moreover, preliminary findings from a 2003 study that replicated and expanded the scope of these studies to include Medicare patients treated for a broader set of conditions failed to find any impact of state tort laws on medical spending.⁴⁷ Appendix III summarizes the methods, findings, and limitations of published studies examining defensive medicine.

Studies Cannot Be Generalized to Reliably Estimate Defensive Medicine Prevalence and Costs

Although available research suggests that defensive medicine may be practiced in specific clinical situations, the findings are limited and cannot be generalized to estimate the prevalence and costs of defensive medicine nationwide. Because the studies focused on specific clinical circumstances and populations, even slight changes in these scenarios could yield significant changes in the degree of defensive medicine practices identified. Consequently, reports that use the results of these studies to estimate defensive medicine practices and costs nationally are not reliable. For example, recent reports by the U.S. Department of Health and Human Services (HHS) applied the 5 to 9 percent hospital cost savings estimate for Medicare heart patients to total national health care spending to estimate the total defensive medicine savings that could result if federal

⁴⁵The researchers found that direct reforms (such as caps on damage awards, abolition of punitive damages, and collateral-source rule reforms) were associated with reduced medical expenditures, while indirect reforms (such as caps on contingency fees, mandatory payment of damages through periodic installments, joint and several liability reform, and patient compensation funds) were not. Daniel P. Kessler and Mark B. McClellan, "Do Doctors Practice Defensive Medicine?" *Quarterly Journal of Economics*, vol. 111, no. 2 (1996): 353-90.

⁴⁶Kessler and McClellan, "Medical Liability, Managed Care, and Defensive Medicine."

⁴⁷U.S. Congress, Congressional Budget Office (CBO), *Cost Estimate: H.R. 5 – Help Efficient, Accessible, Low-cost, Timely Healthcare (HEALTH) Act of 2003* (March 2003). CBO characterizes results relating to its analysis of defensive medicine practices as preliminary.

tort reforms were enacted.⁴⁸ Because the 5 to 9 percent savings only applies to hospital costs for elderly patients treated for two types of heart disease, the savings cannot be generalized across all services, populations, and health conditions.

States with Certain Noneconomic Damage Caps Had Lower Recent Growth in Malpractice Premium Rates and Claims Payments

Premium rates reported for the physician specialties of general surgery, internal medicine, and OB/GYN—the only specialties for which data were available—were relatively stable on average in most states from the mid- to late 1990s and then began to rise, but more slowly among states with certain noneconomic damage caps.⁴⁹ Malpractice claims payments against all physicians between 1996 and 2002 also tended to be lower and grew less rapidly on average in states with these damage caps than in states with limited reforms; however, these averages obscured wide variation between states in any given year and for individual states from year to year. Like the premium rate data, these claims payment data do not depict the experience of all providers; they exclude institutional providers such as hospitals and nursing homes, for which comprehensive data were not available. Moreover, differences in both premiums and claims payments are also affected by multiple factors in addition to damage caps, and we could not determine the extent to which differences among states were attributable to the damage caps or to additional factors.

Premium Growth Was Lower in States with Noneconomic Damage Caps Than in States with Limited Reforms

The average medical malpractice premium rates across the three specialties reported by MLM (general surgery, internal medicine, and OB/GYN) remained relatively stable during the mid- to late-1990s. From 1996 to 2000, average premium rates for all states changed little, as did average premium rates for states with certain caps on noneconomic damages and states with limited reforms, increasing or decreasing

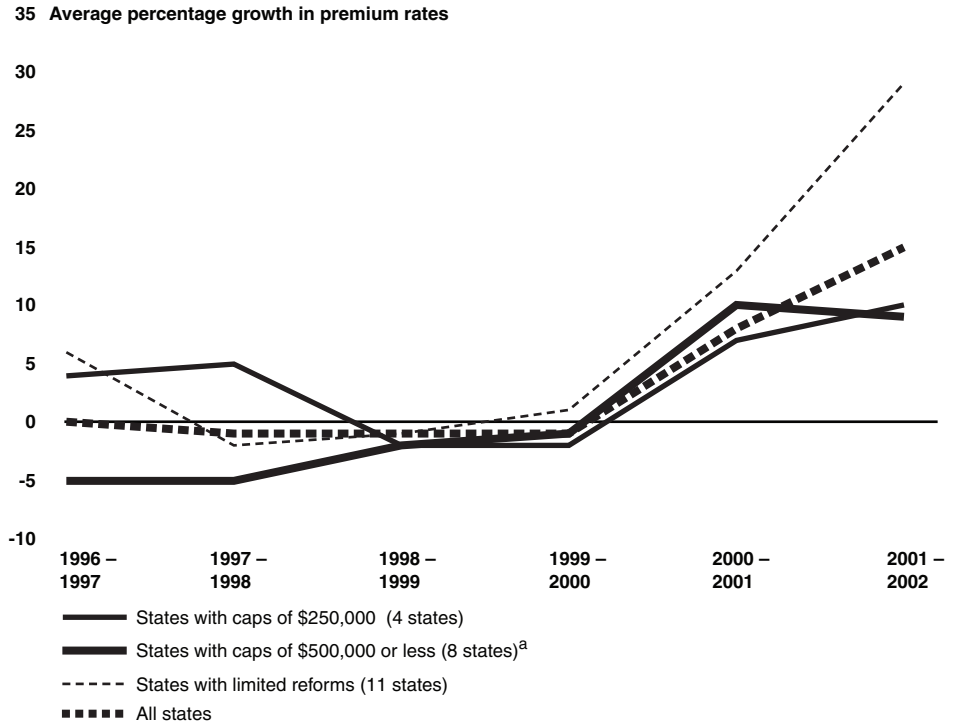
⁴⁸HHS, Office of the Assistant Secretary for Planning and Evaluation, *Confronting the New Health Care Crisis: Improving Health Care Quality and Lowering Costs By Fixing Our Medical Liability System* (Washington, D.C.: July 24, 2002), <http://aspe.hhs.gov/daltcp/reports/litrefm.htm> (downloaded June 9, 2003); and *Addressing the New Health Care Crisis: Reforming the Medical Litigation System to Improve the Quality of Health Care* (Washington, D.C.: Mar. 3, 2003), <http://aspe.hhs.gov/daltcp/reports/medliab.htm> (downloaded June 9, 2003).

⁴⁹Noneconomic damages compensate for harm that is not easily quantifiable, such as pain and suffering.

annually by no more than about 5 percentage points on average.⁵⁰ After 2000, premium rates began to rise across most states on average, but more slowly among the states with certain noneconomic damage caps. In particular, from 2001 to 2002, the average rates of increase in the states with noneconomic damage caps of \$250,000 and \$500,000 or less were 10 and 9 percent, respectively, compared to 29 percent in the states with limited reforms. (See fig. 5.)

⁵⁰We focused our analysis on those states with noneconomic damage caps as a key tort reform because such caps are included in proposed federal tort reform legislation and because published research generally finds these caps to have a greater impact on medical malpractice premium rates and claims payments than some other tort reform measures. See appendix II for details on our classification of states by tort reforms.

Figure 5: Premium Rates for Three Physician Specialties Rose After 2000, but to a Lesser Extent in States with Noneconomic Damage Caps



Source: MLM.

Notes: GAO analysis of MLM base premium rates, excluding discounts, rebates, and surcharges, reported for the specialties of general surgery, internal medicine, and OB/GYN.

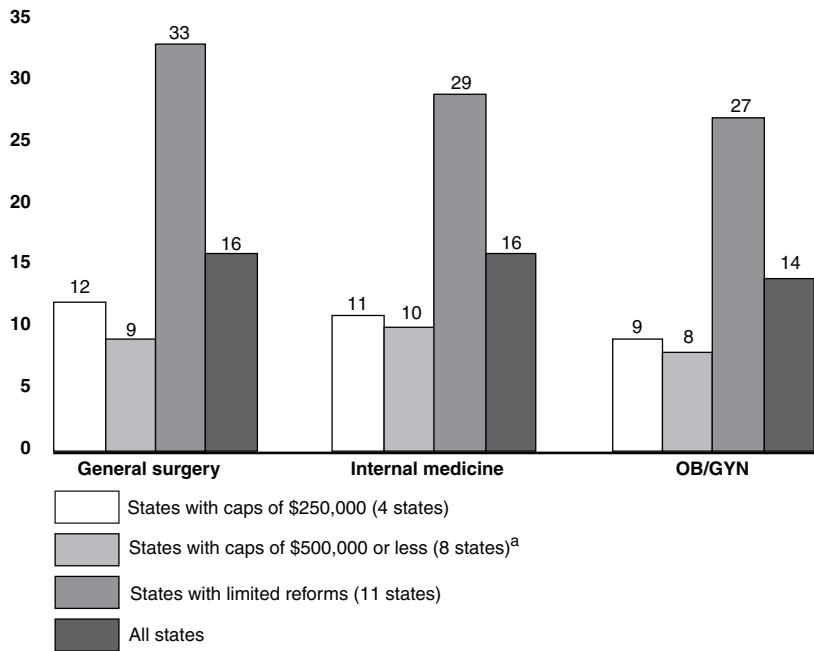
Premiums are adjusted for inflation to 2002 dollars.

^aThis category excludes states with caps of \$250,000.

The recent increases in premium rates were also lower for each reported physician specialty in the states with these noneconomic damage caps. From 2001 to 2002, the average rates of premium growth for each specialty in the states with these noneconomic damage caps were consistently lower than the growth rates in the limited reform states. (See fig. 6.)

Figure 6: Recent Premium Growth Was Lower for Three Physician Specialties in States with Noneconomic Damage Caps

40 Average percentage growth in premium rates, 2001-2002



Source: MLM.

Note: GAO analysis of MLM base premium rates, excluding discounts, rebates, and surcharges, reported for the specialties of general surgery, internal medicine, and OB/GYN.

Premiums are adjusted for inflation to 2002 dollars.

^aThis category excludes states with caps of \$250,000.

In addition to including rates for only three specialties, premium rates reported by MLM are subject to other limitations. First, because MLM relies on a voluntary survey, its data do not include all insurers that provide coverage in each state. Certain companies that may have a large market share in a particular state may not be included. MLM estimates that its 2002 survey may exclude about one-third of the total malpractice insurance market nationwide. Second, insurers that do report rates have not consistently done so across all the years, or have not consistently reported premiums in different geographic areas within each state. We generally excluded data from insurers that did not consistently report premium rates across most of the years studied. Third, premium rates do not reflect discounts, premium offsets, or rebates that may effectively reduce the actual premium rate, or surcharges that are assessed in certain

states for physician participation in mandatory state-funded insurance programs. These surcharges can range from a small amount to more than the base premium rate.

Other studies have found a relationship between direct tort reforms that include noneconomic damage caps and lower rates of growth in premiums.⁵¹ For example, in a recent analysis of malpractice premiums in states with and without certain medical malpractice tort limitations, the Congressional Budget Office (CBO) estimated that certain caps on damage awards in combination with other elements of proposed federal tort reform legislation would effectively reduce malpractice premiums on average by 25 to 30 percent over the 10-year period from 2004 through 2013.⁵² A 1997 study that assessed physician-reported malpractice premiums from 1984 through 1993 found that direct reforms, including caps on damage awards, lowered the growth in malpractice premiums within 3 years of their enactment by approximately 8 percent.⁵³

Average Claims Payments and Growth Lower in States with Noneconomic Damage Caps Than in States with Limited Reforms

Average per capita payments for claims against all physicians tended to be lower on average in states with noneconomic damage caps than in states with limited reforms.⁵⁴ From 1996 through 2002, the average per capita payments were \$10 for states with these damage caps compared with \$17 for states with limited reforms. Within these averages, however, were wide variations among states. For example, in 2002 the per capita claims payments among states with these caps ranged from \$4 to \$16, compared with \$3 to \$33 among states with limited reforms. In addition, two states among those with limited reforms had consistently higher average claims payments, raising the overall average among this group of states.⁵⁵ Absent

⁵¹Direct reforms are limits on amounts that can be recovered in a malpractice action including: caps on noneconomic or total damages, abolition of punitive damages, collateral source rule reforms, and abolition of mandatory prejudgment interest.

⁵²CBO, *Cost Estimate: H.R. 5*.

⁵³Daniel P. Kessler and Mark B. McClellan, "The Effects of Malpractice Pressure and Liability Reforms on Physicians' Perceptions of Medical Care," *Law and Contemporary Problems*, vol. 670, no. 1 (1997): 81-106.

⁵⁴Per capita claims payments are the total claims payments in each state divided by the state population.

the claims experience of these two states, the average claims payment for states with limited reforms from 1996 through 2002 would decrease to \$11, only slightly higher than the \$10 in states with these damage caps.

Average growth in per capita claims payments for all physicians was also lower among the states with caps on noneconomic damages than among the states with limited reforms. From 1996 through 2002 average per capita claims payments grew by 5 and 6 percent in the states with noneconomic damage caps of \$250,000 and \$500,000 or less, respectively, compared to 10 percent in the states with limited reforms. However, the growth in these payments also varied widely among states in any given year and within individual states from year to year. For example, from 2001 to 2002, the average growth in claims payments on an individual state basis ranged from a 68 percent decrease in the District of Columbia to a 70 percent increase in Wyoming. Within the same state, growth rates fluctuated widely from year to year. For example, Mississippi experienced an 18 percent decrease in claims payments from 1999 to 2000, followed by a 61 percent increase in 2001, and a 5 percent decrease in 2002.

The claims payment data reported to NPDB that we analyzed contain certain limitations. The data include malpractice claims against licensed physicians, and not against other institutional providers such as hospitals and nursing homes, thus limiting the overall completeness of the data across all providers. In addition, as we have previously reported, certain claims payments may be underreported to NPDB. When physicians are not specifically named in a malpractice settlement, the related claims payments may not be reported.⁵⁶ Nevertheless, because insurers must report payment of claims against physicians subject to federal law and not varying state laws, NPDB data are useful in comparing trends across states. Other sources of claims payment data are subject to limitations of

⁵⁵ Average per capita claims payments among states with limited tort reforms were highest in the District of Columbia and Pennsylvania in each year from 1996 through 2002. For example, in 2002, average claims payments were \$27 and \$33 for the District of Columbia and Pennsylvania, respectively, compared to from \$3 to \$18 in the remaining states with limited tort reforms.

⁵⁶ See U.S. General Accounting Office, *National Practitioner Data Bank: Major Improvements Needed to Enhance Data Bank's Reliability*, [GAO-01-130](#) (Washington, D.C.: Nov. 17, 2000).

completeness or comparability.⁵⁷ See appendix II for more information on the limitations of NPDB and other claims data sources.

For states that have adopted certain tort reforms, especially caps on noneconomic damages, other studies have also found associations with lower claims payments. In its recent analysis of malpractice premiums and claims payments in states with various medical malpractice tort limitations, CBO found that caps on damage awards result in lower malpractice costs.⁵⁸ Another study based on claims data in 19 states showed that direct reforms were associated with a smaller percentage of claims resolved with some compensation to plaintiffs and reduced claim frequency.⁵⁹ In contrast, other researchers who have examined the effect of indirect tort reforms on malpractice costs have found mixed results.⁶⁰ One study found that indirect reforms did not reduce malpractice cost indicators, while another found that a greater number of reforms (both direct and indirect) were associated with lower malpractice costs.⁶¹ These studies have also relied on claims data that have limitations in terms of their completeness and comparability.

⁵⁷For example, the National Association of Insurance Commissioners (NAIC) maintains data on claims costs reported by malpractice insurers; however, NAIC officials told us that reporting requirements are dictated by state law. As a result, certain types of insurers are exempted from reporting in certain states (such as insurers operating in a single state, certain physician mutual companies, or—in all states—self-insured groups), thus limiting the usefulness of the data for making state-level comparisons.

⁵⁸CBO, *Cost Estimate: H.R. 5*.

⁵⁹See Daniel P. Kessler and Mark B. McClellan, “How Liability Law Affects Medical Productivity,” *Journal of Health Economics*, vol. 21, no. 6 (2002): 931-55.

⁶⁰Indirect reforms are changes in laws that do not directly specify limits on amounts that can be recovered in a malpractice action; rather, they may indirectly affect recoverable amounts, such as by limiting attorneys’ contingency fees or allowing periodic rather than lump sum payments of awards.

⁶¹Kessler and McClellan, “The Effects of Malpractice Pressure and Liability Reforms on Physicians’ Perceptions of Medical Care” and Stephen Foreman, Pennsylvania Medical Society Health Services Research Institute, *[Premium] Deceit: A Critique of a Center For Justice and Democracy Study by J. Robert Hunter and Joanne Doroshov* (Harrisburg, Pa.: Jan. 8, 2003).

Factors Other Than Caps on Noneconomic Damages Also Affect Premiums and Claims Payments Trends

Differences in malpractice premiums and claims payments across states are influenced by several factors other than noneconomic damage caps. First, the manner in which damage caps are administered can influence the ability of the cap to restrain claims and thus premium costs. Some states permit injured parties to collect damages only up to the specified level of the cap regardless of the number of defendants, while other states permit injured parties to collect the full cap amount from each defendant named in a suit. Malpractice insurers told us that imposing a separate cap on amounts recovered from each of several defendants increases total claims payouts, which can hinder the effectiveness of the cap in constraining premium growth. Second, tort reforms unrelated to caps can also affect premium and claims costs. For example, California tort reform measures not only include a \$250,000 cap but also allow other collateral sources to be considered when determining how much an insurer must pay in damages and allow periodic payment of damages rather than requiring payment in a lump sum, among other measures. Malpractice insurers told us that these provisions in addition to the cap have helped to constrain premium growth in that state. In Minnesota, which has no caps on damages but has relatively low growth in premium rates and claims payments, trial attorneys maintain that prescreening requirements reduce claim costs and premiums by preventing some meritless claims from going to trial. Third, state laws and regulations unrelated to tort reform, such as premium rate regulations, vary widely and can influence premium rates. Some states such as Minnesota and Mississippi tend not to regulate rates, while others, such as California, require state approval of the premium rates charged by insurers.⁶² Finally, insurers' premium pricing decisions are affected by their losses on medical malpractice claims and income from investments, and other market conditions such as the level of market competition among insurers and their respective market shares.⁶³ We could not determine the extent to which differences in premium rates and claims payments across states were attributed only to damage caps or also to these additional factors.

⁶²In 1988, California passed Proposition 103, which in part required greater state oversight and approval of premium rate increases.

⁶³For more information on the factors that influence malpractice premium rates, see [GAO-03-702](#).

External Comments and Our Evaluation

We received comments on a draft of this report from three independent health policy researchers and from AMA. Each of the researchers has expertise in malpractice-related issues and has conducted and published research on the effects of malpractice pressures on the health care system, and two of the three are physicians. The independent researchers generally concurred with our findings and provided technical comments, which we incorporated as appropriate.

In its written comments, AMA questioned our finding that rising malpractice premiums have not contributed to widespread health care access problems, expressing concern that the scope of our work limited our ability to fully identify the extent to which malpractice-related pressures are affecting consumers' access to health care. We disagree with AMA, as explained below. However, in response to AMA and the other reviewers' comments, we clarified the report's discussion of the scope of work and methods used to assess health care access issues. AMA's comments fell into four general areas: completeness of evidence examined, measures used to assess access problems, time lags in available data, and the cost and impact of defensive medicine.

Completeness of Evidence Examined

AMA questioned our finding that access problems were not widespread based on our work in 5 states, whereas it has identified 18 states "in a full-blown liability crisis." It further cited results from its own recent physician survey on professional liability as evidence that medical liability concerns are causing physicians to limit their practices. The report clearly states the scope of our work and does not attempt to generalize our findings beyond the 5 states with reported problems that we reviewed. However, these 5 states were among the most visible and often-cited examples of "crisis" states by AMA and other provider groups. We believe that our finding that malpractice-related concerns contributed to localized but not widespread access problems in these states provides relevant and important insight into the overall problem. With respect to AMA's reference to evidence available from its own survey, our report notes that the low response rate of 10 percent to its survey precludes the ability to reliably generalize the survey results to all physicians.

AMA suggested that we withhold release of the report until we contacted state and national medical and specialty associations to obtain more complete and accurate information about access to care problems and it provided contacts for associations in each of the five states with reported problems and for four national specialty associations. We made these contacts throughout the course of our work, and the information these

associations provided formed the basis for many of our findings. As the draft report noted, we contacted state medical, hospital, and nursing home association representatives in each of the five states with reported problems. We also contacted nine national medical and specialty associations, including three of the four AMA cited, which were specified in the draft report. In response to AMA's comments, we added an appendix to specify the names of each national and state provider association we contacted during the course of our work.

AMA commented that we failed to account for the two clinical areas of patient care in which impairment of access has been the most egregious: obstetrical and ER services. It attributed its concern to our acknowledgment in the report that we were unable to use Medicare claims data to investigate reported concerns about these services. Because of the recognized limitations of Medicare claims data for these and other services, we used other methods to explore whether malpractice-related pressures had affected access to ER on-call surgical services and newborn deliveries and indeed found—and reported—evidence of access problems for these services in localized areas. In response to AMA and technical comments from the other reviewers, we clarified the report's discussion of our methodology for this issue.

Measures Used to Assess Access Problems

AMA commented that using aggregated data on physician supply to draw conclusions about access to care is problematic. It said that physicians tend to hold multiple state licenses and typically retain their licenses when they relocate their practices, thus potentially obscuring the supply of practicing physicians, and overall counts of physicians can obscure the impact of changes for different specialties and different jurisdictions. We agree that measuring changes in physician supply—especially changes due to malpractice-related issues—and the related effects on access to care is problematic. Sharing AMA's concerns, during the course of our work we obtained available data reported by state medical licensing agencies for newly licensed physicians and for physicians practicing in the state whenever possible rather than for all licensed physicians and contrasted those data with reports of departing physicians. As noted in the draft report, although we reported physician supply and practice changes at the state level, the number of recent departures attributed specifically to malpractice concerns was relatively small and usually not concentrated in particular locales. Also as noted in the draft report, we further explored reports of specialty-specific problems, such as orthopedic surgeons in Pennsylvania and OB/GYNs in Nevada. For example, we analyzed rates of all procedures performed by orthopedic surgeons in Pennsylvania and

found them to be growing, and called a random sample of OB/GYN practices in Clark County, Nevada, and on that basis determined that obstetrical care was readily available. Moreover, our Medicare claims analysis of certain high-risk services was specialty-specific. For example, to assess assertions by orthopedic surgeons that they have reduced the provision of spinal surgeries and joint revisions and repairs, our analysis was limited to only those services performed by orthopedic surgeons.

Time Lags in Available Data

AMA commented that our analysis of Medicare claims data as of June 2002 does not capture the current experience of physician decisions to curtail certain services or to retire or relocate their practices, the impact of which takes time to develop. We agree it is challenging to identify data that are sufficiently current and reliable to describe the effects of reported problems. However, we reported that premium increases began about 2000, and others have found that premiums began increasing as early as the late 1990s. We therefore believe that analyzing Medicare claims data through June 2002 provides important insights into at least 2 years of this most recent period of rising premiums. Moreover, we augmented our Medicare claims analysis with more recent qualitative data, such as interviews in late 2002 and early 2003, with national and state provider associations and local providers in areas where access problems were reported to exist.

The Cost and Impact of Defensive Medicine


AMA commented that while specific estimates of defensive medicine costs have not been conclusive, the vast majority of peer-reviewed research indicates that those costs are enormous, in the tens of billions of dollars per year. To support this point, AMA cited three recent government studies. As our report notes, the peer-reviewed literature attempts to quantify the extent and sometimes the cost of defensive medicine under narrowly defined clinical circumstances that cannot be generalized more broadly. Two of the three government studies that AMA cited are examples of what we believe to be overgeneralizations of prior study results. We cite one of these by way of example in our report. The third government study AMA cited does not address the cost of defensive medicine but instead explicitly notes the difficulty of estimating such costs and the speculative nature of existing estimates.

AMA also commented that our draft report ignored the impact of defensive medicine costs in terms of patient access, expressing the view that these costs are ultimately reflected in rising health insurance premiums that contribute substantially to the number of uninsured. Our draft report

noted that, because of the absence of data to reliably measure overall malpractice-related costs—such as the combined cost of malpractice insurance premiums, litigation, and defensive medicine practices—we did not assess the indirect impact on access to care that may result from any added costs that malpractice pressures impose on the health care system. In response to AMA’s comment, we moved our discussion of this point to the report’s Results in Brief.

As agreed with your offices, unless you publicly announce this report’s contents earlier, we plan no further distribution until 30 days after its issue date. At that time, we will send copies to other interested congressional committees and Members of Congress. We will also make copies available to others on request. In addition, this report is available at no charge at the GAO Web site at <http://www.gao.gov>.

Please call me at (202) 512-7118 or Randy DiRosa at (312) 220-7671 if you have any questions. Other major contributors are listed in appendix IV.



Kathryn G. Allen
Director, Health Care—Medicaid
and Private Health Insurance Issues

Appendix I: National and State Provider Associations Contacted

During the course of our work, we contacted a number of national and state health care provider associations in order to identify the actions health care providers have taken in response to malpractice pressures and the localized effects of any reported actions on consumers' access to health care.

National Provider Associations

American Academy of Neurology
 American Association of Neurological Surgeons
 American Association of Orthopaedic Surgeons
 American College of Emergency Physicians
 American College of Obstetricians and Gynecologists
 American College of Radiology
 American Health Care Association
 American Hospital Association
 American Medical Association

State Provider Associations

Table 2: State Provider Associations GAO Contacted

State	Provider association
California	California Association of Health Facilities
	California Healthcare Association
	California Medical Association
Colorado ^a	Colorado Health and Hospital Association
Florida	Florida Health Care Association
	Florida Hospital Association
	Florida Medical Association
Minnesota	Minnesota Health and Housing Alliance
	Minnesota Hospital Association
	Minnesota Medical Association
Mississippi	Mississippi Health Care Association
	Mississippi Hospital Association
	Mississippi State Medical Association
Montana	Association of Montana Health Care Providers
	Montana Medical Association

Appendix I: National and State Provider Associations Contacted

State	Provider association
Nevada	Nevada Health Care Association
	Nevada Hospital Association
	Nevada State Medical Association
Pennsylvania	The Hospital & Healthsystem Association of Pennsylvania
	Pennsylvania Health Care Association
	Pennsylvania Medical Society
West Virginia	West Virginia Health Care Association
	West Virginia Hospital Association
	West Virginia State Medical Association

^aWe also contacted officials from the Colorado Medical Society and the Colorado Health Care Association, but they did not respond to our request for an interview.

Appendix II: Scope and Methodology

In response to concerns about rising malpractice premiums, we examined how health care provider responses to rising premiums have affected access to health care, what is known about how rising premiums and fear of litigation cause health care providers to practice defensive medicine, and how rates of growth in malpractice premiums and claims payments compare across states with varying levels of tort reform laws.

Consumers' Access to Health Care

To evaluate how actions taken by physicians in response to malpractice premium increases have affected consumers' access to health care, we focused our review at the state level because reliable national data concerning physician responses to malpractice pressures were not available. We selected nine states that encompass a range of premium pricing and tort reform environments. Five of the states—Florida, Mississippi, Nevada, Pennsylvania, and West Virginia—are among those cited as “crisis” or “problem” states by the American Medical Association (AMA) and other health care provider organizations based on such factors as higher than average increases in malpractice insurance premium rates, reported difficulties obtaining malpractice coverage, and reported actions taken by providers in response to their concerns about rising premiums and malpractice litigation. Four of the states—California, Colorado, Minnesota, and Montana—are not cited by provider groups as experiencing malpractice-related problems. (See table 3.)

Table 3: Tort Reforms and Average Rates of Premium Increases in Nine States

Extent of malpractice problems	State	Tort reforms in place as of 1995 ^a				Average annual premium rate increase, 2001–2002 (percentage change)
		Noneconomic damage cap of \$250,000	Noneconomic damage cap of \$500,000 or less ^b	Other tort reforms	Limited tort reforms ^c	
States with reported problems ^d	Florida ^e			X ^f		23
	Mississippi				X	45
	Nevada				X	28
	Pennsylvania				X	35
	West Virginia			X ^g		12
States without reported problems	California	X		X		6
	Colorado	X		X		8
	Minnesota			X ^f		5
	Montana	X		X		10

Sources: National Conference of State Legislatures (NCSL) and Medical Liability Monitor (MLM).

Notes: GAO analysis of state tort reforms obtained from the NCSL “State Medical Liability Laws Table” (Oct. 16, 2002) and independently confirmed in selected instances.

Premium increases are based on base rates reported by MLM for specialties of general surgery, internal medicine, and obstetrics/gynecology (OB/GYN). Premiums are in 2002 dollars.

^aStates are categorized based on tort reforms enacted as of 1995 because research indicates any impact reforms may have on premium rates or claims payments would follow the implementation of tort reforms by at least 1 year. Mississippi, Nevada, and West Virginia have recently enacted varying tort reforms.

^bThis category excludes states with caps of \$250,000.

^cStates had no damage caps or collateral source reform.

^dProblem status based on the American Medical Association (AMA) classification of “crisis” state as of April 2003.

^eFlorida enacted a noneconomic damage cap of \$250,000 in 1988, but the cap was limited to cases involving arbitration; noneconomic damage limits may increase if the plaintiff or defendant refuses to arbitrate.

^fFlorida and Minnesota enacted mandatory collateral source offsets that directly reduced expected malpractice awards.

^gWest Virginia enacted a \$1 million cap on noneconomic damages.

In each of the nine states we reviewed, we contacted or interviewed officials from associations representing physicians, hospitals, and nursing homes to more specifically identify the actions physicians have taken in response to malpractice pressures and the localized effects of any reported actions on access to services. (See app. I for a complete list of the provider organizations we contacted at the state and national levels.) Such actions were reported only in the five states with reported problems. In these five states we obtained and reviewed the evidence upon which the reports were based. Evidence of physician departures, retirements, practice closures, and reduced availability of certain hospital-based services consisted of survey results, information compiled and quantified by provider groups, and unquantified anecdotal reports collected by provider groups. Although we did not attempt to confirm each report cited by state provider groups, we judgmentally targeted follow-up contacts with local providers where the reports suggested potentially acute consumer access problems or where multiple reports were concentrated in a geographic area. With the local providers we contacted directly, including representatives of physician practices, clinics, and hospitals, we discussed the reports provided by the state provider groups and explored the resulting implications for consumers' access to health care. In total, we contacted 49 hospitals and 61 clinics and physician practices in the five states. From these contacts we identified examples of access problems that were related to providers' concerns about malpractice-related pressures as well as examples of provider actions that did not appear to affect consumer access or were not substantiated.

We separately examined evidence of specific high-risk services that providers reportedly reduced in response to concerns about malpractice pressures. Such evidence consisted of results from surveys conducted by national and state-level medical, hospital, and specialty associations that identified the high-risk procedures physicians reported reducing or eliminating in response to malpractice pressures. High-risk services commonly identified in these surveys included spinal surgeries, joint revisions and repairs, mammograms, physician services in nursing homes, emergency room services, and obstetrics. We analyzed Medicare utilization data to assess whether reported reductions in three of these high-risk services—spinal surgery, joint revisions and repairs, and mammograms—have had a measurable effect on consumers' access to

these services.¹ To calculate service utilization rates per thousand fee-for-service Medicare beneficiaries enrolled in part B, we used Medicare part B physician claims data from January 1997 through June 2002 and the Medicare denominator files from 1997 through 2001.² For 2002, we estimated each state's part B fee-for-service beneficiary count by adjusting the 2001 count by the change in the 65 and older population between 2001 and 2002 and the change in Medicare beneficiaries enrolled in part B managed care plans between January 1 and July 1, 2002.³

Defensive Medicine Practices

To assess what is known about how rising premiums and fear of litigation cause health care providers to practice defensive medicine, we reviewed studies that examined the prevalence and costs of defensive medicine and the potential impact of tort reform laws on mitigating these costs that were published in 1994 or later, generally in peer-reviewed journals, or were conducted by government research organizations. We identified these studies by searching databases including MEDLINE, Econlit, Expanded Academic ASAP, and ProQuest; and through contacts with experts and affected parties. Several studies published prior to 1994 were reviewed by the Office of Technology Assessment (OTA) in its comprehensive 1994 report on defensive medicine, which we included in our review. In addition, we also explored the issue with medical provider organizations and examined the results of several recent surveys, including those conducted by national health care provider organizations,

¹Limitations to Medicare data precluded an assessment of trends for physician services provided in nursing homes, emergency room services, and obstetrics services. Utilization rates of services provided in nursing homes per Medicare beneficiary could not be completed because Medicare data do not identify the beneficiaries that reside in these facilities. Emergency room services could not be analyzed because it is not possible to accurately count emergency room services in the part B physician claims data. Obstetrics services could not be analyzed because Medicare beneficiaries are mostly elderly, so the counts of females of childbearing age are not representative of the general population.

²Medicare part B claims for these specific services were identified by the five-digit procedure codes specified in the Centers for Medicare & Medicaid Services' (CMS) Health Care Common Procedure Coding System (HCPCS).

³Population data were obtained from the U.S. Bureau of the Census. Medicare enrollment data were obtained from the Medicare Denominator File. The Medicare Denominator File contains data on all Medicare beneficiaries entitled to benefits in a given year and includes information on the programs in which they participate. The changes in Medicare enrollment in managed care programs were reported in CMS's *MMCC Monthly Summary Report on Medicare Managed Care Plans*. See HHS, CMS, *Medicare Managed Care Contract (MMCC) Plans - Monthly Summary Report* (Baltimore, Md.: Jan. 1, 2002 and July 1, 2002), <http://www.cms.hhs.gov/healthplans/statistics/mmcc/> (downloaded Apr. 16, 2003).

in which providers were asked about their own defensive medicine practices.

Malpractice Premium Rate and Claims Payments Growth

To assess the growth in medical malpractice premium rates and claims payments across states, we compared trends in states with tort reforms that include noneconomic damage caps (4 states with a \$250,000 cap and 8 states with a \$500,000 or less cap⁴) to the 11 states (including the District of Columbia) with limited reforms and the average for all states. We focused our analysis on those states with noneconomic damage caps as a key tort reform because such caps are included in proposed federal tort reform legislation and because published research generally reports that such caps have a greater impact on medical malpractice premium rates and claims payments than some other types of tort reform measures. We did not separately assess trends in the 28 states with various other tort reforms because of the wide range of often dissimilar and incomparable tort reforms that are included among these states. Because research suggests that any impact of tort reforms on premiums or claims can be expected to follow the implementation of the reforms by at least 1 year, we grouped states into their respective categories based on reforms that had been enacted no later than 1995 and reviewed premium rate and claims payment data for the period 1996 through 2002. We relied upon a summary of state tort reforms compiled by the National Conference of State Legislatures (NCSL) to place states within the reform categories and reviewed the information with respect to the 9 study states for accuracy in February 2003. (See table 4.)

⁴The eight states with a \$500,000 or less cap do not include the four states with a \$250,000 cap.

Table 4: State Tort Reform Categories, Based on Reforms in Place as of 1995

Noneconomic damage cap of \$250,000 (4 states)	Noneconomic damage cap of \$500,000 or less ^a (8 states)	Other reforms ^{a, b} (28 states)	Limited reforms ^c (11 states)
California	Hawaii ^d	Alabama	Arkansas
Colorado ^d	Louisiana ^e	Alaska	District of Columbia
Montana	Massachusetts ^d	Arizona	Kentucky
Utah	Michigan ^d	Connecticut	Mississippi
	Missouri ^f	Delaware	Nevada
	North Dakota	Florida ^g	Ohio
	South Dakota	Georgia	Oklahoma
	Wisconsin	Idaho	Pennsylvania
		Illinois	South Carolina
		Indiana	Vermont
		Iowa	Wyoming
		Kansas ^h	
		Maine ⁱ	
		Maryland ^j	
		Minnesota	
		Nebraska	
		New Hampshire ^k	
		New Jersey	
		New Mexico ^l	
		New York	
		North Carolina	
		Oregon	
		Rhode Island	
		Tennessee	
		Texas	
		Virginia	
		Washington	
		West Virginia	

Source: NCSL.

Notes: GAO analysis of summary data compiled by NCSL (Oct. 16, 2002). We independently reviewed selected sections for accuracy.

^aIn states with patient compensation funds (PCF), the fund cap, rather than the per provider cap, is considered under these criteria. PCFs are either voluntary or mandatory state-sponsored funds that provide insurance coverage for health care providers beyond that guaranteed by the provider's medical liability insurance policy.

^bStates had a noneconomic or total damage cap above \$500,000, any punitive damage cap, or collateral source reform.

^cStates had no damage caps or collateral source reform.

^dCaps may be increased or removed under special circumstances.

^eLouisiana's PCF cap is subject to a total cap of \$500,000 for all claims of malpractice. Amounts awarded for future medical expenses are paid from the state fund and not by individual providers, and those amounts are not subject to the \$500,000 limit.

^fMissouri's cap is indexed to inflation and was \$500,000 in 1997, increasing to \$547,000 by 2002.

^gFlorida enacted a noneconomic damage cap of \$250,000 in 1988, but the cap was limited to cases involving arbitration; noneconomic damage limits may increase if the plaintiff or defendant refuses to arbitrate.

^hKansas enacted a noneconomic damage cap of \$250,000 in 1988, but these damages are recoverable by each party from all defendants.

ⁱA noneconomic damage cap is limited to wrongful death cases.

^jDamage cap increased beyond \$500,000 during 1995.

To assess the growth in medical malpractice premiums, we analyzed state-level malpractice premium rates for the specialties of general surgery, internal medicine, and obstetrics/gynecology (OB/GYN) reported by insurers to the Medical Liability Monitor (MLM) from 1996 to 2002.⁵ Our analysis does not capture the experience of other physician specialties and other types of medical providers such as hospitals and nursing homes. MLM reports base premium rates that do not reflect discounts or rebates that may effectively reduce the actual premium rates charged. We generally excluded data from insurers that did not consistently report premium rates across most of the years studied. We also excluded surcharges for contributions to state patient compensation funds (PCF) because these were inconsistently reported across states and years.⁶ We adjusted rates for inflation using the urban consumer price index. We calculated a composite average premium across all three specialties, as well as specialty-specific average premiums, for each year. We then analyzed growth rates in these average premiums from 1996 through 2002 across all states.

⁵MLM is a private research organization that annually surveys professional liability insurance carriers in 50 states to obtain their base premium rates for the specialties of internal medicine, general surgery, and OB/GYN.

⁶Where physicians participate in PCFs, they typically pay an annual surcharge for participation in the fund, an assessment for payments made out of the fund, or both. These surcharges can range from a small percentage of the base premium to nearly as much, and in some instances, more than the base premium.

To assess the growth in medical malpractice claims payments, we analyzed state level claims payment data from the National Practitioner Data Bank (NPDB) from 1996 to 2002, which had been adjusted to 2002 dollars.⁷ We calculated average per capita claims payments and their growth rates for each state across this time frame. Assuming a 1-year lag to allow the reforms to affect these indicators, we calculated overall averages of these indicators from 1996 to 2002, and used these averages to compare average per capita payments and their rates of growth across the reform categories.

The NPDB claims data we analyzed contain notable limitations. First, they include malpractice claims against licensed physicians only, and not against institutional providers such as hospitals and nursing homes.⁸ Secondly, as we have previously reported, NPDB claims may be underreported. When physicians are not specifically named in a malpractice judgment or settlement, the related claims are not reported to the data bank, and certain self-insured and managed care plans may be underreported as well.⁹ The extent to which this underreporting occurs is not known. Finally, NPDB data do not capture legal and other administrative costs associated with malpractice claims.

We examined other sources of information on claims payments, and found none to be a comprehensive data source for each state that captures malpractice claims costs from all segments of the malpractice insurance market—commercial insurers, physician-mutual companies, and self-

⁷NPDB, established by the Health Care Quality Improvement Act of 1986, is maintained by the Secretary of Health and Human Services and is a nationwide source of information on physicians and other licensed health care practitioners who have been party to a medical malpractice settlement or judgment. Insurers are required by law to report payments made on behalf of these providers in settlement or satisfaction of a judgment in a malpractice action, and are subject to civil penalties for noncompliance. Pub. L. No. 99-660, tit. IV, 100 Stat. 3743, 3784 (codified at 42 U.S.C. §§ 11101-11152 (2000))

⁸NPDB reports payments for claims against all licensed practitioners, including, physicians, nurses, and dentists; however, we analyzed payments only for claims against physicians. The consulting firm of Tillinghast-Towers Perrin estimates that total malpractice claims costs (including payments and defense and administrative costs) in 2001 were approximately \$21 billion. See Tillinghast-Towers Perrin, *U.S. Tort Costs: 2002 Update – Trends and Findings on the Costs of the U.S. Tort System*, <http://www.tillinghast.com/tillinghast/> (downloaded June 9, 2003). Payments reported for physician claims in the NPDB database for the same year (excluding associated defense/administrative costs) represent about 20 percent of these total costs.

⁹See [GAO-01-130](#).

insured and other groups. For example, data reported to the National Association of Insurance Commissioners (NAIC) have been used in other research; however, data are not reported consistently across states and exclude payments from certain insurers. According to NAIC officials, the laws that dictate reporting requirements differ by state, and not all insurers are required to report in every state. They also stated that exempted insurers can include those operating in a single state and certain physician mutual companies.¹⁰ In all states, self-insured groups, which represent a substantial proportion of the medical malpractice insurance market, are exempted from reporting.¹¹ Similarly, the Insurance Services Office (ISO) is a private organization providing state-level price advisory information to state insurance regulators. However, ISO does not operate in all states, nor does it uniformly collect data on hospital claims, or claims from physician mutual companies, and represents only 25 to 30 percent of the total medical malpractice market. Physician Insurers Association of America is an association of physician mutual companies; however, it does not share proprietary state-level claims data. Jury Verdict Research is a private research organization that collects data from several different sources, including attorneys and media reports, among others. Some have criticized the accuracy of this data set for several reasons, including a varied and unsystematic data collection process and because large verdict awards may be more likely to be included than smaller verdict awards.

¹⁰We found that exempted companies are disproportionately represented in states with limited reforms.

¹¹NAIC claims data represented slightly over a third of the total malpractice claim costs reported by Tillinghast-Towers Perrin. See *Tillinghast-Towers Perrin* <http://www.tillinghast.com/tillinghast/>.

Appendix III: Summary of Selected Research Designed to Measure Defensive Medicine Prevalence and Costs

Table 5 summarizes the scope, methods, results, and limitations of studies that examined the prevalence and costs of defensive medicine practices or the potential impact of tort reform laws on mitigating defensive medicine costs. Studies were published in 1994 or later, generally in peer-reviewed journals, or were conducted by government research organizations.

Table 5: Summary of Selected Research Designed to Measure Defensive Medicine Prevalence and Costs

Study	Scope	Method	Results	Limitations
OTA, 1994 ^a	Physicians from three national specialty societies (1993 data), physicians from New Jersey (1993 data), and cesarean deliveries in New York State (1984 data) and Washington State (1989 data).	Physician clinical scenario surveys, records reviews, and synthesis of prior research.	Among other findings, defensive medicine causes less than 8 percent of diagnostic procedures and varies significantly by clinical situation.	Physician clinical scenario surveys were designed to elicit defensive medicine practices among physicians; hence, they may overestimate the rate at which defensive medicine is actually practiced.
Sloan and others, 1995 ^b and 1997 ^c	Births in Florida in 1987.	Survey of mothers and records reviews.	An increased threat of malpractice litigation is not associated with improved birth outcomes, and malpractice pressures generally had no impact on delivery method (cesarean vs. vaginal).	Results cannot be generalized, as study only assessed practice patterns in one state in 1 year.
Kessler and McClellan, 1996 ^d	Medicare beneficiaries treated for a new heart attack or new ischemic heart disease (1984, 1987, and 1990 data).	Records reviews.	Direct tort reforms enacted by states between 1985 and 1990 reduced hospital expenditures for Medicare patients with a new heart attack or new ischemic heart disease by 5 to 9 percent, respectively; indirect reforms had no effect. Among states adopting direct reforms prior to 1985, no consistent effect was found.	Results cannot be generalized to all patients and procedures, and certain other factors that can influence practice patterns and health care expenditures (such as the prevalence of managed care in an area) were not controlled for.
Dubay, Kaestner, and Waidmann, 1999 ^e	Births in the United States from 1990 to 1992.	Records reviews.	A \$10,000 reduction in malpractice premiums could result in a 1.4 to 2.4 percent decline in the cesarean section rate for some mothers. Researchers concluded a total cap on damages would reduce the number of cesarean sections by 3 percent and total obstetrical charges by 0.27 percent.	Results are limited to only certain socioeconomic groups of mothers.

**Appendix III: Summary of Selected Research
Designed to Measure Defensive Medicine
Prevalence and Costs**

Study	Scope	Method	Results	Limitations
Kessler and McClellan, 2000 ^f	Medicare beneficiaries treated for a new heart attack or new ischemic heart disease (1984-94 data). Study attempted to control for the influence of managed care.	Records reviews.	When controlling for the influence of managed care, direct tort reforms reduced hospital expenditures for Medicare patients with a new heart attack or new ischemic heart disease by about 4 percent.	Results cannot be generalized to all patients and procedures, and certain other factors that can influence practice patterns and health care expenditures (such as the supply of cardiac specialists in an area) were not controlled for.
Kessler and McClellan, 2002 ^g	Medicare beneficiaries treated for a new heart attack or new ischemic heart disease (1984-94 data). Study attempted to identify the mechanisms through which reforms affect the behavior of health care providers.	Records reviews.	Direct tort reforms reduced malpractice pressure and hospital expenditures for Medicare patients with a new heart attack or new ischemic heart disease; indirect reforms increased malpractice pressure in some cases.	Findings cannot be generalized to all patients and procedure, and certain other factors that can influence practice patterns and health care expenditures (such as the prevalence of managed care in an area) were not controlled for.
CBO, 2003 ^h	Medicare beneficiaries diagnosed with a broader set of ailments than considered in previous research (1989-99 data).	Records reviews and expenditure analysis.	No effect of tort controls on medical expenditures or per capita health spending.	Results cannot be generalized to all patients and procedures.

Sources: As noted below.

Note: Researchers generally rely on two approaches to measure the extent of defensive medicine practices. They (1) use surveys to present a clinical scenario, ask physicians to choose a treatment and provide a rationale for their decision, and may also examine the variation in survey responses across groups facing different amounts of malpractice pressure, or (2) review clinical or other records to compare actual treatment approaches and health care expenditures across groups of physicians facing different amounts of malpractice pressure.

^fU.S. Congress, OTA, *Defensive Medicine and Medical Malpractice*, OTA-H-602 (Washington, D.C.: U.S. Government Printing Office, 1994).

^gFrank A. Sloan and others, "Effects of the Threat of Medical Malpractice Litigation and Other Factors on Birth Outcomes," *Medical Care*, vol. 33, no. 7 (1995): 700-14.

^hFrank A. Sloan and others, "Tort Liability and Obstetricians' Care Levels," *International Review of Law and Economics*, vol. 17, no. 2 (1997): 245-60.

ⁱDaniel P. Kessler and Mark B. McClellan, "Do Doctors Practice Defensive Medicine?" *Quarterly Journal of Economics*, vol. 111, no. 2 (1996): 353-90.

^jLisa Dubay, Robert Kaestner, and Timothy Waidmann, "The Impact of Malpractice Fears on Cesarean Section Rates," *Journal of Health Economics*, vol. 18, no. 4 (1999): 491-522.

**Appendix III: Summary of Selected Research
Designed to Measure Defensive Medicine
Prevalence and Costs**

¹Daniel P. Kessler and Mark B. McClellan, "Medical Liability, Managed Care, and Defensive Medicine," working paper #7537, National Bureau of Economic Research (Cambridge, Mass.: 2000).

²Daniel P. Kessler and Mark B. McClellan, "How Liability Law Affects Medical Productivity," *Journal of Health Economics*, vol. 21, no. 6 (2002): 931-55.

³U.S. Congress, CBO, *Cost Estimate: H.R. 5 – Help Efficient, Accessible, Low-cost, Timely Healthcare (HEALTH) Act of 2003* (March 2003).

Appendix IV: GAO Contacts and Staff Acknowledgments

GAO Contact

Randy DiRosa, (312) 220-7671

Acknowledgments

In addition to the person named above, key contributors to this report were Gerardine Brennan, Iola D'Souza, Corey Houchins-Witt, and Margaret Smith.

Related GAO Products

Medical Malpractice Insurance: Multiple Factors Have Contributed to Increased Premium Rates. [GAO-03-702](#). Washington, D.C.: June 27, 2003.

National Practitioner Data Bank: Major Improvements Are Needed to Enhance Data Bank's Reliability. [GAO-01-130](#). Washington, D.C.: November 17, 2000.

Medical Malpractice: Effects of Varying Laws in the District of Columbia, Maryland, and Virginia. [GAO/HEHS-00-5](#). Washington, D.C.: October 15, 1999.

Medical Liability: Impact on Hospital and Physician Costs Extends Beyond Insurance. [GAO/AIMD-95-169](#). Washington, D.C.: September 29, 1995.

Medical Malpractice: Medicare/Medicaid Beneficiaries Account for a Relatively Small Percentage of Malpractice Losses. [GAO/HRD-93-126](#). Washington, D.C.: August 11, 1993.

Medical Malpractice: Experience with Efforts to Address Problems. [GAO/T-HRD-93-24](#). Washington, D.C.: May 20, 1993.

Medical Malpractice: A Continuing Problem with Far-Reaching Implications. [GAO/T-HRD-90-24](#). Washington, D.C.: April 26, 1990.

GAO's Mission

The General Accounting Office, the audit, evaluation and investigative arm of Congress, exists to support Congress in meeting its constitutional responsibilities and to help improve the performance and accountability of the federal government for the American people. GAO examines the use of public funds; evaluates federal programs and policies; and provides analyses, recommendations, and other assistance to help Congress make informed oversight, policy, and funding decisions. GAO's commitment to good government is reflected in its core values of accountability, integrity, and reliability.

Obtaining Copies of GAO Reports and Testimony

The fastest and easiest way to obtain copies of GAO documents at no cost is through the Internet. GAO's Web site (www.gao.gov) contains abstracts and full-text files of current reports and testimony and an expanding archive of older products. The Web site features a search engine to help you locate documents using key words and phrases. You can print these documents in their entirety, including charts and other graphics.

Each day, GAO issues a list of newly released reports, testimony, and correspondence. GAO posts this list, known as "Today's Reports," on its Web site daily. The list contains links to the full-text document files. To have GAO e-mail this list to you every afternoon, go to www.gao.gov and select "Subscribe to e-mail alerts" under the "Order GAO Products" heading.

Order by Mail or Phone

The first copy of each printed report is free. Additional copies are \$2 each. A check or money order should be made out to the Superintendent of Documents. GAO also accepts VISA and Mastercard. Orders for 100 or more copies mailed to a single address are discounted 25 percent. Orders should be sent to:

U.S. General Accounting Office
441 G Street NW, Room LM
Washington, D.C. 20548

To order by Phone: Voice: (202) 512-6000
 TDD: (202) 512-2537
 Fax: (202) 512-6061

To Report Fraud, Waste, and Abuse in Federal Programs

Contact:

Web site: www.gao.gov/fraudnet/fraudnet.htm

E-mail: fraudnet@gao.gov

Automated answering system: (800) 424-5454 or (202) 512-7470

Public Affairs

Jeff Nelligan, Managing Director, NelliganJ@gao.gov (202) 512-4800
U.S. General Accounting Office, 441 G Street NW, Room 7149
Washington, D.C. 20548