No. COA24-454 TWENTY-EIGHTH DISTRICT

NORTH CAROLINA COURT OF APPEALS

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ALLISON SWEENEY MOHEBALI, Plaintiff-Appellant, v. JOHN DAVID HAYES, M.D. and HARVEST MOON WOMEN'S HEALTH, PLLC, Defendants-Appellees.	)	From Buncombe County

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BRIEF OF AMICI CURIAE
NORTH CAROLINA MEDICAL SOCIETY ET AL.
IN SUPPORT OF APPELLEES

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STATEMENT OF INTEREST OF AMICI CURIAE[1]

Amici are health care systems and professional organizations of physicians, health professionals, health care risk managers, and health care facilities in North Carolina. Amici strive to expand access to affordable, high-quality health care across our State, and they advocate for the interests of health professionals and patients alike. Amici's motion for leave offers further details on amici and their missions.

Amici have a strong interest in defending the constitutionality of the noneconomic-damages cap in section 90-21.19. As we discuss below, empirical research shows that this cap makes health care in North Carolina less costly and more accessible. Thus, the cap aligns with amici's mission of expanding the availability of affordable, high-quality care.

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[1] The appendix to this brief includes a full list of the entities that are amici here. No person or entity other than amici, their members, and their counsel helped to write this brief. Other than amici, their members, and their counsel, the only persons or entities who contributed money for the preparation of this brief are the following: Curi; The Doctors Company, an Interinsurance Exchange; and MedPro Group Inc.

ISSUE ADDRESSED

Is the cap on noneconomic damages for medical-malpractice actions in section 90-21.19 of the North Carolina General Statutes consistent with the Jury Trial Clause of the North Carolina Constitution?

SUMMARY OF ARGUMENT

Ms. Mohebali argues that North Carolina's noneconomic-damages cap "does not serve an equitable or constitutional purpose." Appellant's Br. 38. That argument is incorrect. The cap serves a vital purpose: It helps to ensure that North Carolinians have access to affordable, high-quality health care.

Empirical research verifies that the cap statute serves this purpose. Researchers have studied the effects of North Carolina's cap and the effects of similar caps in other states. These studies establish two key points.

First, North Carolina's cap reduces the cost of health care.

Medical-malpractice claims add billions of dollars each year to health care costs. These claims are costly to defend, even when they lack merit. They can also produce runaway jury verdicts.

When the risks of malpractice claims and runaway verdicts increase, so do the premiums for medical-malpractice insurance. Those increased premiums, in turn, are passed on to patients and the public in the form of higher costs for medical services.

Caps on noneconomic damages counter these effects. In particular, they prevent outsized judgments and discourage meritless lawsuits. By doing so, damages caps cause malpractice premiums and health-care costs to fall. They do so while maintaining the quality of health care.

Research shows that North Carolina's cap in particular has caused substantial decreases in malpractice premiums since it was adopted in 2011. Hao Yu & Olesya Baker, *Do Noneconomic Damage Caps Reduce Medical Malpractice Insurance Premiums? Evidence from North Carolina*, 25 Risk Mgmt. & Ins. Rev. 201, 211 (2022) [App. 47].[2] These premium decreases have been especially pronounced for high-risk specialties, such as surgery and obstetrics/gynecology. *Id.* These

[2] The appendix to this brief includes copies of selected sources discussed here.

savings on malpractice premiums cut health-care costs in our State for professionals and patients alike.

Second, North Carolina's cap improves access to health care.

Health professionals consider state laws on medical liability, including the existence of noneconomic-damages caps, when they choose where to practice and what types of medicine to practice. As a result, states that enact damages caps attract health professionals and encourage those professionals to practice in high-risk specialties. These effects are greatest in rural communities, where states like North Carolina can otherwise struggle to meet health care needs. In these ways, North Carolina's cap statute increases access to health care across our State.

In sum, the noneconomic-damages cap helps to make health care more affordable and more accessible for all North Carolinians.

ARGUMENT

I. North Carolina's noneconomic-damages cap reduces the cost of health care in our State.

North Carolina's noneconomic-damages cap lowers health care costs. It does so by reducing the otherwise massive financial exposure

that results from medical-malpractice claims. Reducing that exposure leads to lower malpractice premiums. Indeed, a study shows that North Carolina's cap has substantially reduced malpractice premiums for professionals in our State. Yu & Baker at 211. Those reduced premiums, in turn, generate savings for patients and the public.

Medical-malpractice claims are costly to defend. In 2020, the total costs of medical-liability claims nationwide were about $17.5 billion. U.S. Chamber of Com. Inst. for Legal Reform, *Tort Costs in America: An Empirical Analysis of Costs and Compensation of the U.S. Tort System* at 2 (2022). This total includes costs of litigation, compensation paid to injured parties, and amounts paid to insurance companies. *Id.* at 8. These costs grow each year at a rate that exceeds overall inflation. *Id.* at 2-3, 14.

The litigation costs for medical-malpractice claims stem in large part from defending against claims that lack merit.

There are many of these meritless claims. Of all medical-liability claims that were closed from 2016 to 2018, almost two thirds were dismissed or abandoned. Am. Med. Ass'n, *Medical Liability Reform Now!* at 4 (2024) [App. 2]. Another study found that 78% of malpractice

claims do not result in an indemnity payment. Anupam B. Jena et al., *Malpractice Risk According to Physician Specialty*, 365 N. Engl. J. Med. 629, 629 (2011) [App. 39].

When malpractice claims make it to trial, the numbers are even more stark. One study examined cases from 2001 to 2015 that arose from emergency-department care. Kelley E. Wong et al., *Emergency Department and Urgent Care Medical Malpractice Claims 2001-15*, 22 W.J. Emergency Med. 333, 333-34 (2021). It found that 92.6% of the jury verdicts in these cases were defense verdicts. *Id.*

All in all, meritless claims account for more than a third of total defense costs. AMA at 4.

Medical-malpractice claims also pose a risk of runaway jury verdicts. Awards for noneconomic damages, including pain and suffering, are subjective and unpredictable. Juries lack a "way to measure the amounts that should be given," so "verdicts vary enormously." Dan B. Dobbs & Caprice L. Roberts, *Law of Remedies* § 8.1(4), at 683 (3d ed. 2018). The lack of an objective standard for these damages can lead to "nuclear" verdicts, where the award for pain and suffering is disproportionate to any other award. *See* U.S. Chamber

of Com. Inst. for Legal Reform, *Nuclear Verdicts: An Update on Trends, Causes, and Solutions* at 2, 13 (2024).

When defense costs and the risk of nuclear verdicts increase, premiums for medical-malpractice insurance increase as well. This effect was observed by a study commission that the North Carolina General Assembly created during a malpractice crisis in the 1970s. *Report of the North Carolina Professional Liability Insurance Study Commission* at 4-5 (1976), https://archive.org/details/proliabilitystudy00nort/page/n15/mode/2up. The study commission found that when claims increased and the size of awards rose, the cost of professional-liability insurance rose in turn. *See id.* at 3.

The U.S. General Accounting Office, too, has concluded that increased payouts on malpractice claims cause insurance premiums to grow. *See* U.S. Gen. Acct. Off., *Medical Malpractice Insurance: Multiple Factors Have Contributed to Increased Premium Rates* at 22 (2003), https://perma.cc/YE3F-JPHP. In fact, the GAO has found that even one large payout could cause insurers to increase premiums to account for the risk of other large payouts in the future. *Id.*

These increases in malpractice premiums drive up the cost of health care for patients and the public. For example, a national study has found that a 60% increase in malpractice premiums from 2000 to 2003 was associated with a Medicare-spending increase of more than $16 billion. *See* Katherine Baicker et al., *Malpractice Liability Costs and the Practice of Medicine in the Medicare Program*, 26 Health Aff. 841, 850 (2007). In North Carolina, the study commission likewise found that the costs of rising premiums are passed on to people who pay for health care services. Study Commission Report at 3.

Noneconomic-damages caps address these problems. They reduce malpractice premiums, and thus cut the cost of health care.

Damages caps reduce premiums most directly by eliminating the risk of nuclear awards for pain and suffering or other non-monetary harms.

Caps also reduce premiums by lowering defense costs. Research shows that cap statutes reduce the number of lawsuits that plaintiffs file and that insurers must pay to defend. For example, before Mississippi adopted its noneconomic-damages cap, plaintiffs filed an average of 44 lawsuits per year against OB/GYNs who were insured by

the state's largest malpractice insurer. Mark Behrens, *Medical Liability Reform: A Case Study of Mississippi*, 118 Obstetrics & Gynecology 335, 337 (2011). After the cap was adopted, that number dropped to an average of 15 lawsuits per year. *Id.*

The above points show how noneconomic-damage caps reduce malpractice premiums. Studies confirm that this reduction happens in practice.

For example, the U.S. Department of Health and Human Services has found that "there is a substantial difference in the level of medical malpractice premiums in states with meaningful caps . . . and states without meaningful caps." U.S. Dep't of Health & Hum. Servs., *Confronting the New Health Care Crisis: Improving Health Care Quality and Lowering Costs by Fixing Our Medical Liability System* at 15 (2002).

The AMA has quantified this difference. On average, malpractice premiums are 17.3% lower in states with noneconomic-damage caps than in states without them. AMA at 12. High-risk specialties see even larger savings. For instance, the difference in premiums for general

surgery is 20.7%. *Id.* The difference for obstetrics/gynecology is even greater: 25.5%. *Id.*

Damages caps produce these benefits across a variety of circumstances. When caps are adopted during periods with skyrocketing insurance rates, the caps stabilize malpractice-insurance markets. Patricia H. Born et al., *The Effect of Damage Cap Reforms on Medical Malpractice Insurance Market Conditions During Periods of Crises*, 86 J. Risk & Ins. 1, 24-25 (2018). Better still, cap statutes help prevent malpractice crises from arising at all. *Id.* at 25. They also cause rates to fall even for states that are not in crisis periods. Yu & Baker at 211.[3]

North Carolina's cap statute produces these same benefits.

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[3] Studies also show that noneconomic-damage caps and other tort-reform measures generate these cost savings while maintaining high-quality health care. For example, one study found that a damages cap did not cause increases in mortality. Ronen Avraham & Max Schanzenbach, *The Impact of Tort Reform on Intensity of Treatment: Evidence from Heart Patients*, 39 J. Health Econ. 273, 284 (2015). Another study found no meaningful associations between noneconomic-damage caps and inpatient mortality, preventable delivery complications, avoidable hospitalizations, or cancer screening rates. *See* Michael Frakes & Anupam B. Jena, *Does Medical Malpractice Law Improve Health Care Quality?*, 143 J. Public Econ. 142, 154-57 (2016).

The cap directly prevents runaway judgments by limiting awards of noneconomic damages. N.C. Gen. Stat. § 90-21.19(a).

The cap also reduces defense costs by decreasing the volume of malpractice claims. After the cap statute was enacted, the number of malpractice lawsuits filed per month in North Carolina fell from 40 to 25. David Donovan, *Latest Data Show State's Tort Reform Act Delivered a Knock-Down Blow*, N.C. Laws. Wkly. (July 24, 2015), https://perma.cc/5E9S-ZCCL.

North Carolina's cap statute has also caused malpractice premiums to fall. One year after North Carolina enacted section 90-21.19, the State's second largest malpractice insurer reduced its premiums by 3% because it anticipated that malpractice payouts and litigation costs would fall. Chris Bagley, *Rates Cut; State Tort Laws Cited*, Triangle Bus. J. (Apr. 12, 2012) [App. 37].

An empirical study confirms that North Carolina's damages cap has produced substantial savings on malpractice premiums. Researchers from Harvard Medical School and Harvard Pilgrim Health Care Institute used county-level data to compare malpractice premiums in North Carolina to premiums in states without caps. Yu & Baker at

201. They performed this comparison for the years before and after North Carolina adopted its cap. *Id.* at 205.

The researchers found that after North Carolina adopted its cap, premiums in North Carolina decreased significantly. *See id.* at 205-09. This result was true for all three specialties that the researchers analyzed:

- For internal medicine, premiums in North Carolina decreased by 5.5% in comparison to premiums in states without caps. *Id.* at 209.
- For obstetrics and gynecology, the relative decrease in North Carolina was larger: 9.81%. *Id.*
- For surgery, the relative decrease in North Carolina was larger still: 11%. *Id.*

The researchers confirmed that these savings in North Carolina were driven solely by the cap on noneconomic damages. *See id.* at 203, 211. The study also found that these differences did not result from any preexisting trends. *Id.* at 213.

In sum, noneconomic-damage caps reduce malpractice premiums. As the Yu & Baker study shows, North Carolina's cap statute has had

this very effect. Because the savings from lower premiums are passed on to patients and the public, North Carolina's cap statute serves the vital purpose of making health care more affordable.

II. North Carolina's damages cap also improves access to health care in our State.

The noneconomic-damages cap in section 90-21.19 serves another crucial purpose as well: It makes health care more accessible. It does so by attracting health professionals to North Carolina and by encouraging them to practice in high-risk specialties that might otherwise be underserved.

Studies show that states' medical-malpractice laws affect where physicians choose to practice. For example, one study examined how a liability crisis in Pennsylvania affected doctors' willingness to stay in Pennsylvania after their residencies. Michelle M. Mello & Carly N. Kelly, *Effects of a Professional Liability Crisis on Residents' Practice Decisions*, 105 Obstetrics & Gynecology 1287, 1287-88 (2005). The study found that a third of residents in high-risk specialties wanted to leave Pennsylvania because malpractice insurance there was unaffordable. *Id.* at 1293. Some medical residents also reported that

the threat of liability caused stress that affected their work. *Id.* at 1292.

Studies also show that medical-malpractice laws affect doctors' choice of specialty fields. For instance, one study found that half of all medical students, when choosing their specialties, considered medical-liability laws. AMA at 8. Another study found that a third of practicing physicians changed or limited their scopes of practice out of fear of being sued. Mass. Med. Soc'y, *2013 Physician Workforce Study Shows Physician Shortages, Difficult in Recruiting* (Sept. 18, 2013), https://perma.cc/EXX2-LBXZ.

When health professionals make these decisions on where and what to practice, the existence of a noneconomic-damages cap is a key consideration. One study found, for example, that surgeons were much more likely to move to a location that limits damage awards for malpractice than they were to move to a location that does not. Chiu-Fang Chou & Anthony T. Lo Sasso, *Practice Location Choice by New Physicians: The Importance of Malpractice Premiums, Damage Caps, and Health Professional Shortage Area Designation*, 44 Health Servs. Rsch. 1271, 1284-85 (2009). This study also found that when a new

surgeon chooses between two otherwise identical counties, the surgeon is three times more likely to choose a county that has a damages cap. *Id.* at 1283.

Because of these effects, states with damages caps have more health professionals than states without caps have. One study found that direct malpractice reforms, including damages caps, increase the number of physicians in a state by 3.3%. Daniel P. Kessler et al., *Impact of Malpractice Reforms on the Supply of Physician Services*, 293 JAMA 2618, 2623 (2005). Another study found that physicians are more likely to leave a state that lacks a noneconomic-damages cap than they are to leave a state that has a cap. John J. Perry & Christopher Clark, *Medical Malpractice Liability and Physician Migration*, 47 Bus. Econ. 202, 210 (2012).

Texas is an example of a state that has reaped these benefits. It enacted a noneconomic-damages cap in 2003. Ronald M. Stewart et al., *Tort Reform Is Associated with Significant Increases in Texas Physicians Relative to the Texas Population*, 17 J. Gastrointest. Surgery 168, 168 (2013). Since then, the number of physicians per capita in the state has increased significantly. *Id.* at 170-73.

States with cap statutes also have more health professionals in high-risk specialties than other states have. Studies have found that, compared to states without caps, states with noneconomic-damage caps have about 4% to 7% more physicians per capita in high-risk specialties. Jonathan Klick & Thomas Stratmann, *Medical Malpractice Reform and Physicians in High-Risk Specialties*, 36 J. Legal Stud. 121, 129-31 (2007).

As these points show, noneconomic-damages caps increase the availability of health care in the states that enact them. They do so by attracting professionals to those states and by encouraging those professionals to practice in high-risk specialties.

These effects on the availability of care are greatest in rural communities. One study found that rural counties with noneconomic-damage caps have 3% to 5% more physicians per capita than rural counties without them have. David A. Matsa, *Does Malpractice Liability Keep the Doctor Away? Evidence from Tort Reform Damage Caps*, 36 J. Legal Stud. 143, 145 (2007). For surgical specialists and support specialists, such as anesthesiologists and neurologists, this difference increases to 10% to 12%. *Id.* at 159-60, 165.

North Carolina's rural communities need these improvements in access to health care. Rural North Carolinians already have trouble obtaining care—especially care in high-risk specialties like obstetrics. For instance, more than a third of our State's rural hospitals do not offer maternity care. Lucille Sherman, *Access to Obstetric Care in Rural North Carolina Has Dwindled*, Axios (Feb. 5, 2024), https://perma.cc/KW3V-3XL2. Indeed, when the General Assembly enacted the cap statute, one lawmaker specifically cited problems with recruiting OB/GYNs to rural North Carolina counties as a driving concern. *See* S. Judiciary I Comm., Minutes at 4 (Feb. 15, 2011) (statement of Sen. Apodaca, member, S. Judiciary I Comm.), https://webservices.ncleg.gov/ViewDocSiteFile/66312. As the above studies show, by enacting the cap, the General Assembly has helped stop these access problems in rural parts of North Carolina from becoming worse.

In sum, North Carolina's noneconomic-damages cap delivers critical benefits: It helps recruit health professionals to our State and encourages those professionals to meet the need for high-risk

specialists. Through these effects, the cap expands North Carolinians' access to health care.

CONCLUSION

North Carolina's noneconomic-damages cap makes health care in our State more affordable and accessible. This Court should uphold the cap statute and affirm the decision below.

This 8th day of October, 2024.

ROBINSON, BRADSHAW & HINSON, P.A.

Electronically Submitted
Matthew W. Sawchak
N.C. State Bar No. 17059
msawchak@robinsonbradshaw.com

N.C. R. App. P. 33(b) Certification:
I certify that all of the attorneys listed below have authorized me to list their names on this document as if they had personally signed it.

Robert E. Harrington
N.C. State Bar No. 26967
rharrington@robinsonbradshaw.com

Erik R. Zimmerman
N.C. State Bar No. 50247
ezimmerman@robinsonbradshaw.com

Caroline H. Reinwald
N.C. State Bar No. 58053
creinwald@robinsonbradshaw.com

434 Fayetteville Street, Suite 1600
Raleigh, NC 27601
(919) 239-2600

Counsel for Amici the North Carolina Medical Society et al.

CERTIFICATE OF WORD-COUNT COMPLIANCE

Pursuant to Rule 28.1(b)(3)(d) of the North Carolina Rules of Appellate Procedure, I hereby certify that the foregoing brief, which is prepared with a proportional font, is less than 3,750 words, as reported by the word-processing software.

This 8th day of October, 2024.

Electronically Submitted
Matthew W. Sawchak

CERTIFICATE OF SERVICE

I certify that today, I caused a copy of this brief to be served on the following parties and amicus curiae by email:

John David Hayes, M.D.
(david@harvestmoonwomenshealth.com)

Harvest Moon Women's Health
c/o John David Hayes, M.D., as
Manager/Managing Agent
(david@harvestmoonwomenshealth.com)

Matthew D. Ballew, Esq. (mballew@ballewlaw.com)
Zachary D. Kaplan, Esq. (zkaplan@ballewlaw.com)
Ballew Puryear PLLC

Jeremy Wilson, Esq. (jw@wardandsmith.com)
Alexander C. Dale, Esq. (acd@wardandsmith.com)
Taylor Rodney Marks, Esq. (trmarks@wardandsmith.com)
W. Ellis Boyle, Esq. (weboyle@wardandsmith.com)
Joseph T. Knott, III, Esq. (jtknott@wardandsmith.com)
Ward and Smith, P.A.

Martin Warf, Esq. (martin.warf@nelsonmullins.com)
Nelson Mullins

Caroline M. Gieser, Esq. (cgieser@shb.com)
Shook, Hardy & Bacon L.L.P.

Stephen V. Carey, Esq. (stevecarey@parkerpoe.com)
Aislinn R. Klos, Esq. (aislinnklos@parkerpoe.com)
Parker Poe Adams & Bernstein LLP

This 8th day of October, 2024.

Electronically Submitted
Matthew W. Sawchak

CONTENTS OF APPENDIX

LIST OF AMICI

Pursuant to Rule 28.1(d), the following is a list of all entities that join this brief:

- North Carolina Medical Society
- The Charlotte-Mecklenburg Hospital Authority d/b/a Atrium Health
- Wake Forest University Baptist Medical Center d/b/a Atrium Health Wake Forest Baptist
- CarolinaEast Health System
- Duke University Health System, Inc.
- University Health Systems of Eastern Carolina, Inc. d/b/a ECU Health
- North Carolina Chapter of the American Society for Healthcare Risk Management, Inc.
- NCHA, Inc. d/b/a North Carolina Healthcare Association
- North Carolina Health Care Facilities Association
- North Carolina Medical Group Management Association
- Novant Health, Inc.
- University of North Carolina Health Care System
- WakeMed

AMA
AMERICAN MEDICAL ASSOCIATION

MEDICAL LIABILITY REFORM NOW! 2024

The facts you need to know to address the broken medical liability system

TABLE OF CONTENTS

The broken medical liability system remains one of the most vexing issues for physicians today. It places a wedge between physicians and their patients. It forces physicians to practice defensive medicine. It puts physicians at emotional, reputational and financial risk, and it drains resources out of an already financially strapped national health care system—resources that could be used for medical research or expanded access to care for patients. Now more than ever, the American Medical Association is committed to improving the medical liability system for both patients and physicians.

The AMA is pursuing legislative solutions at both the federal and state levels to address the problems with the current medical liability system and is actively collaborating with state medical associations and national medical specialty societies to advance these goals as well. "Medical Liability Reform – Now!" provides medical liability reform (MLR) advocates with the information they need to advocate for and defend MLR legislation. It includes background on the problems with the current system, proven solutions to improve the liability climate and a discussion of innovative reforms that could complement traditional MLR provisions. We hope this document sheds light on this particularly complicated issue and provides direction for those looking to fix it. This is a crucial period for MLR as federal policymakers and their state colleagues contemplate health system reform.

The system is broken

The physician perspective is personal

The medical liability issue is a very personal matter for physicians. A 2023 AMA research paper found that 31% of all physicians had been sued at some point in their careers. Given the longer exposure to liability risk, this percentage increases with age. Almost half of physicians age 55 and older had been sued. Physicians in some specialties are particularly at high risk. According to the AMA paper, over 75% of general surgeons and obstetricians/gynecologists (ob-gyns) age 55 and older faced a claim at some point in their careers, and almost half had been sued even before they turned 55.[1] Does this suggest that all those physicians are practicing bad medicine?

To the contrary, 2019 data from the Medical Professional Liability Association (MPL, formerly PIAA), a trade association of medical liability insurers, has shown that most liability claims are without merit. Sixty-five percent of claims that closed between 2016 and 2018 had been dropped, dismissed or withdrawn, and out of six percent of claims that were decided by a trial verdict, the vast majority of them (89%) had been won by the defendant in the case.[2]

A series of journal articles, which were based on analysis of closed claims from a national professional liability insurer, supported the conclusions drawn from the AMA and MPL data reported above. The first shows high rates of claim frequency, particularly among certain specialties.[3] For example, the authors projected that by age 65, 99% of physicians in high-risk specialties would have already been subject

1. Guardado J. Medical Liability Claim Frequency Among U.S. Physicians. Chicago, IL: American Medical Association; 2023. Policy Research Perspectives No. 2023-3. https://www.ama-assn.org/sites/ama-assn.org/files/corp/media-browser/public/government/advocacy/policy-research-perspective-medical-liability-claim-frequency.pdf. Accessed April 15, 2023.
2. Medical Professional Liability Association. 2019. Data Sharing Project MPL Closed Claims 2016-2018 Snapshot.
3. Anupam BJ, Seabury S, Lakdawalla D, et al. Malpractice risk according to physician specialty. *N Engl J Med*. 2011;365:629-636.

to a claim. The analysis also showed that the large majority of claims (78%) did not result in an indemnity payment.

A second article offered further insight into how claims are resolved and also suggests that most liability claims are without merit.[4] Looking only at claims with a positive defense cost, it found that 55% resulted in litigation (the filing and conduct of a lawsuit). However, 54% of the litigated claims were dismissed by the court.

The third article provided a rare look at the time required to close a malpractice claim and how this varies across a number of claim characteristics.[5] The article focused only on claims with an indemnity payment or at least some defense costs. Claims without either tended to indicate a preemptive report, perhaps by the physician, and one where no allegation of malpractice was ever made. The authors found that the average time from claim filing to close was 20 months. Among claims with an indemnity payment, 27% took three or more years to close, and among claims without an indemnity payment, 12% took that long to close. Time to closure also varied across severity and physician specialty. Assuming a career length of 40 years, the authors estimated that an average physician spends nearly 11% of his or her career with an open, unresolved claim.

The high price of medical liability insurance is another reason that physicians are so sensitive to this issue. Physicians in certain states and specialties can face liability premiums of over $100,000, and even more than $200,000 per year as is the case for some obstetrician/gynecologists in Florida and Illinois.[6]

Access to care for patients is adversely affected

Because of the risk of being sued over the course of a physician's career, and because medical liability insurance is so costly, the fear of liability hangs like a cloud over physicians—and it never goes away. The liability environment influences how physicians practice and affects patients' access to care and treatment.

According to results from the American Congress of Obstetricians and Gynecologists (ACOG) 2015 Survey on Professional Liability,[7] 49.7% of obstetricians/gynecologists had altered their practices since January 2012 due to the risk/fear of liability claims and litigation, and 39.8% had made changes to their practice due to insurance affordability or availability concerns. Of those reporting obstetric changes due to affordability or availability concerns:

- 13.6% decreased the number of obstetric high-risk patients they accepted
- 9.6% reported more cesarean births
- 8.4% eliminated vaginal births after cesarean (VBACs) from their practice
- 6.4% reported an overall decrease in the number of total deliveries

The 2013 Massachusetts Medical Society Physician Workforce Study revealed that 36% of Massachusetts physicians had altered or limited their scope of practice for fear of being sued.[8] In a 2008 national survey of physicians, more than 60% agreed with the statement, "I order some tests or consultations simply to avoid the appearance of malpractice."[9] A 2011 survey of physicians illustrates why the liability environment affects physicians' practice patterns—while 83% of physicians thought they could easily be sued for failing to order an indicated test, only 21% thought they could be sued for ordering a test that was not indicated.[10]

The 2010 Illinois "New Physician Workforce Study" provided insight into how new physicians—who are the future of medicine—were affected by the medical liability system. According to that survey, 49% of new Illinois physicians planned to relocate to a different state. Two-thirds of the new physicians

4. Anupam BJ, Chandra A, Lakdawalla D, et al. Outcomes of medical malpractice litigation against US physicians. *Arch Intern Med*. 2012;172(11):892-894.
5. Seabury SA, Chandra A, Lakdawalla D, et al. On average, physicians spend nearly 11% of their 40-year careers with an open, unresolved malpractice claim. *Health Aff*. 2013;32(1):111-119.
6. Guardado J. Prevalence of Medical Liability Premium Increases Unseen Since 2000s Continues for Fourth Year in a Row. Chicago, IL: American Medical Association; 2023. Policy Research Perspectives No. 2023-2. https://www.ama-assn.org/system/files/prp-mlm-premiums-2022.pdf. Accessed April 15, 2023.
7. Carpentieri AM, et al. Overview of the 2015 ACOG Survey on Professional Liability. American Congress of Obstetricians and Gynecologists; 2015. acog.org/-/media/Departments/Professional-Liability/2015PLSurveyNationalSummary11315.pdf. Accessed Jan. 23, 2020.
8. Massachusetts Medical Society. Physician Workforce Study. 2013.
9. Carrier, ER. Reschovsky JD, Mello MM, et al. Physicians' fears of malpractice lawsuits are not assuaged by tort reforms. *Health Aff*. 2010;29(9):1585–1592.
10. Sirovich B, Woloshin S, Schwartz LM. Too Little? Too Much? Primary Care Physicians' Views on US Health Care. *Arch Int Med*. 2011;171(17):1582–1585.

who planned to leave Illinois cited the medical liability environment as an important or very important consideration in that decision.[11]

A number of papers have clearly shown that the liability system affects not only how physicians practice, but where they practice as well. The research provides a convincing argument that physician supply is higher and patients' access to care is enhanced in areas where physicians are under less pressure from the liability system due to the enactment of traditional MLR provisions, such as caps on noneconomic damages. Summaries of a number of such papers follow.[12]

Perry (2012) examined whether noneconomic damage caps are associated with physician supply.[13] He compared physician migration in states that had passed noneconomic damage caps to states that had not passed such reforms. He finds that states that passed damage caps experience less out-migration of physicians than states that did not, which indicates they increase physician supply.

Matsa (2007) examined how physician supply responded to caps on noneconomic or total damages over the period from 1970 to 2000.[14] He found that the positive impact of caps was concentrated in rural counties, and among surgical and support specialists within those counties. Overall, he found that the number of physicians per capita in the most rural counties was about 4% larger in states with caps than in similar counties in states without caps. For surgical and support specialties in rural counties, states with caps had about 10% more physicians per capita than rural counties in states without caps. His work also suggested that it takes at least six to 10 years for the full effect of caps on physician supply to be felt and that this long-term effect is approximately twice that of the short-term effect.

Klick and Stratmann (2007) used a somewhat different approach than Matsa (2007) to examine the impact of caps on physician supply between 1980 and 2001.[15] Using physicians in low-risk specialties as a control group for physicians in high-risk specialties, Klick and Stratmann found that depending upon which specialties are defined as low- or high-risk, the number of physicians per capita in high-risk specialties was between 4% and 7% higher in states with caps on noneconomic damages than in states without caps.

Helland and Showalter (2006) examined the effect of caps on a different measure of physician supply, weekly hours of work, in 1983 and 1988.[16] They found that a 10% increase in expected liability costs was associated with a 2.9% decrease in weekly hours worked. The effects for physicians in solo practice and for physicians age 55 or older were even larger, with decreases of 6.6% and 12.2% respectively, for those two groups.

Kessler, Sage and Becker (2005) examined the effect of liability reforms on physician supply using annual data from 1985 through 2001.[17] They found that direct tort reforms increased physician supply by 2.4% relative to non-reform states.[18] They also looked at the impact on a number of high-risk specialties and found that the effect on emergency physicians was particularly large at 11.5%.

Encinosa and Hellinger (2005) looked specifically at the impact of noneconomic damage caps on physician supply using eight years of data from 1985 through 2000.[19] Their results suggested that caps increased the number of physicians per capita by 2.2% relative to counties in states without caps.

Helland and Seabury (2015) examined how physician supply responded to caps on noneconomic damages using state level estimates of the number of physicians per capita over the period from 1995 to

11. Illinois Hospital Association. 2010 *Illinois New Physician Workforce Study*. https://www.northwestern.edu/newscenter/stories/2010/11/doctors-free-illinois.html. Accessed Feb. 22, 2022.
12. Two AMA reports provide more extensive summaries of this research: (1) Kane CK, Emmons DW. The Impact of Liability Pressure and Caps on Damages on the Healthcare Market: An Update of Recent Literature. Chicago, IL: American Medical Association; 2007. Policy Research Perspectives No. 2007-1. (2) Kane CK, Emmons DW. The Impact of Caps on Damages. How are Markets for Medical Liability and Medical Services Affected? Chicago, IL: American Medical Association; 2005. Policy Research Perspectives No. 2005-2.
13. Perry, J.J, Clark, C. Medical Malpractice Liability and Physician Migration. *Bus Econ. 2012;47(3):202-213.*
14. Matsa, DA. Does Malpractice Liability Keep the Doctor Away? Evidence from Tort Reform Damage Caps. *J Legal Stud.* 2007;36(2):143–182.
15. Klick, J, Stratmann T. Medical Malpractice Reform and Physicians in High Risk Specialties.*J Legal Stud*. 2007;36(2):121–139.
16. Helland E, Showalter MH. The Impact of Liability on the Physician Labor Market. *Journal of Law and Economics*. 2009; 52(4):635-663.
17. Kessler DP, Sage WM, Becker DJ. Impact of Malpractice Reforms on the Supply of Physician Services. *JAMA*. 2005;293(21):2618–2625.
18. Direct reforms include caps on economic, noneconomic, or total damages, abolition of punitive damages, no mandatory prejudgment interest, and collateral source rule reform.
19. Encinosa WE, Hellinger FJ. Have State Caps On Malpractice Awards Increased The Supply Of Physicians? *Health Aff*. 2005; W5-250-W5-258.

2010.[20] They found that noneconomic damage caps were associated with increases in supply of between 2% and 7% for physicians in high-risk specialties, depending on whether their classification of high-risk specialties was broad or narrow. Measuring risk directly by specialty-level estimates of claim frequency, they found that caps had a larger impact on specialties with higher frequency. The authors noted that caps were more likely to be adopted in states experiencing slower than average growth in physician supply. Thus, they used a strategy that accounted for that phenomenon in their estimation of the impact of caps.

A 2006 literature review by the Robert Wood Johnson Foundation reached a similar conclusion to the research summarized above. It concluded that, the best studies suggest that caps are associated with a small increase in physician supply."[21]

Accuracy and fairness

Research shows that the current system treats physicians and patients unfairly and that its outcomes are inaccurate. A 2006 review of closed claims showed that no injury had occurred in 3% of claims, and that in 37% of those that involved an injury there had been no error.[22] The same research showed that in terms of compensation for medical errors, the system "gets it wrong" about equally on both sides. Twenty-seven percent of claims involving errors were uncompensated, while 28% of claims that did not involve an error were compensated. Earlier research that matched claim-level data with hospital records also suggested similar inaccuracies. It found that less than 15% of patients who suffered a negligent injury filed a claim and that negligence had occurred in only slightly more than 15% of filed claims.[23]

Claim costs

From a number of perspectives, the current liability system is extremely costly. MPL data show that the average indemnity payment on settled claims that closed between 2016 and 2018 was $372,309, and for tried claims decided in the plaintiff's favor, it was $635,829.[24] In addition to the costs generated by the amounts paid out to plaintiffs, claims are also costly to defend. The average defense cost for settled claims that closed between 2016 and 2018 was $77,117. For tried claims, it was $158,843 when there was a defendant victory and $236,519 for a plaintiff victory. For claims that were dropped, dismissed or withdrawn, the average defense cost was $30,439.[25] Although this is lower than for claims that are settled or tried, dropped claims accounted for a significant share (37.6%) of total defense costs in 2016–2018 given their prevalence—i.e., 65% of all closed claims.[26]

Those per-claim costs add up to very large amounts. According to data from the National Association of Insurance Commissioners, total (incurred) indemnity losses in 2020 were $5.6 billion—an increase of over $1 billion from 2018, and defense costs were an additional $2.9 billion.[27] These claim costs have a direct effect on the cost of medical care.

Earlier we referenced a body of research based on analyses of closed claims from a national professional liability insurer.[28] Based also on these data, the same authors found that defense costs were more than twice as high for claims that resulted in indemnity payments than for claims where no indemnity payments were made. However, the authors concluded that there was still a meaningful cost tied to defending that latter group of claims, and

20. Helland E, Seabury SA. Tort Reform and Physician Labor Supply: A Review of the Evidence. *Int'l Rev. L. & Econ*. 2015;42(June):192–202.
21. Mello MM. Medical Malpractice: Impact of the Crisis and Effect of State Tort Reforms, The Robert Wood Johnson Foundation, Research Synthesis Report No. 10. 2006.
22. Studdert DM. Mello MM, Gawande AA. Claims, Errors, and Compensation Payments in Medical Malpractice Litigation. *N Engl J Med* 2006;354(19):2024–2033.
23. Weiler PC. *A Measure of Malpractice: Medical Injury, Malpractice Litigation, and Patient* Compensation. Cambridge, MA: Harvard University Press; 1993.
24. Medical Professional Liability Association. 2019. Data Sharing Project MPL Closed Claims 2016-2018 Snapshot.
25. Medical Professional Liability Association. 2019. Data Sharing Project MPL Closed Claims 2016-2018 Snapshot.
26. Medical Professional Liability Association. 2019. Data Sharing Project MPL Closed Claims 2016-2018 Snapshot and AMA's calculations from data in that report.
27. National Association of Insurance Commissioners (NAIC). Report on Profitability by Line by State in 2020. 2021. https://content.naic.org/sites/default/files/publication-pbl-pb-profitability-line-state.pdf Accessed Jan 26, 2022. The NAIC report does not report these figures; it only reports them as percentages of direct premiums earned. Thus, they were calculated by multiplying those percentages to direct premiums earned. Defense costs are called "loss adjustment expenses" in the NAIC report.
28. Anupam BJ, Seabury S, Lakdawalla D, et al. Malpractice Risk According to Physician Specialty. *N Engl J Med*. 2011;365:629–636. Anupam BJ, Chandra A, Lakdawalla D, et al. Outcomes of Medical Malpractice Litigation Against US Physicians. *Arch Intern Med*. 2012;172(11):892-894. Seabury SA, Chandra A, Lakdawalla D, et al. On average, physicians spend nearly 11% of their 40-year careers with an open, unresolved malpractice claim. *Health Aff*. 2013;32(1):111–119.

considerable savings could be had if the costs of dispute resolution were lowered.[29]

The fear of liability affects health care spending

In addition to the direct effect that indemnity and defense costs have on medical spending, there is also a considerable indirect effect. Since the fear of lawsuits affects the way in which physicians practice, our medical liability system causes health care expenditures to be different than they otherwise would be. This is called "defensive medicine." However, it is very difficult to measure the extent and cost of defensive medicine, and more recent research shows that it is even more difficult than was previously thought.[30] This is because there are two types of defensive medicine—*positive* and *negative*. Positive defensive medicine is the tendency to provide more care to reduce liability risk. This is also known as assurance behavior and is what was conventionally thought of in previous studies. In contrast, negative defensive medicine, or avoidance behavior, refers to the tendency to avoid high-risk procedures for a given patient or avoid risky patients altogether to reduce risk.

Importantly, the two types of defensive medicine have opposing effects on health care spending, which makes it even more difficult to measure its extent and cost. Positive defensive medicine increases spending while negative defensive medicine *decreases* it. Therefore, laws aimed at reducing liability pressure and thus defensive medicine, such as caps, can also either increase or decrease spending. The net effect on total spending then depends on which effect dominates. For example, if these effects were to exactly offset each other, and studies were to thus find zero effects on total spending, this would not necessarily indicate that defensive medicine wasn't present; instead, researchers may have not been able to detect it. In short, it is presently very difficult to estimate the *total* cost of defensive medicine.

Much of the earlier research on the cost of defensive medicine focused on certain disease populations or procedures. In contrast, the more recent research examined more aggregate measures of spending on overall populations. Most research—earlier and more recent—is on the Medicare population because of a dearth of available expenditure data for the non-Medicare population.

The seminal paper that sought to quantify the extent of defensive medicine was Kessler and McClellan (1996). Kessler and McClellan (1996) examined hospital expenditures over the course of a year by Medicare beneficiaries with new diagnoses of acute myocardial infarction (AMI) or ischemic heart disease (IHD) in 1984, 1987 and 1990.[31] They compared those expenditures in states with direct, indirect or no tort reforms.[32] They found that within three to five years after the adoption of late 1980s direct reforms, hospital expenditures were reduced by 5% to 9% as compared to expenditures in states that did not adopt reforms.[33] Kessler and McClellan also tested for differences in mortality and complications, and found that these outcomes were similar regardless of whether a direct tort reform was in place. The finding that health did not worsen when those expenditures were reduced supports Kessler's and McClellan's conclusion that the expenditures had been incurred through the practice of defensive medicine.

In an extension of their 1996 work, Kessler and McClellan (2002) examined whether physicians' incentives to practice defensive medicine were affected by the increase in managed care enrollment from 1984 through 1994.[34] The authors found that for IHD patients, direct reforms had a larger negative impact on hospital expenditures in areas with low rather than high managed care penetration, leading to a decrease of 7.1% compared to 2.9%. Among AMI patients, the impact of tort reform was similar regardless of managed care penetration; it resulted in a 3.8% decrease in hospital spending.

29. Seabury S, Chandra A, Lakdawalla D. Defense Costs of Medical Malpractice Claims. *N Engl J Med*. 2012:36;1354–1356.
30. Paik, M, Black B, Hyman, D. Damage Caps and Defensive Medicine Revisited. *J. Health Econ*. 2017; 51(January):84-97. Moghtaderi, A, Farmer, S, Black, B. Damage Caps and Defensive Medicine: Reexamination with Patient-Level Data. *J. Empir. Leg. Stud*. 2019; 16(1): 26-68. U.S. Congressional Budget Office. How Do Changes in Medical Malpractice Liability Laws Affect Health Care Spending and the Federal Budget? Working Paper 2019- 03 (Washington, DC: U.S. Congressional Budget Office, April 2019).
31. Kessler DP, McClellan M. Do Doctors Practice Defensive Medicine? *Q J Econ*. 1996:111(2):353-390.
32. Direct reforms include caps on economic, noneconomic, or total damages, abolition of punitive damages, no mandatory prejudgment interest, and collateral source rule reform. Indirect reforms include limits on contingency fees, mandatory periodic payments, joint and several liability reform, statute of limitations reform, and existence of a patient compensation fund.
33. The 5% reduction was for AMI; 9% for IHD.
34. Kessler D, McClellan M. Malpractice Law And Health Care Reform: Optimal Liability Policy In And Era Of Managed Care. *J Public Econ*. 2002;84:175-197.

Avraham and Schanzenbach (2015) used 1998 to 2009 data from the Nationwide Inpatient Sample (NIS) to examine the effect of noneconomic damage caps on the treatment intensity of heart attack patients aged 45 to 90.[35] They found that the likelihood of receiving an invasive procedure (angioplasty or bypass) declined by 1.25 to two percentage points following enactment of a cap—caps were associated with a decrease in treatment intensity. At the same time, they found no evidence that the decrease in treatment intensity led to an increase in mortality. Together, these results suggest that the extent of defensive medicine was reduced by caps on noneconomic damages.

In a 2006 background paper, the Congressional Budget Office (CBO) looked at the relationship between tort reform and hospital, physician and total Medicare expenditures on all beneficiaries over the 1980 through 2003 period.[36] The CBO concluded that hospital spending per beneficiary was 5% lower in states where noneconomic damages were capped, but attributed about half of that impact to the prospective payment system implemented in 1983.[37] While they found no impact of caps on physician spending, they estimated that total Medicare spending per beneficiary was 4% lower in states with caps.

The more recent research examined the effects of a latter wave of tort reforms that were implemented in the 2000s.[38] In contrast to much of the earlier literature, which typically focused on specific disease populations or procedures, Paik et al. (2017), Moghtaderi et al. (2019) and the CBO (2019) examined the effects of tort reforms on hospital, physician and total Medicare spending. Taken together, they provide mixed evidence. Noneconomic damage caps either raised, lowered or did not affect spending, depending on which type of spending was examined, and the direction of the effect was also inconsistent across studies. This is not entirely surprising, given the opposing effects of positive and negative defensive medicine on spending discussed above. Those mixed findings led the CBO to conclude noneconomic damage caps won't affect *total* Medicare spending. They also underscore the difficulty in estimating the extent and cost of defensive medicine.

Rather than comparing Medicare expenditures in states with and without tort reforms, some authors have examined whether Medicare expenditures are higher in states that have higher indemnity payments on liability claims.[39] Baicker, Fisher and Chandra (2007)[40] found that a 10% increase in average (per physician) indemnity payments between 1993 and 2001 was associated with a 1.5% to 1.8% increase in the utilization of half of the diagnostic and imaging procedures at which they looked.[41] For spending, they found that the same 10% increase in indemnity payments led to a 1% increase in Part B spending per beneficiary, but found no impact on total spending per beneficiary. The impact on imaging spending (2.2%) stood out as it was larger than that of any other testing or procedure category.

Roberts and Hoch (2007) used 1998 through 2002 Medicare expenditure data and county-level data on the number of medical liability lawsuits in Mississippi to examine the relationship between litigation and medical costs.[42] The authors found that an additional lawsuit per 100,000 persons led to higher Part B Medicare spending of $1.40 to $2.49 per beneficiary. This implied that in the average county in Mississippi, between 0.9% and 1.6% of Part B spending was due to the litigation climate (including the direct impact

35. Avraham, R, Schanzenbach, M. The Impact of Tort Reform on Intensity of Treatment: Evidence from Heart Attack Patients. *J. Health Econ*. 2015;39(January):273–288.
36. U.S. Congressional Budget Office. Medical Malpractice Tort Limits And Health Care Spending, Background Paper (Washington, DC: U.S. Congressional Budget Office, April 2006).
37. CBO's work suggests that states that were under greater pressure from the PPS system to reduce expenditures were more likely than other states to enact caps. The 5% estimated impact of caps picks up some of this relationship.
38. Paik, M, Black B, Hyman, D. Damage Caps and Defensive Medicine Revisited. *J. Health Econ*. 2017; 51(January):84-97. Moghtaderi, A, Farmer, S, Black, B. Damage Caps and Defensive Medicine: Reexamination with Patient-Level Data. *J. Empir. Leg. Stud*. 2019; 16(1): 26-68. U.S. Congressional Budget Office. How Do Changes in Medical Malpractice Liability Laws Affect Health Care Spending and the Federal Budget? Working Paper 2019- 03 (Washington, DC: U.S. Congressional Budget Office, April 2019).
39. When the authors looked at premiums as a measure of liability pressure rather than indemnity payments, their results were similar.
40. Baicker K, Fisher ES, Chandra A. Malpractice Liability Costs and the Practice of Medicine in the Medicare Program. *Health Aff*. 2007;26:841–852.
41. They found an impact on carotid duplex, echocardiography, electrocardiogram, (EKG), and computed tomography (CT)/magnetic resonance imaging (MRI) scanning. They found no impact on prostate-specific antigen (PSA) testing, cardiac catheterization, chest x-rays and mammograms.
42. Roberts B, Hock I. Malpractice Litigation and Medical Costs in Mississippi. *Health Econ*. 2007;16(8):841–859.

of payouts to plaintiffs on health care costs).[43] In the county with the most lawsuits, 277 per 100,000 persons, 15.9% of spending on physician services was due to litigation.

Taken as a whole, the earlier Medicare-based research suggests that defensive medicine affects Medicare spending, but that this effect may be concentrated in some disease populations or procedures. In contrast, the more recent research, which looks at the effects of a latter wave of reforms on more aggregate measures of spending, finds mixed and inconclusive evidence on the spending effects of noneconomic damage caps, perhaps due to the opposing effects of positive and defensive medicine.

Other empirical papers suggest the practice of defensive medicine using data on the non-Medicare population. Avraham, Dafny and Schanzenbach (2010) used a proprietary multi-employer database to examine the relationship between tort reform and the health insurance premiums of employer-sponsored health plans over the 1998 through 2006 period.[44] The authors found that if implemented together, joint and several liability reform, caps on punitive damages, caps on noneconomic damages and collateral source rule reform would reduce the health insurance premiums of self-insured plans by 2.1%, driven largely by the latter two reforms.

Thomas, Ziller and Thayer (2010) used medical liability premiums as a measure of liability pressure.[45] They estimated how episode-of-care costs for Cigna Healthcare claims responded to changes in that measure over the 2004 to 2006 period, or to variation in the measure across areas. The authors' work showed that a 10% decrease in medical liability premiums would lead to a statistically significant decrease in costs in 2% of the *different types* of episodes in their data, which was equivalent to 35.8% of the *total number* of episodes over that period (the affected episodes were high-volume ones). They also concluded that a 10% decrease in premiums would result in a decrease in total costs of less than 1%.

Xu, Spurr, Nan and Fendrick (2013) examined the effect of the medical liability environment on the rate of referrals received by specialist physicians.[46] It analyzed a sample of ambulatory visits to specialist doctors in an office-based setting during the 2003–2007 period. The study assessed whether the rate of referrals was associated with a state's liability environment, including whether it had a cap on noneconomic damages. It found that noneconomic damage caps of $250,000 were significantly associated with a lower likelihood of a specialist receiving a referral. This finding is consistent with a reduced practice of defensive medicine resulting from the existence of a cap.

The CBO working paper (2019) referenced above also examined the effects of the more recent wave of tort reforms on Medicaid spending in total, as well as for different subsets of beneficiaries. It found some evidence that noneconomic damage caps may reduce Medicaid spending for some beneficiaries—namely, nonelderly, able-bodied adults; however, none of their estimates were statistically significant. The largest and most consistently negative effects were for this population, and the estimates suggest that fully phased-in noneconomic damage caps would lower per-beneficiary Medicaid spending by about 10%.[47]

Finally, Frakes and Gruber (2019) exploit liability rules in the Military Health System to estimate the extent of defensive medicine. Since active-duty patients receiving treatment at military facilities cannot sue for harm arising from adverse events, Frakes and Gruber (2019) compare the treatment intensity and patient outcomes of this legal immunity group to those of patients who are able to sue—dependents treated at military facilities as well as all patients, active duty or not—receiving care from civilian facilities. They find suggestive evidence that legal immunity reduces inpatient spending by 5% with no measurable negative effect on patient outcomes.

43. The lower of the two estimates is from a regression that includes county fixed effects. The percentage impacts are calculated at the mean number of suits per 100,000 (16.05), with average Medicare physician spending per beneficiary of $2431 ($1.40 * 16.05 /$2431 = 0.009, for example).
44. Dafny RA, Schanzenbach MM. The Impact of Tort Reform on Employer-Sponsored Health Insurance Premiums. Journal of Law, Economics, and Organization. 2012; 28(4):657-686.
45. Thomas WJ, Ziller EC, Thayer DA. Low Costs of Defensive Medicine, Small Savings From Tort Reform. *Health Aff*. 2010;29:1578–1584.
46. Xu, X, Spurr, SJ, Nan, B, Fendrick, AM. The Effect of Medical Malpractice Liability on Rate of Referrals Received by Specialist Physicians. *Health Econ Policy Law. 2013;8(4):453-75.*
47. U.S. Congressional Budget Office. How Do Changes in Medical Malpractice Liability Laws Affect Health Care Spending and the Federal Budget? Working Paper 2019-03 (Washington, DC: U.S. Congressional Budget Office, April 2019).

This evidence is consistent with the practice of defensive medicine.[48]

A recurring problem

The problems with the medical liability system are not new. The medical liability insurance system experienced a period of crisis in the early 1970s when several private insurers left the market because of rising claims and inadequate rates. This exodus of capacity resulted in an availability crisis and created an affordability issue for those physicians and hospitals lucky enough to find insurance. Over the next 15 years, various attempts were made to ease the explosion in claims costs: tort reform, increased diagnostic testing, improved peer review and increased communication between physicians and patients. Aggressive campaigns to reform state laws governing medical liability lawsuits began in the 1970s and were successful in a number of states, including California, Louisiana, Indiana and New Mexico.

In California, between 1968 and 1974, the number of medical liability claims doubled, and the number of losses in excess of $300,000 increased dramatically, from three to 34. Losses amounting to $180 for each $100 of premium led most commercial insurers to conclude that the practice of medicine was uninsurable, and they refused to provide medical liability insurance at any price. In California, access to care was threatened, and a special session of the California legislature led to enactment of the Medical Injury Compensation Reform Act of 1975 (MICRA).[49]

During the 1980s, the second liability crisis—characterized by a lack of affordability—shook the industry, as claim frequency and severity increased again and premiums rose rapidly. The affordability crisis had a dramatic effect. Physicians in specialties such as obstetrics and gynecology cut back on high-risk procedures and high-risk patients to reduce risk and hold down their premiums. Some physicians closed practices in states where premiums and the risk of being sued were especially high.

48. Frakes, M, Gruber, M. Defensive Medicine: Evidence from Military Immunity. *American Economic Journal: Economic Policy*.2019;11(3):197-231.
49. Anderson RE. Commentaries Defending the Practice of Medicine. Arch Int Med. 2004;164(11):1173-8.

The third liability crisis began in the early 2000s. Liability premiums skyrocketed, and access to care was threatened in many states.

Access to care during the last liability crisis

At the height of the third liability crisis in the mid-2000s, 45% of hospitals reported that the professional liability crisis resulted in the loss of physicians or reduced coverage in emergency departments.[50] According to a 2006 ACOG survey, the lack of affordable liability insurance forced 70% of obstetricians/gynecologists to make changes to their practice in the preceding three-year period. Of those who made changes, liability concerns forced 7% to stop practicing obstetrics. Finally, ACOG reported that close to 90% of obstetricians/gynecologists have had at least one liability claim filed against them over the course of their career with the average being 2.6% claims per obstetrician/gynecologist.[51]

Residents and students also expressed grave concerns about the liability situation and their ability to practice medicine in high-risk specialties at the height of the third liability crisis. In a 2003 survey, 62% of medical residents reported that liability issues were their top concern, surpassing any other concern. This represented an enormous increase from 2001 when, according to 2003 survey data, only 15% of residents said liability was a concern.[52]

Medical students were also affected by the third liability crisis. In fact, half of the respondents to an AMA survey indicated the medical liability environment was a factor in their specialty choice.[53] Thirty-nine percent said the medical liability environment was a factor in their choice of state in which to complete residency training.[54] Sixty-one percent of students reported they were extremely concerned that the current medical liability environment was decreasing physicians' ability to provide quality medical care.[55]

50. Am. Hosp. Ass'n., Prof'l Liability Ins. Survey (2003).
51. Wilson N, Strunk AL. Overview of the 2006 ACOG Survey on Professional Liability. *ACOG Clinical Review*. 2007;12(2):1–16.
52. Meritt, Hawkins & Assoc., Summary Report: 2003 Survey of Final Year Med. Residents 5 (2003).
53. AMA Division of Market Research & Analysis. AMA Survey: Med. Students' Opinions of the Current Medical Liability Environment. 2003.
54. Id.
55. Id.

At the height of the third crisis, a majority (59%) of physicians believed that the fear of liability discouraged open discussion and thinking about ways to reduce health care errors.[56] More than three-fourths (76%) of physicians believed that concern about medical liability litigation negatively affected their ability to provide quality care.[57] Fear of medical liability suits caused some emergency room physicians to order more hospitalizations and medical tests than other emergency room doctors.[58]

Premiums during the last liability crisis

The Medical Liability Monitor (MLM) reports medical liability premiums for major medical liability insurance carriers for obstetrics/gynecology, general surgery and internal medicine in each state (or sub-state area) where they provide liability coverage. The premium data on page 11 below, which are from the Annual Rate Survey (October) editions of the MLM, illustrate the explosive premium growth faced by physicians during the third medical liability crisis from 2000–2004. The table also shows premiums for California—a state that passed strong tort reforms in 1975—to illustrate the relative stability in premiums in that state compared to others.

Premiums in several states more than doubled during the 2000–2004 period. As the table shows, some Florida obstetricians/gynecologists and general surgeons faced premiums that were over $275,000 in 2004. According to the Florida Association of Realtors and the University of Florida Real Estate Research Center, that was more than the median sale price for a house in that area at that time ($273,900).[59]

Premiums after the last crisis

After the crisis, a growing number of premiums started to decrease.[60] Since then, however, fewer premiums have fallen over time, and decreases have become much less common than premium increases. The major trend had generally been one of increasing stability, though stability has been slowing down since 2019.

Also in 2019, for the first time since the last crisis, the share of premiums that increased year-to-year went up significantly. The proportion of premiums that went up in 2018 almost doubled in 2019. Then in 2020, an even higher share increased, when 31.1% of premiums went up from the previous year. Once again, and despite a small dip in 2021, over 36% of premiums increased in 2022.[61] This was the highest proportion observed since 2005.

According to some actuaries, we were already in the early stages of a hard market—a period of increasing premiums—in 2020. They expected that insurers would sustain or even push for higher premiums in 2021.[62] The 2021 and 2022 MLM data indicate that this is coming to fruition.[63] The average change in premiums across the nation was 2.5% in 2022—up from 1.0% in 2020. Among premium increases, the average increase was 8.1% in 2022, which was higher than the 6.3% observed in 2020. There were 15 states where at least some of the premiums reported increased by 10% or more—up from 12 such states in 2021. Smaller increases in premiums were more widespread as they were observed in 38 states in 2022. Although there may not be a hard market yet in the U.S. as a whole, there appears to be a hard market in a considerable number of states, such as Illinois, where 64.3%, 80.6% and 90.7% of its premiums increased respectively in each of the last three years. In sum, average premiums have been going up in recent years. To put it in perspective, however, at this stage the current hard market is not as severe and is spreading at a slower pace than the last liability crisis.

56. Harris Interactive Inc. Common Good, Common Good Fear of Litigation Study: The Impact on Med. 65. 2002.
57. Id. See also, Taylor S, Thomas E. Civil Wars. Newsweek, Dec. 15, 2003 (detailing America's increasingly litigious culture and its repercussions in the day-to-day work of physicians and other professionals).
58. Malpractice Fears Guide Behavior of Some ER Physicians, Study Says. Health Care Daily. July 13, 2005.
59. https://www.bizjournals.com/southflorida/stories/2005/05/09/story6.html. Accessed Feb. 22, 2022.
60. Guardado. J. Prevalence of Medical Liability Premium Increases Unseen Since 2000s Continues for Fourth Year in a Row. Chicago IL: American Medical Association; 2023. Policy Research Perspectives No. 2023-2. https://www.ama-assn.org/system/files/prp-mlm-premiums-2022.pdf. Accessed April 15, 2023. This subsection is based entirely on this particular report.
61. Guardado J. Prevalence of Medical Liability Premium Increases Unseen Since 2000s Continues for Fourth Year in a Row. Chicago, IL: American Medical Association; 2023. Policy Research Perspectives No. 2023-2. https://www.ama-assn.org/system/files/prp-mlm-premiums-2022.pdf. Accessed April 15, 2023.
62. Burns B., Gittleman A. Rate Increases – Just What the Doctor Ordered. Medical Professional Liability in 2020. *Medical Liability Monitor*, Annual Rate Survey Issue, Vol. 45 (10). October 2020.
63. Guardado J. Prevalence of Medical Liability Premium Increases Unseen Since 2000s Continues for Fourth Year in a Row. Chicago, IL: American Medical Association; 2023. Policy Research Perspectives No. 2023-2. https://www.ama-assn.org/system/files/prp-mlm-premiums-2022.pdf. Accessed April 15, 2023.

It is not atypical for there to be hard and soft markets—i.e., for premiums to go up and down, as this is part of the insurance cycle. How severe and widespread the current hard market will become is still uncertain; hence, the next editions of the MLM data are awaited with great anticipation.

Crisis states during this period

During the last crisis, the AMA identified the following states as crisis states: Arkansas, Connecticut, Florida, Georgia, Illinois, Kentucky, Massachusetts, Mississippi, Missouri, Nevada, New Jersey, New York, North Carolina, Ohio, Oregon, Pennsylvania, Rhode Island, Tennessee, Texas, Washington, West Virginia and Wyoming. Premiums were increasing in these states; patients were losing access to health care, and physicians were struggling to stay in practice.

For example, between 2000 and 2004, liability premiums for some ob-gyns (i) almost doubled in New Jersey and some areas in Florida and Illinois, (ii) more than doubled in Connecticut, and (iii) more than quadrupled in some areas of Pennsylvania.[64] More than 1,600 Florida physicians gave sworn statements to a state Senate panel in August 2003 detailing how the state's medical liability crisis forced them to change their practices, including no longer providing services such as delivering babies and performing complex surgeries.[65] The only Level 1 trauma center in Las Vegas had to close temporarily due to skyrocketing liability premiums.[66] And in Philadelphia, the city lost 11 maternity wards between 1997 and 2007, with the *Philadelphia Inquirer* citing liability concerns as one of the main reasons for these closures.[67] The last liability crisis was very detrimental to patients and to physicians, and the AMA is advocating on behalf of patients and physicians constantly to prevent a recurrence of this event.

64. Guardado J. Medical Professional Liability Insurance Premiums: Changes and Levels, 2004-2009. Chicago, IL: American Medical Association; 2009. Policy Research Perspectives No. 2009-5.
65. Florida Medical Association.
66. PR Newswire, April 21, 2003.
67. Burling S. Demise of Maternity Wards is Inducing the Baby Scramble. *Philadelphia Inquirer*. May 6, 2007.

Medical professional liability insurance premiums for $1M/$3M policies, 2000–2004

Obstetrics/gynecology	2000	2001	2002	2003	2004
California (Los Angeles, Orange)	52,874	52,874	54,563	60,259	63,272
Connecticut	63,292	77,533	94,978	123,470	148,164
Florida (Miami-Dade)	147,621	166,368	201,376	249,196	277,241
Illinois (Cook, Madison, St. Clair, Will)	78,880	88,928	102,640	139,696	147,540
New Jersey	68,000	68,000	70,720	102,643	128,304
New York (Nassau, Suffolk)	115,429	115,429	115,431	123,853	133,787
Pennsylvania (Philadelphia, Delaware)	37,556	45,938	100,045	134,335	161,211
Texas (Brownsville, Laredo, El Paso)	73,660	91,894	92,326	92,326	81,247
General surgery					
California (Los Angeles, Orange)	32,507	32,507	36,740	45,421	54,505
Connecticut	32,651	34,283	36,854	42,385	57,220
Florida (Miami-Dade)	110,068	124,046	174,268	226,542	277,241
Illinois (Cook, Madison, St. Clair, Will)	52,364	59,016	68,080	92,576	102,700
New Jersey	32,333	38,800	41,516	58,786	63,489
New York (Nassau, Suffolk)	62,733	62,733	65,870	74,211	80,163
Pennsylvania (Philadelphia, Delaware)	33,684	35,793	82,157	108,038	128,524
Texas (Brownsville, Laredo, El Paso)	50,911	67,555	71,200	71,200	62,656
Internal medicine					
California (Los Angeles, Orange)	10,097	10,097	11,164	12,493	14,237
Connecticut	7,736	9,863	13,820	21,420	28,917
Florida (Miami-Dade)	32,744	38,378	56,153	65,697	69,310
Illinois (Cook, Madison, St. Clair, Will)	19,604	22,060	26,404	35,756	38,424
New Jersey	11,359	12,495	13,620	20,893	23,818
New York (Nassau, Suffolk)	21,648	21,648	21,648	23,228	25,091
Pennsylvania (Philadelphia, Delaware)	7,390	7,853	18,429	24,546	27,505
Texas (Brownsville, Laredo, El Paso)	18,783	25,563	26,334	26,334	23,174

The dollar amounts in the table are examples of manual premiums for professional liability insurance that were reported in the "2001–2004 Annual Rate Survey" (October) issue of the Medical Liability Monitor (MLM). This table is an excerpt from a 2009 AMA report on MLM premiums.* It does not include all the rates reported for the geographic areas in the table, nor does it include the premiums paid by physicians in other areas of the country, which may be higher or lower. These rates reflect the manual rates for one of the state's market share leaders. The MLM reports that these rates do not reflect credits, debits, dividends or other factors that may reduce or increase the actual rates charged to physicians. The AMA alone is responsible for the accuracy of the information in the table and believes the rates listed are a reasonable benchmark to demonstrate professional liability insurance trends for select specialties in certain geographic areas. Connecticut 2003–2004 rates are for $1 million/$4 million limits, and New York 2004 rates are for $1.3 million/$3.9 million limits. Pennsylvania premiums include PCF surcharges. To obtain the MLM survey or to verify its accuracy, visit mlmonitor.com or call (312) 944-7900.

* The MLM data were summarized by Guardado JR. in Medical Professional Liability Insurance Premiums: Changes and Levels, 2004–2009. Chicago, IL: American Medical Association, 2009. Policy Research Perspectives No. 2009-5.

Research on caps

Caps on noneconomic damages have proven to be successful at maintaining a stable liability climate in states that enact them. A large body of research shows that caps on noneconomic damages lead to improved access to care for patients, constrained medical liability premium growth, lower claim frequency, reduced average claim payments and lower health care costs. The AMA is committed to advocating for traditional reforms—such as caps on noneconomic damages—as the cornerstone to fixing the broken liability system. The AMA is also calling for testing of innovative reforms to see if any of them can be proven successful as well.

The following articles, most of them conducted independently and subject to peer review in academic journals, show the beneficial effects that caps have on premiums, costs and the federal deficit. Their effect on patient access to care was addressed in an earlier section of this document.[68]

Kessler and McClellan (1997) looked at the relationship between tort reform and liability pressure, where pressure was measured by premiums paid by physicians and claim frequency.[69] Both the premium and the frequency data were from 1985 through 1993 surveys of physicians conducted by the AMA. The authors found that direct reforms reduced premiums by 8.4% within the first three years after a reform and reduced the likelihood that a physician would be sued by 2.1% points (or 24%).

Thorpe (2004) examined the impact of various types of caps that were enacted in the mid- to late 1980s.[70] He found that medical liability premium revenue was 17% lower in states that capped noneconomic or total damages than in states that did not.

Viscusi and Born (2005) examined the impact of caps and other tort reforms that were enacted in the mid- to late 1980s.[71] They found that insurers in states that enacted caps on noneconomic damages had losses 17% lower than those of insurers in other states. Earned premiums were 6% lower. In addition, they found that losses and premiums of insurers in states where punitive damages were not allowed were 16% and 8% lower, respectively, than losses and premiums of insurers in states that allowed punitive damages. Caps on punitive damages had, predictably, smaller impacts than the prohibition of punitive damages, only 7% on losses and no impact on premiums.

Born, Viscusi and Baker (2009) examined the effects of reforms on ultimate[72] losses and whether those effects were larger for insurers that experience greater losses. They found that insurers whose business was concentrated in states with caps had smaller losses than other insurers.[73] For example, on average over the 1984 to 1999 period, a 10% increase in the share of business in states with noneconomic caps led to a 2.5% decrease in losses developed to the fifth year. The effects were more pronounced for firms with higher losses per premium dollar—those firms had large claims that were likely to be affected by caps. The authors also examined incurred[74] losses and found smaller impacts than for losses developed to the fifth year, as well as for losses developed to the tenth year in the analysis that assessed the effect by size of loss. This suggests that the caps had a larger impact on ultimate losses than on losses that the insurers initially expected.

Kilgore, Morrisey and Nelson (2006) investigated the association between a number of different types of tort reforms and medical liability premiums over the 1991 to 2004 period.[75] Their results showed that, on average, internal medicine premiums in coverage regions in states with caps on noneconomic damages were 17.3% lower than in regions in states without caps. The impact of caps on general surgery and obstetrics/gynecology premiums was larger, 20.7% and 25.5%, respectively. Moreover, and consistent with what one might expect, the authors found that every $100,000 increase in a cap

68. Also see footnote 12 for two AMA reports that provide more lengthy and detailed summaries of these and related research papers.
69. Kessler DP, McClellan MB. The Effects of Malpractice Pressure and- Liability Reforms on Physicians' Perceptions of Medical Care. *Law and Contemp Problems*. 1997;60(1):81–106.
70. Thorpe KE. The Medical Malpractice 'Crisis': Recent Trends and the Impact of State Tort Reforms. *Health Aff*. 2004:W4-20-W4-30.
71. Viscusi WK, Born PH. Damage Caps, Insurability, and the Performance of Medical Malpractice Insurance. *J Risk and Ins*. 2005;72(1):23–43.
72. The ultimate loss on a claim is the known amount that is actually paid out after a claim has closed.
73. Born PW, Viscusi K, Baker T. The Effects of Tort Reform on Medical Malpractice Insurers' Ultimate Losses. *The Journal of Risk and Insurance*. 2009;76(1):197-219.
74. The incurred loss on a claim is the *estimated* amount that will be paid out on a claim once it has closed.
75. Kilgore ML, Morrisey MA, Nelson LJ. Tort Law and Medical Malpractice Insurance Premiums. *Inquiry*. 2006;43:255–270.

raised premiums by 3.9%. Their results suggest that enacting a $250,000 cap in states without caps, or with higher-level caps, would result in premium savings of $1.4 billion annually.

Paik, Black and Hyman (2013) studied the effect of damage caps passed in the 1990s and 2000s on claim rates and payouts.[76] Importantly, they allow for a phase-in of caps—i.e., time for them to have an effect. They find that damage caps are associated with lower claim rates and payouts per claim, with a large combined impact on payout per physician. They also find that the reduction in claim rates is concentrated in claims with larger payouts and that the effects of stricter caps are larger.

Seabury, Helland and Jena (2014) examined the impact of noneconomic damage caps and other types of tort reform on average indemnity payments made on medical liability claims closed between 1985 and 2010.[77] They found that noneconomic damage caps reduced average indemnity payments by $42,980, a reduction of about 15% relative to the average payment over their sample period. The largest impacts in dollar terms were in pediatrics and obstetrics/gynecology, where average payments were reduced by more than $100,000. Seabury, Helland and Jena also tested whether caps set at lower levels had a larger impact on average payments than caps set at higher levels. They found that $250,000 caps reduced average payments by almost $60,000, or by 20%. They did not find a statistically significant impact of $500,000 caps. When looking at specialty specific effects, they found impacts of $250,000 caps on average payments in all specialty categories except ophthalmology. Again, the largest dollar impacts were in obstetrics/gynecology ($124,005) and pediatrics ($146,481). Caps set at $500,000, on the other hand, only had a statistically significant impact in three specialties: general surgery, internal medicine and obstetrics/gynecology.

In addition to the original research summarized above, a number of literature reviews and extrapolations based on original research have also concluded that caps on noneconomic damages reduce claim severity and premiums. The Office of Technology Assessment (1993) concluded that, "caps on damage awards were the only type of state tort reform that consistently showed significant results in reducing the malpractice cost indicators."[78] The non-partisan CBO (1998) noted that caps on noneconomic damages were one of two reforms that "have been found extremely effective in reducing the amount of claims paid and medical liability premiums."[79] The other reform was collateral source offset provisions.

Using a variety of data sources, Hamm, Frech, and Wazzan (2014) examined the impact of California's MICRA. They concluded that:

- A cap lowers medical liability insurance premiums by reducing insurers' loss costs.
- A cap on noneconomic damages reduces health care costs, making health care more affordable.
- The MICRA cap has not reduced access to the courts for individuals with meritorious claims.
- Notwithstanding the MICRA cap, the rate of increase in medical liability damages awards in California far exceeds the rate of inflation.
- An increase in the cap on noneconomic damages would significantly increase the cost of health care in California.[80]

The CBO (2019) estimated that enacting federal legislation that caps noneconomic damages at $250,000 would reduce total national health care spending by about 0.5%.[81] The CBO also estimated that those damage caps, as well as caps on attorneys' fees, would lower the federal deficit by $27.9 billion over the 10-year period from 2020 through 2029.[82]

Finally, a 2006 literature review by the Robert Wood Johnson Foundation concluded that, "Overall, caps appear to be associated with a 23% to 31%

76. Paik M, Black B, Hyman D. The Receding Tide of Medical Malpractice Litigation: Part 2—Effect of Damage Caps. *J Empir Leg Stud. 2013;10(4):639-669.*
77. Seabury SA, Helland E, Jena AB. Medical Malpractice Reform: Noneconomic Damages Caps Reduced Payments 15%, With Varied Effects By Specialty. *Health Aff*. 2014;33(11): 2048-2056.
78. Office of the Tech. Assessment. Impact of Legal Reforms on Medical Malpractice Costs. OTA-BP-H-119. 1993. The OTA was a nonpartisan analytical agency that provided assistance to the U.S. Congress for 23 years through 1995.
79. U.S. Congressional Budget Office. Preliminary Budget Office, Preliminary Cost Estimate on H.R. 4250, Patient Protection Act of 1998. https://www.cbo.gov/publication/10981. Accessed Feb. 22, 2022.
80. Hamm WG, Frech HE, Wazzan CP, MICRA and Access to Healthcare. 2014. http://micra.org/wp-content/uploads/2016/02/FINAL2014MICRAReport01.21.14.pdf. Accessed Jan. 23, 2019.
81. U.S. Congressional Budget Office. How Do Changes in Medical Malpractice Liability Laws Affect Health Care Spending and the Federal Budget? Working Paper 2019-03
82. U.S. Congressional Budget Office. How Do Changes in Medical Malpractice Liability Laws Affect Health Care Spending and the Federal Budget? Working Paper 2019-03

reduction in average awards," and that, "the most recent controlled studies show that caps moderately constrain the growth of premiums."[83]

State efforts to enact caps on noneconomic damages

Background

As of January 2023, about half of the states have in place some variation of a cap on noneconomic damages while six states place a cap on total damages. (Colorado places a cap on both noneconomic damages and total damages and is listed in both categories.) However, the caps in these states vary greatly by amount, exceptions and causes of action covered, and only a handful of the state caps are as strong as those in California and Texas.

States with a cap on noneconomic damages for personal injury, wrongful death and/or both related to medical liability claims include: Alaska, California, Colorado, Hawaii, Idaho, Iowa, Maine, Maryland, Massachusetts, Michigan, Mississippi, Missouri, Montana, Nevada, North Carolina, North Dakota, Ohio, South Carolina, South Dakota, Tennessee, Texas, Utah, West Virginia and Wisconsin. States with a cap on total damages include: Colorado, Indiana, Louisiana, Nebraska, New Mexico and Virginia.

A cap's effectiveness depends on the specific provisions of the legislation. For example, some states have a hard cap on noneconomic damages while others have a soft cap on noneconomic damages. A hard cap is not subject to exceptions, does not adjust over time and applies irrespective of the number of defendants or plaintiffs. By contrast, a soft cap may be subject to (1) numerous exceptions for various injuries or legal findings, (2) annual increases (e.g., indexed for inflation), (3) increases based on a set schedule, or (4) individual application to every defendant or plaintiff, thereby allowing several caps for a single claim. Recognizing the limitations of a soft cap, several states, such as Alaska and Mississippi, have enacted legislation to strengthen their caps. Likewise, Nevada voters adopted a ballot initiative in 2004 to replace a cap riddled with exceptions with a hard cap of $350,000 on noneconomic damages. A cap on noneconomic damages that is set too high will also have a limited effect. For example, prior to modifying legislation in 2003, West Virginia had a $1 million cap on noneconomic damages, which was too high to be effective.

State caps on noneconomic damages enacted since 2000

Alaska

In Alaska, Gov. Frank Murkowski signed into law Senate Bill (S.B.) 67 on June 7, 2005. The legislation strengthened Alaska's existing cap on noneconomic damages by establishing a $250,000 cap on noneconomic damages awarded in a personal injury cause of action, and a $400,000 cap on noneconomic damages awarded in a cause of action involving wrongful death or a severe permanent physical impairment that is more than 70% disabling.[84] A single cap applies regardless of the number of health care providers against whom the claim is asserted or the number of causes of action filed.

Florida

After four special sessions, Florida's legislature enacted S.B. 2-D, which was signed into law by Gov. Jeb Bush on Aug. 14, 2003. In its final form, the bill did not provide the level of reforms advocated by Gov. Bush's task force or by the Florida Medical Association (FMA). In particular, the language on noneconomic damages and exceptions to the cap added during late stages of negotiations prohibited the FMA from supporting the legislation in its final form.[85]

S.B. 2-D provided a separate cap on noneconomic damages for practitioners and non-practitioners. For practitioners, the cap was $500,000 per claimant regardless of the number of defendants. For non-practitioners, the cap was $750,000 per claimant regardless of the number of defendants. The cap could increase to $1 million for practitioners and $1.5 million for non-practitioners if the negligence

83. Mello MM. Medical Malpractice: Impact of the Crisis and Effect of State Tort Reforms. The Robert Wood Johnson Foundation; 2006. Research Synthesis Report No. 10.

84. 80. Alaska Stat. § 09.55.549.

85. Fla. Stat. § 766.118.

resulted in death or a permanent vegetative state, or if the court found a manifest injustice would occur if the cap was not increased because the noneconomic harm sustained by the patient was particularly severe, and the defendant's negligence caused a catastrophic injury to the patient.

In a series of decisions, the Florida Supreme Court struck down Florida's cap on noneconomic damages in medical malpractice personal injury suits and wrongful death cases.

In April 2006 Gov. Bush also signed legislation that repealed the doctrine of joint and several liability. Joint and several liability permits a disproportionate level of liability to be assessed to a party regardless of their level of fault in a matter, such that a defendant can be held liable for the entire amount of damages even if only marginally responsible for an injury.[86]

Georgia

On Feb. 16, 2005, Gov. Sonny Purdue signed into law S.B. 3.[87] The new law established a hard $350,000 cap on noneconomic damages awarded in a medical liability action, including wrongful death, against all health care providers and a separate $350,000 cap on noneconomic damages awarded against a single medical facility that would increase to $700,000 if more than one facility was involved. No more than $1.05 million could be awarded in a medical liability cause of action. The caps applied to each claimant, but the term "claimant" was defined in the law as including all persons claiming to have sustained damages as a result of the bodily injury or death of a single person. In a controversial ruling, the Georgia Supreme Court ruled in 2010 that the law was unconstitutional.[88]

Idaho

On March 26, 2003, Gov. Dirk Kempthorne signed into law H.B. 92 that included a $250,000 cap on noneconomic damages (Idaho previously had a $400,000 cap on noneconomic damages that adjusted annually for inflation since 1988). The new cap also adjusts annually for inflation based on the average annual wage as of July 1, 2004. The cap does not apply to causes of action arising out of willful or reckless misconduct or felonious actions.[89]

Iowa

On May 5, 2017, Iowa Gov. Terry Branstad signed into law Senate File 465, which included a $250,000 cap on noneconomic damages. An amendment to the law added by Iowa's House lifted the cap for cases involving permanent impairment, substantial disfigurement or wrongful death. The law also modified Iowa's expert witness standards, established certificate of merit requirements, and broadened the category of "health care providers" the law encompasses.[90] In February 2023, Gov. Kim Reynolds signed HF 161 into law, which make changes to the 2017 law. Starting in January 2028, and each year after that, the $250,000 cap will be increased 2.1 percent. The $250,000 cap does not apply if a jury determines that there is a substantial or permanent loss or impairment of a bodily function, substantial disfigurement, loss of pregnancy or death, which warrants a finding that imposition of such a limitation would deprive the plaintiffiof just compensation for the injuries sustained, in which case the amount recoverable shall not exceed $1 million, or $2 million if the civil action includes a hospital.

Illinois

On Aug. 25, 2005, Gov. Rod Blagojevich signed into law an MLR bill that included a $500,000 cap on noneconomic damages[91] for awards in a medical liability cause of action (including wrongful death) against a physician, the physician's business or corporate entity, and the physician's employees or other health care professionals. The new law also established a separate $1 million cap on noneconomic damages for awards in a medical liability cause of action (including wrongful death) against a hospital and its personnel or hospital affiliates. Both caps applied to all plaintiffs in any civil action arising out of the care at issue. The caps applied to injuries that occurred after the effective date of the act. The Illinois cap was also struck down in 2010.[92]

86. Gov. Bush Signs Important Fla. Tort Reform Legislation, *Ins J.* 2006. https://www.insurancejournal.com/news/southeast/2006/04/27/67621.htm Accessed Feb. 22, 2022.
87. Ga. Code Ann. § 51-13-1.
88. *Atlanta Oculoplastic Surgery v. Nestlehutt, et al.* 691 S.E.2d 218 (Ga. 2010)
89. Idaho Code Ann. § 6-1603.
90. Iowa Code § 147.136A; Iowa Code § 147.139; and Iowa Code § 135P.1 .
91. 735 Ill. Comp. Stat. 5/2-1706.5(now repealed).
92. *Lebron v. Gottlieb Mem'l Hosp., et. al.* 930 N.E.2d 895 (Ill. 2010)

Kansas

On April 17, 2014, Gov. Sam Brownback signed S.B. 311, which gradually increased the state's $250,000 cap to $350,000 over an eight-year span.[93] In 2021, the Kansas Supreme Court ruled that this cap was unconstitutional with respect to personal injury cases.[94]

Maryland

Enacted in January 2005, Maryland's H.B. 2 (2004) established a separate cap on noneconomic damages for personal injury and wrongful death suits involving two or more claimants or beneficiaries. Noneconomic damages awarded against a physician for personal injury were capped at $650,000 until Jan. 1, 2009, after which the cap began to increase $15,000 each year.[95] The cap applies in aggregate to all claims and all defendants arising from the same medical injury. (The cap also applies in wrongful death actions if the claim involves only one claimant or beneficiary). For wrongful death claims involving two or more claimants or beneficiaries, the total cap on noneconomic damages in 2021 was $845,000.

Maine

In wrongful death cases a jury may award noneconomic damages not exceeding $1,000,000 (adjusted for inflation). The jury may also give punitive damages not exceeding $500,000.

Mississippi

On June 3, 2004, the Mississippi Legislature enacted H.B. 13, a civil justice reform bill that further strengthened Mississippi's MLR laws. Most importantly, the bill created a hard $500,000 cap on noneconomic damages for medical liability causes of action filed against a health care provider. This provision deleted exceptions to the original 2002 law, as well as scheduled increases to the cap.[96]

Missouri

On May 7, 2015, Gov. Jay Nixon signed into law S.B. 239, which reinstated Missouri's cap on noneconomic damages. With passage of S.B. 239, Missouri put in place a statutory $400,000 cap on noneconomic damages and a higher cap of $700,000 for catastrophic personal injury or death.[97] Both are subject to an annual index of 1.7% for inflation, and the cap applies irrespective of the number of defendants. In 2024, the caps are set at $465,531 and $814,679 respectively. In July 2021, the Missouri Supreme Court upheld the constitutionality of the noneconomic caps in the 2015 law.[98] The Missouri cap was previously struck down in 2012.[99]

Nevada

In June 2023, the Nevada governor approved AB 404. This new law states that starting Jan. 1, 2024. The $350,000 cap will be increased on Jan. 1 of every year by ending on Jan. 1, 2028, when the cap reaches $750,000. Starting Jan. 1, 2029, the cap will be increased every year by 2.1%.

In August 2002, Nevada enacted A.B. 1, which, in part, established a $50,000 cap on civil damages for claims arising from care necessitated by a traumatic event demanding immediate attention that is rendered in good faith to a patient who enters the hospital through the emergency room or trauma center. This limit does not apply to any act or omission in rendering care or assistance that occurs after the patient is stabilized (unless surgery is required within a reasonable time after the patient is stabilized) that is unrelated to the original traumatic injury, or that arose out of gross negligence or reckless, willful or wanton conduct.[100]

In cases where the physician provides follow-up care to a patient treated in the above circumstances and the patient files a medical liability claim based on a medical condition that arose during follow-up care, there is a rebuttable presumption that the medical condition is the result of the original traumatic injury, and the $50,000 limit applies.

New Mexico

In 2021, New Mexico enacted HB 75 and HB 11, and then in 2023 it added SB 523. These new laws amended the New Mexico Medical Malpractice Act.[101] For physicians that are not employed by a hospital or independent health outpatient health care facility, the cap is $750,000, except for punitive

93. Kan. Stat. Ann. 60-19a02.
94. *Hilburn v. Enerpipe*, 442 P.3d 509 (Kan. 2019)
95. Md. Code Ann., Cts. & Jud. Proc. § 3-2A-09.
96. Miss. Code Ann. § 11-1-60.
97. Mo. Rev. Stat. § 538.210.
98. *Ordinola v. Univ. Physician Associates*, 625 S.W.3d 445, 453 (Mo. banc 2021)
99. *Watts v. Lester E. Cox Med. Ctr.*, 376 S.W.3d 633 (Mo. 2012)
100. Id. at § 41.503
101. N.M Statutes §§ 41-5-3 et al.

damages and past and future medical care. Starting Jan. 1, 2023, the $750,000 is CPI adjusted annually. To receive the benefits of this cap, the physician must have medical liability insurance coverage of at least $250,000, and pay a surcharge into the New Mexico patient compensation fund. If a physician meets these requirements, then amounts over $250,000 up to the cap are paid by the patient compensation fund.

For "independent outpatient health care facilities"—which includes ambulatory surgical centers, urgent care facility or free-standing emergency rooms that are not controlled by a hospital, except for punitive damages and past and future medical care and related benefits—the cap is $750,000 for an injury or death that occurred in 2022 and 2023. In 2024, the cap is as follows: (1) $1,000,000 for an injury or death that occurs in calendar year 2024; and for an injury or death that occurs in 2025 and thereafter, the $1,000,000 is adjusted annually by the prior three-year average consumer price index for all urban consumers. To receive the benefits of the cap, the independent outpatient health care facility must have medical liability insurance of at least $500,000 and pay the required surcharge into the patient compensation fund. The patient compensation fund will then pay any difference between the $500,000 and the cap.

The following are the caps for hospitals and hospital-controlled outpatient health care facilities: (1) if the injury or death occurred in 2022, the cap is $4,000,000; (2) if the injury or death occurred in 2023, the cap is $4,500,000; (3) if the injury or death occurred in 2024, the cap is $5,000,000); (4) if the injury or death occurred in 2025, the cap is $5,500,000; (5) if the injury or death occurred in 2026, the cap is $6,000,000, which, starting in 2027, is adjusted annually. Hospitals and hospital-controlled outpatient health care facilities hospitals and outpatient facilities will also be covered by the PCF through 2026.

North Carolina

On July 25, 2011, the North Carolina General Assembly overrode a gubernatorial veto of S.B. 33. S.B. 33 included a cap on noneconomic damages for medical liability actions (including actions for personal injury or death), but it did not limit the recovery of economic damages. Under this legislation, the total amount of noneconomic damages that can be awarded against all defendants cannot exceed $500,000. Further, noneconomic damage awards cannot exceed $500,000 against individual defendants for all claims brought by all parties arising out of the same professional services. Under the bill, the cap is indexed for inflation on Jan. 1 of every third year, beginning with Jan. 1, 2014, and there is no limit on the amount of noneconomic damages if the trier of fact finds both of the following:

- The plaintiff suffered disfigurement, loss of use of part of the body, permanent injury or death.
- The defendant's acts or failures, which are the proximate cause of the plaintiff's injuries, were committed in reckless disregard of the rights of others, grossly negligent, fraudulent, intentional or with malice.[102]

Ohio

On Jan. 10, 2003, Gov. Robert Taft signed into law S.B. 281, an MLR bill to address the growing crisis in Ohio. Among other provisions, the bill established a sliding cap on noneconomic damages. The cap is the greater of $250,000 or three times the plaintiff's economic loss up to a maximum of $350,000 for each plaintiff or $500,000 per occurrence. The maximum cap is $500,000 per plaintiff or $1,000,000 per occurrence for a claim based on either (1) a permanent and substantial physical deformity, loss of use of a limb, or loss of a bodily organ system, or (2) a permanent physical functional injury that permanently prevents the injured person from being able to care for oneself independently and perform life-sustaining activities.[103]

Oklahoma

On April 5, 2011, Gov. Mary Fallin signed H.B. 2128. The act established a cap on noneconomic damages in Oklahoma. The act became effective on Nov. 1, 2011, and applied to all civil actions filed on or after this date. Under the law, in any civil action arising from a claim for bodily injury, the amount of compensation that the trier of fact could award a plaintiff for economic loss could not be subject to any limitation. However, in such actions, a trier of fact could award a plaintiff a maximum of $350,000 for noneconomic damages, regardless of the number of parties against whom the action was brought or

102. N.C. Gen. Stat. § 90-21.19
103. Ohio Rev. Code Ann. § 2323.43.

the number of actions brought. There was no limit on the amount of noneconomic damages that could be awarded in a claim for bodily injury resulting from negligence if a judge and jury found, by clear and convincing evidence, that the defendant's acts or failures to act were:

- In reckless disregard for the rights of others
- Grossly negligent
- Fraudulent
- Intentional or with malice

The law did not apply to actions brought under the Governmental Tort Claims Act or to actions for wrongful death.[104]

In 2019, however, the Oklahoma Supreme Court held that Oklahoma's cap on noneconomic damages was unconstitutional.[105]

South Carolina

Signed into law by Gov. Mark Sanford on April 4, 2005, S.B. 83 established a $350,000 cap on noneconomic damages[106] in a medical liability action against a single health care provider or single health care institution. If the award is against more than one health care provider or more than one institution, the total award for noneconomic damages cannot exceed $1.05 million, with each defendant not liable for more than $350,000. The cap applies separately to each claimant and adjusts annually based on an increase or decrease in the Consumer Price Index.

Tennessee

On June 16, 2011, Gov. Bill Haslam signed the Tennessee Civil Justice Act of 2011 (H.B. 2008/S.B. 1522). The bill established a $750,000 limit on compensation for noneconomic damages for all injuries and occurrences in a civil action, including health care liability actions. The limit on noneconomic damages applies regardless if the action is based on a single act or omission or on a series of acts or omissions. The limit on compensation for noneconomic damages may increase to $1 million in cases of catastrophic loss or injury, which may include:

- Spinal cord injuries resulting in paraplegia or quadriplegia
- Amputation of two hands or two feet or one of each
- Third-degree burns covering 40% of the body or the face
- Wrongful death of a parent with a minor child(ren)

The limit shall not apply to personal injury or wrongful death cases when one of the following conditions is met:

- The defendant had a specific intent to inflict serious physical injury
- The defendant intentionally falsified, destroyed or concealed records containing material evidence for the purpose of evading liability in the claim
- The defendant was under the influence of alcohol, drugs or other intoxicant or stimulant resulting in substantial impairment and causing the injury or death.[107]

Texas

On June 11, 2003, Gov. Rick Perry signed H.B. 4 into law. The bill contained sweeping tort reforms, many of which exclusively address medical liability litigation against physicians. Of these reforms, perhaps the most important is the hard cap of $250,000 on noneconomic damages per claimant in any judgment against a physician or health care provider, regardless of any applicable theories of vicarious liability, the number of defendants involved or the number of causes of action asserted as part of the claimant's case against the physician. The law also places a hard cap of $250,000 on noneconomic damages per claimant in any judgment against a health care institution in a medical liability cause of action. A judgment against two health care institutions may not exceed $500,000 in noneconomic damages, with each institution not liable for more than $250,000 in noneconomic damages.[108] All persons claiming to have sustained damages as a result of the bodily injury or death of a single person are considered a single claimant.

The law states that the cap on noneconomic damages applies per "claimant," which is defined as "a person, including a decedent's estate, seeking or who has sought recovery of damages" in a medical liability claim. The law also states the cap applies regardless of the number of defendants or causes of action asserted.

104. Oklahoma House Bill 2128 (2011)
105. *Beason v. I. E. Miller Servs., Inc.*, 441 P.3d 1107 (Okla. 2019)
106. S.C. Code Ann. § 15-32-220.
107. Tenn. Code Ann. § 29-39-102
108. Tex. Civ. Prac. & Rem. Code Ann. § 74.301.

The caps provision states as follows: "(a) In an action on a health care liability claim where final judgment is rendered against a physician or health care provider other than a health care institution, the limit of civil liability for noneconomic damages of the physician or health care provider other than a health care institution, inclusive of all persons and entities for which vicarious liability theories may apply, shall be limited to an amount not to exceed $250,000 for each claimant, regardless of the number of defendant physicians or health care providers other than a health care institution against whom the claim is asserted or the number of separate causes of action on which the claim is based, (b) in an action on a health care liability claim where final judgment is rendered against a single health care institution, the limit of civil liability for noneconomic damages inclusive of all persons and entities for which vicarious liability theories may apply, shall be limited to an amount not to exceed $250,000 for each claimant, (c) in an action on a health care liability claim where final judgment is rendered against more than one health care institution, the limit of civil liability for noneconomic damages for each health care institution is, inclusive of all persons and entities for which vicarious liability theories may apply, shall be limited to an amount not to exceed $250,000 for each claimant and the limit of civil liability for noneconomic damages for all health care institutions, inclusive of all persons and entities for which vicarious liability theories may apply, shall be limited to an amount not to exceed $500,000 for each claimant."

On Sept. 13, 2003, the people of Texas approved Proposition 12, a ballot initiative to amend the state constitution to specifically allow the legislature to enact laws that place limits on noneconomic damages in medical and health liability cases.[109]

The final vote was 51.1% in favor of Proposition 12 and 48.9% against.[110]

Utah

On March 23, 2010, Gov. Gary Herbert signed S.B. 145, which contained three amendments to Utah's Health Care Malpractice Act.[111] The amendments included a $450,000 hard cap on noneconomic damages. Under the bill, in a liability action against a health care provider, an injured plaintiff may recover noneconomic losses to compensate for pain, suffering and inconvenience. The amount of damages awarded for noneconomic loss may not exceed $450,000 for causes of action arising on or after May 15, 2010. The previous, inflation-adjusted cap stayed in effect for causes of action arising between July 1, 2002, and May 14, 2010.

West Virginia

On March 11, 2003, Gov. Bob Wise signed into law H.B. 2122. As enacted, the bill contained a number of reforms including a $250,000 cap on noneconomic damages applied per occurrence regardless of the number of defendants or plaintiffs. The cap increases to $500,000 per occurrence for cases involving a permanent and substantial physical deformity, loss of use of a limb or loss of a bodily organ system, or permanent physical or mental functional injury that permanently prevents the injured person from being able to independently care for himself or herself and perform life-sustaining activities. The cap is adjusted annually for inflation up to $375,000 per occurrence or $750,000 for injuries that fall within the exception.[112]

The bill also included a $500,000 cap on civil damages for any injury to or death of a patient as a result of health care services rendered in good faith and necessitated by an emergency condition for which the patient enters a health care facility designated as a trauma center. This limit also applies in the following circumstances: (1) to health care services rendered by a licensed emergency medical services (EMS) agency or employee of a licensed EMS agency, or (2) any act or omission of a health care provider in rendering continued care or assistance in the event that surgery is required as a result of the patient's emergency condition.

This limit does not apply if the care is rendered in willful and wanton or reckless disregard of a risk of harm to the patient or in clear violation of established written protocols for triage and emergency health care procedures developed by

109. A tribute to the effectiveness of Proposition 12 came soon after its passing when personal injury trial attorney and member of the Oklahoma legislature Stratton Taylor sent a letter to his ATLA colleagues in Texas to offer the services of his firm to any Texas attorney wishing to forum-shop and file suit in Oklahoma—where there are still no caps. Editorial, Oklahoma!, *The Wall St. J.*, Dec. 19, 2003.
110. Tex. Const. Art. III, § 66
111. Utah Code Ann. § 78B-3-410.
112. W. Va. Code § 55-7B-8.

the Office of Emergency Medical Services. Likewise, the limit does not apply to any act or omission in rendering care that occurs after the patient has been stabilized and is considered a non-emergency patient or care that is unrelated to the original emergency condition.

If the physician who provided care to the patient when the patient was presented with an emergency condition provides follow-up care to the same patient and a medical condition arises during the course of this follow-up care that is directly related to the original emergency condition, there is a rebuttable presumption that the medical condition was the result of the original emergency condition and, therefore, the cap applies. There is also a rebuttable presumption that a medical condition that arises in the course of follow-up care provided by a health care provider in the trauma center is directly related to the original emergency condition, where the follow-up care is provided within a reasonable time after the patient's admission to the trauma center.

Wisconsin

On March 22, 2006, Gov. Jim Doyle signed A.B. 1073. This law limits noneconomic damages in medical liability cases to $750,000[113] for each occurrence. The bill covers all health care providers acting within the scope of their employment and providing health care services. The law does not place a limit on the recovery of economic losses, such as lost wages and medical costs.

A.B. 1073 came in response to a Supreme Court of Wisconsin decision in 2005 that struck down the state's previous cap on noneconomic damages.[114]

Results from the states

California's solution: MICRA

In 1975 California enacted the Medical Injury Compensation Reform Act (MICRA), which largely eliminates the lottery aspect of medical liability litigation in that state. California's experience with MICRA shows that MLR works. MICRA has been held up as "the gold standard" of MLR and a model for repeated attempts at federal reform legislation.

A study by the RAND Corp. showed that MICRA was successful at decreasing insurer payouts and redistributing money from trial lawyers to injured patients. MICRA's contingency fee reform and limit on noneconomic damages caused plaintiff attorney fees to be reduced 60% while net recoveries to patients and their families were only reduced 15%.[115]

In 2022, California enacted A.B. 35, MICRA Modernization legislation, which passed through the California Legislature with nearly unanimous support. Previously, MICRA limited recovery of non-economic damages to $250,000, regardless of the number of defendants. The new law increased the existing limit to $350,000 for non-death cases and $500,000 for wrongful death cases on the effective date Jan. 1, 2023, followed by incremental increases over 10 years to $750,000 for non-death cases and $1,000,000 for wrongful death cases, after which a 2.0% annual inflationary adjustment will apply. The new law also creates three separate categories for a total of three possible caps in each case. A health care provider or health care institution can only be held liable for damages under one category regardless of how the categories are applied or combined. The new categories include: (1) one cap for health care providers (regardless of the number of providers or causes of action); (2) one cap for health care institutions (regardless of the number of institutions or causes of action); and (3) one cap for unaffiliated health care institutions or providers at that institution that commit a separate and independent negligent act.

In addition to changes to the cap on non-economic damages, the new law makes adjustments to periodic payments and limits on attorney contingency fees and establishes a new statute that ensures protections for benevolent gestures and statements of fault by health care providers. At the request of either party, periodic payments can be used for future economic damages starting at $250,000 (presently at $50,000). A.B. 35 also creates a two-tiered system (from a four-tiered system) with the option to petition courts for a higher contingency fee for cases that go to trial: (1) 25% contingency fee limit for claims resolved *prior* to civil complaint being filed or arbitration demand being made; 33% contingency

113. Wis. Stat, § 893.55
114. *Ferdon ex rel. Petrucelli v. Wis. Patients Comp. Fund*, 701 N.W.2d 440 (Wis. 2005).
115. Pace NM, Golinelli D, Zakaras L. Capping Noneconomic Awards in Medical Malpractice Trials xxiv. RAND Corp: 2004.

fee limit for claims resolved *after* civil complaint is filed or arbitration demand is made.

Finally, A.B. 35 establishes new discovery and evidentiary protections for all pre-litigation expressions of sympathy, regret or benevolence, including statements of fault, by a health care provider to an injured patient or their family in relation to the pain, suffering, or death of a person or an adverse patient safety event or unexpected medical outcome.

A.B. 35 was supported by a broad and diverse coalition—including physicians, the California Medical Association, community health centers, dentists, hospitals, nurses and hundreds of other organizations dedicated to affordable, accessible health care. The willingness of all to work together on this historic compromise was noted and appreciated.

Illinois

In 2010 the Illinois Supreme Court ruled that the state's cap on noneconomic damages was unconstitutional.[116] This was a highly disappointing decision based on the positive results stemming from the 2005 law. According to the Illinois Department of Insurance, the state saw these results after the 2005 law:

- A decrease in medical malpractice premiums—gross premium paid to medical malpractice insurers declined from $606,355,892 in 2005 to $541,278,548 in 2008
- An increase in competition among companies offering medical malpractice insurance—in 2008, 19 companies offering coverage to physicians/surgeons each collected more than $500,000 in premiums, an increase over 14 such companies in 2005
- Entry into Illinois of new companies offering medical malpractice insurance—in 2008, five companies collected more than $22,000,000 in combined physicians/surgeons premiums (and at least $1,000,000 each in premiums)—that did not offer medical malpractice insurance in 2005[117]

According to Milliman Inc., Illinois medical liability carriers faced an 18% jump in costs based on this ruling.[118]

Mississippi

In Mississippi, the Mississippi State Medical Association reports that the liability climate has improved significantly since the enactment of MLR. Liability premiums decreased for the largest liability carrier by 5% in 2006, 10% in 2007, 15.5% in 2008, 20% in 2009 and 10% in 2010. Insured physicians also received significant refunds during this time period as well. This is in stark contrast to the crisis years when premiums increased 12.5% in 2000, 11.1% in 2001, 10% in 2002, 45% in 2003 and 19.4% in 2004.[119]

An article based on data from the Medical Assurance Company of Mississippi (MACM) also shows that the Mississippi reforms have had a beneficial impact. It concluded that the average number of lawsuits per year against MACM-insured physicians dropped 56% (from 318 to 140) from the five-year period that preceded the reforms to the five-year period that followed them.[120]

Missouri

According to the Missouri State Medical Association, since 2005 when Missouri's MLR provisions went into effect:

- The number of claims filed fell 61.6% (67.2% in the physician sector).
- The number of claims open at year end fell 47.1% (48.2% for physicians).
- The average indemnity fell 22.1%.
- The insurance industry's total losses fell 31.9%, and incurred losses fell 69.9%.
- Defense expenses fell 54.2%.
- In the three years leading up to tort reform, Missouri lost 225 physicians. Since the first full year of MLR, the state added 486 new licensed physicians.
- One new mutual company and two new stock companies entered the Missouri market since MLR was enacted.

116. *Lebron v. Gottlieb Mem'l Hosp., et. al.* 930 N.E.2d 895 (Ill. 2010).
117. Illinois Department of Insurance—Press Release Feb. 20, 2010.
118. Illinois Med-Mal Ruling to Boost Insurers' Costs 18%. *Crain's*. Feb. 22, 2010. https://www.chicagobusiness.com/article/20100222/NEWS03/200037194/illinois-med-mal-ruling-to-boost-insurers-costs-18-study. Accessed Feb. 22, 2022.
119. Mississippi State Medical Association Correspondence – 2010.
120. Behrens MA. Medical Liability Reform: A Case Study of Mississippi. *Obstet Gynecol.* 2011;118(2):335–339.

- Medical Liability Alliance announced a 6% across-the-board rate reduction in July 2007; PPIA implemented a 14% reduction in base rates in Jan. 1, 2008, and some stock companies offered as much as 50% in credits over their filed rates in some instances.
- Despite gaining nearly 500 physicians, Missouri saw a $13 million decrease in medical liability insurance premiums between 2006 and 2008. And for all health care providers, the reduction was $25.7 million.[121]
- However, as noted above, the Supreme Court of Missouri struck down this cap and in 2015 Missouri enacted a statutory $400,000 cap on noneconomic damages and a higher cap of $700,000 for catastrophic personal injury or death. Both are subject to an annual index of 1.7% for inflation.

Nevada

Nevada reforms have stabilized Nevada's liability climate. One example is the Independent Nevada Doctors Insurance Exchange, which lowered its premiums for internists and surgeons by more than 20% in 2007.[122] Rates have held steady since this decrease.

Texas

The liability climate in Texas has improved dramatically since the passage of Proposition 12 and the state's 2003 landmark liability reforms. According to the Texas Alliance for Patient Access:[123]

- The number of newly licensed physicians each year has tripled from approximately 2,000 to more than 7,000.
- Since 2003, Texas has added 17,965 more physicians with in-state licenses than can be accounted for by population growth. The population trend line would have produced 53,586. Instead, Texas has 71,551 in-state physicians.
- One hundred twenty-two Texas counties have seen a net gain in emergency medicine physicians since the passage of reforms in 2003. That includes 55 counties that previously had none. An additional 55 Texas counties have doubled their supply of ER doctors since the landmark reforms were passed.
- Since 2003, the population of Texans 65 or older has grown 76%. Meantime, the number of geriatricians serving that senior population has increased more than four-fold. Senior population trend line would have produced 62 geriatricians. Instead, Texas has 151 geriatricians.
- Thirty-two rural Texas counties have added at least one obstetrician since the passage of reforms in 2003. Thirteen counties that did not have a single obstetrician now have one.
- Sixty-two Texas rural counties have added at least one emergency medicine physician since the passage of reforms in 2003. That includes 42 rural counties that previously had none.
- Twenty-three rural Texas counties have added at least one cardiologist since the passage of reforms in 2003. Fourteen counties that did not have a single cardiologist now have one.
- Since the enactment of medical liability reform, medical license applications in Texas have soared, hitting their highest levels in 2023.

An article based on data from an academic medical center also showed that the Texas tort reforms had a beneficial impact. According to that data, the prevalence of lawsuits filed per 100,000 general surgery procedures decreased from 40 before reform to eight after reform. Liability and defense costs per year in the general surgery group were reported to have fallen from $595,000 per year before tort reform to only $515 per year after tort reform.[124]

Some groups voiced concerns that caps on noneconomic damages had a disproportionate effect on the elderly. A 2011 working paper by researchers typically opposed to tort reform found that is not the case. Based on Texas closed claim data, the authors concluded that after 2003, there was a similar drop in claims and payouts per claim for elderly and non-elderly adults.[125]

West Virginia

Results have been positive for West Virginia physicians since its reforms were enacted, too. According to the West Virginia Offices of the Insurance Commissioner, as award values became more predictable and claims dropped, insurance

121. Missouri State Medical Association Correspondence – 2010
122. *Medical Liability Monitor.* Rate Survey Edition. October 2007.
123. https://www.tapa.info/texas-alliance-for-patient-access-physician-pre-post-reform.html
124. Stewart RM, Geohegan K, Myers JG. Malpractice Risk and Cost Are Significantly Reduced after Tort Reform, 212. *J Am Coll Surg*. 2011;212:463–467.
125. Paik M. How Do the Elderly Fare in Medical Malpractice Litigation, Before and After Tort Reform? Evidence from Texas, 1988–2007. Institute for Policy Research Northwestern University, Working Paper Series WP-11-03. https://www.ipr.northwestern.edu/our-work/working-papers/2011/ipr-wp-11-03.html#:~:text=During%20the%20pre%2Dreform%20period,of%20the%20adult%20nonelderly%20rate.&text=Thus%2C%20although%20tort%20reform%20had,disparate%2-0impact%20on%20the%20elderly. Accessed Feb. 22, 2022.

rates declined.[126] The average premium dropped from $40,034 in 2004 to $24,959 in 2011.[127] Further, the state saw an increase in the number of licensed physicians from 5,182 in 2003 to 6,282 in 2013.[128]

Successful ballot initiatives

In addition to Texas, three other states—Florida, Nevada and Wyoming—had successful ballot initiatives related to MLR that went before voters in the 2004 November elections. The following is a summary of these initiatives.

Florida

Voters approved constitutional Amendment 3, stating that an injured claimant who enters into a contingency-fee agreement with an attorney for a medical liability claim is entitled to no less than 70% of the first $250,000 and 90% of any damage award over $250,000.[129] Subsequently, the Florida Supreme Court issued a rule that permits patients to waive this requirement.[130]

Voters also approved two amendments sponsored by trial attorneys. One of them, Amendment 7, gives the public access to any records made or received by a health care provider or facility related to an adverse medical incident.[131] The Florida Legislature attempted to permit only prospective access to records,[132] but the Florida Supreme Court ruled that access is granted retroactively.[133]

The other, Amendment 8, denies licensure to a physician who has been "found to have committed" three or more incidents of medical liability.[134] The language "found to have committed" means a finding of a physician's medical liability by either: (1) a final judgment of a court; (2) a final administrative agency decision; or (3) a decision resulting from binding arbitration. "Found to have committed" does not, therefore, include settlements of medical liability claims. Nor does it include a report to a medical liability insurance carrier that a claim has, or will be, filed. Further, such qualifying incidents must be proven by clear and convincing evidence.[135]

Nevada

Voters approved the "Keep our Doctors in Nevada" initiative (Question 3), which amended Nevada's MLR statute to include MICRA-style reforms.[136] The approved initiative amended Nevada's existing MLR statute by: (1) deleting exceptions to Nevada's $350,000 cap on noneconomic damages in medical liability cases; (2) strengthening the existing joint and several liability reform law by applying it to both economic and noneconomic damages; (3) requiring periodic payment of future damages over $50,000 at the request of either party; (4) placing limits on attorney contingency fees; and (5) strengthening Nevada's existing statute of limitations.

Voters also defeated two ballot initiatives (Questions 4 and 5) sponsored by trial lawyers. Question 4 called for auto, homeowner and medical liability insurers to roll back their rates to the amount charged on Dec. 1, 2005, and reduce them an additional 20%. Question 5 focused on frivolous lawsuits. If approved, both measures would have invalidated any reforms enacted by the legislature or voters, including Question 3.

Wyoming

In Wyoming voters approved one constitutional amendment[137] and defeated another. The approved amendment, Amendment C, allows the legislature to pass laws creating medical screening panels or other alternative dispute resolution systems in medical liability cases. Amendment D, which was defeated, would have allowed the legislature to enact a cap on noneconomic damages in medical liability cases. Wyoming is currently one of five states where the state constitution explicitly prohibits the legislature from enacting limits on damages.[138]
Both amendments were previously passed by the

126. West Virginia Offices of the Insurance Commissioner. State of West Virginia, Medical Malpractice Report Insurers with 5% Market Share. 2012.
127. Id.
128. West Virginia Offices of the Insurance Commissioner, State of West Virginia, Medical Malpractice Report Insurers with 5% or more of the Medical Malpractice market share in West Virginia. November 2015. https://www.wvinsurance.gov/Portals/0/2015%20Med%20Mal%20report%20.pdf?ver=2016-01-26-131027-940. Accessed on March 14, 2024.
129. Fla. Const. Art. I, § 26
130. Fla. Bar eg. R. 4-1.5
131. Fla. Const. Art. X, § 25
132. Fla. Stat. § 381.028
133. *Fla. Hosp. Waterman, Inc. v. Buster*. 984 So.2d 478. (Fla. 2008).
134. Fla. Const. Art. X, § 26
135. Fla. Stat. § 456.50.
136. Nev. Rev. Stat. Ann. § 41A.035.
137. Wyo. Const. Art. 10, § 4.
138. Id.

legislature during a special session in July 2004. A constitutional amendment can be implemented in Wyoming by a simple majority of votes cast in the general election. But voters who do not cast a vote either way for an amendment are counted as "no" votes. This means an amendment sometimes will fail even if it receives more than half the votes cast on that ballot question.

Federal efforts on liability reform

While stakeholders are attempting to address the medical liability crisis at the state level, a federal solution is also needed. Many state liability reform laws have been nullified by activist state courts or stripped of their most effective provisions under state constitutions that limit reform. The following outlines the most recent federal efforts to achieve national liability reform.

Activities in the 117th Congress

The Accessible Care by Curbing Excessive lawSuitS Act (ACCESS Act) was reintroduced on Dec. 15, 2022, as H.R. 9584. As noted below, the bill improves patient access to health care services and provides improved medical care by reducing the excessive burden the liability system places on the health care delivery system. The bill includes comprehensive reforms modeled after California and Texas, including a cap on noneconomic damages, notice of intent to sue, affidavit of merit, expert witness qualifications and communications following unanticipated outcomes.

The Good Samaritan Health Professionals Act was reintroduced on Sept. 10, 2021, as H.R. 5239. The bill protects health care professionals who volunteer during a federally declared disaster from liability exposure and help ensure that needed medical volunteers are not turned away due to confusion and uncertainty about the application of state Good Samaritan laws.

The Coronavirus Provider Protection Act of 2021 was introduced on as H.R. 3021. This bill would provide liability protection to providers for all care affected by the pandemic, including care that was altered due to government guidance, and not just for care for COVID-19 patients or suspected patients.

Activities in the 116th Congress

The Accessible Care by Curbing Excessive lawSuitS (ACCESS) Act of 2019 was introduced on July 9, 2019, as H.R. 3656. The bill improves patient access to health care services and provides improved medical care by reducing the excessive burden the liability system places on the health care delivery system. The bill includes comprehensive reforms modeled after laws in California and Texas, including a cap on noneconomic damages, notice of intent to sue, affidavit of merit, expert witness qualifications and communications following unanticipated outcomes.

The Safeguarding America's Frontline Employees to Offer Work Opportunities Required to Kickstart the Economy (SAFE TO WORK) Act was introduced on July 27, 2020, as S. 4317. This bill provides targeted and limited liability relief to physicians and other health care professionals who have delivered care during the pandemic by creating a federal right of action for all coronavirus-related medical liability suits, preempting state laws and lawsuits on the issue unless state law provides greater liability protection.

Congress also extended liability protection to volunteer health care providers treating COVID-19 in the CARES ACT, signed into law March 27, 2020. All care provided by a volunteer health care provider within their scope of licensing or certification in response to the COVID-19 public health emergency are protected from civil liability for those activities unless they constitute gross negligence or reckless conduct.

Activities in the 115th Congress

The AMA continues to strongly support a comprehensive federal liability reform package based on the model of California state liability protections in order to ensure accessible and affordable care for patients. On Feb. 24, 2017, the Protecting Access to Care Act (PACA), H.R. 1215, was introduced in the House of Representatives. It includes key elements of comprehensive reform, including a flat cap on noneconomic damages of

$250,000, a limitation on attorneys' contingency fees, a three-year statute of limitations, collateral source offset from damages, and protection from product liability and class action lawsuits for medical products approved by the FDA. In committee mark-up, additional reforms from the Accessible Care by Curbing Excessive Lawsuits Act of 2017 (H.R. 1704) were added to PACA. These include allowing a physician to apologize, certificate of merit, notice of intent and additional expert witness requirements. On June 28, 2017, PACA was passed in the House of Representatives by a vote of 218–210. It has not been introduced into the Senate.

The Good Samaritan Health Professionals Act was introduced on March 30, 2017, as H.R. 1876 and S. 781 with 26 cosponsors. The bill protects health care professionals who volunteer during a federally declared disaster from liability exposure and help ensure that needed medical volunteers are not turned away due to confusion and uncertainty about the application of state Good Samaritan laws. On May 17, 2017, the House's Energy and Commerce Subcommittee on Health held a hearing examining four bills that advance public health that included H.R. 1876. On Feb. 14, 2018, the full Energy and Commerce Committee held a mark-up session and voice voted the bill out of committee. The Act was a part of the House version of the reauthorization of the Pandemic and All-Hazards Preparedness Act but never made it into the Senate version.

The Sports Medicine Licensure Clarity Act was reintroduced on Jan. 5, 2017, as H.R. 302 with 39 cosponsors. President Trump signed into law on Oct. 5, 2018, the FAA Reauthorization Act of 2018 (P.L. 115-254), which included the Act (originally introduced on Jan. 5, 2017, as H.R. 302). The bill, which was supported by the AMA, extends the malpractice insurance coverage of a state-licensed medical professional to another state when the professional provides medical services to an athlete, athletic team or team staffmember pursuant to a written agreement. Prior to providing such services, the medical professional must disclose to the malpractice insurer the nature and extent of the service. This extension of malpractice coverage does not apply at a health care facility or while a medical professional is transporting the injured individual to a health care facility.

Athletes include individuals participating in a sporting event for which the individual may be paid, participating in a sporting event that is sponsored or sanctioned by a national governing body, or for whom a high school or university provides a medical professional.

In addition to seeking traditional solutions, the AMA advocates funding for state-based pilot programs to develop promising alternative reforms. The Help Efficient, Accessible, Low Cost, Timely Healthcare (HEALTH) Act contained the most comprehensive liability reform package at the federal level. Having actively supported this bill in previous Congresses, the AMA is now working with other stakeholders to update the HEALTH Act and secure appropriate sponsorship in Congress so that it garners additional support.

Activities in the 114th Congress

The Family Health Care Accessibility Act, S. 2151, was included in the final version of the 21st Century Cures Act, which was passed by Congress and signed into law on Dec. 13, 2016 (Public Law No: 114-255). This legislation provides Federal Tort Claims Act (FTCA) medical malpractice liability coverage to all qualified health care professionals who volunteer at community health centers—or through offsite programs or events carried out by such centers—by deeming them employees of the Public Health Service. This legislation extends the Patient Protection and Affordable Care Act's provision of FTCA coverage to officers, governing board members, employees and contractors of free clinics to also apply to volunteers sponsored by these clinics. The legislation was introduced on Oct. 7, 2015, by Sens. John Thune (R-S.D.) and Robert Casey (D-Pa.).

The House passed the Sports Medicine Licensure Clarity Act (H.R. 921) on Sept. 12, 2016, by a voice vote. This legislation ensures that athletic trainers are covered by their liability insurance when they provide care services to their team while traveling. This legislation was originally introduced in the House on Feb. 12, 2015, by Reps. Brett Guthrie (R-Ky.), Cedric Richmond (D-La.), and Steve Womack (R-Ark.) as H.R. 921. On March 10, 2015, Sens. John Thune (R-S.D.) and Amy Klobuchar (D-Minn.) introduced a companion bill in the Senate as S. 689.

The Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) was signed into law on April 16, 2015, permanently repealing the Medicare sustainable growth rate (SGR) formula. MACRA incorporates the Standard of Care Protection Act, which prohibits federal quality program standards and performance metrics from establishing a "standard of care" in medical liability actions. The AMA strongly supported this language and its inclusion in the SGR repeal legislation and is pleased that this MLR effort garnered bipartisan support and was enacted into law.

Judicial activity on caps

The courts in the following states have upheld caps on noneconomic damages statutes: Alaska, California, Colorado, Idaho, Indiana, Maryland, Michigan, Minnesota, Missouri, North Dakota, Ohio, Texas, Utah, West Virginia and Wisconsin.[139] Courts in Indiana, Louisiana, Nebraska, New Mexico and Virginia upheld caps that encompass both economic and noneconomic damages.[140]

Courts in the following states struck down caps on damages: Alabama, Florida, Georgia, Illinois, Kansas, Oklahoma, Oregon and Washington.[141] More details on recent cases follow.

Notable rulings

California

On Sept. 1, 2011, California's Fifth District Court of Appeal upheld MICRA's $250,000 cap on noneconomic damages (*Stinnett v. Tam*). The court rejected claims by the appellant that MICRA was unconstitutional based on equal protection grounds. It also denied the appellant's claim that MICRA violated her right to a jury trial. Appellant argued unsuccessfully that improvements in California's medical liability climate negated the need for MICRA's cap on noneconomic damages.[142]

On Sept. 23, 2013, the Second Appellate District similarly rejected constitutional claims of violation of the right to a jury trial, equal protection and separation of powers.[143] The court said that the plaintiff's argument that the MICRA cap should be indexed for inflation "should be directed to the legislature."

On Aug. 22, 2014, the Fourth Appellate District, in an unpublished decision, upheld MICRA against a claim that it violated the right of trial by jury, equal protection of the laws, and separation of powers.[144]

On June 9, 2015, the First Appellate District upheld MICRA against a claim that it violated the right of due process, trial by jury and equal protection of the law. In connection with the equal protection argument, the court rejected the assertion that circumstances had changed since enactment of MICRA. It observed, "generally, modification or repeal of a statute made obsolete by changed conditions is a legislative, not a judicial, prerogative."[145]

139. *See Smith v. Botsford*, 419 F. 3d 513 (6th Cir. 2005); *Evans v. State*, 56 P.3d 1046 (Alaska 2002); *Hofiman v. U.S.*, 767 F.2d 1431 (9th Cir. 1985); *Fein v. Permanente*, 695 P.2d 665 (Cal. 1985); *Stinnett v. Tam*, 130 Cal.Rptr.3d 732 (Cal. Ct. App. 2011); *Hughes v. Pham*, No. E052469, LEXIS (Cal. App. Aug. 22, 2014); *Chan v. Curran*, 237 Cal. App. 4th 601 (2015); *Scholz v. Metro. Pathologists* P.C., 851 P.2d 901 (Colo. 1993); *Kirkland v. Blaine County Med. Ctr.*, 4 P.3d 1115 (Idaho 2002); *Plank v. Comm. Hosp. of Indiana*, et al., 981 N.E.2d 49 (Ind. 2013); *Murphy v. Edmunds*, 601 A.2d 102 (Md. 1992); *DRD Pool Serv. v. Freed*, 5 A.3d 45 (Md. 2010); *Rodriguez v. Cooper*, 182 A.3d 853 (Md. 2018); *Zdrojewski v. Murphy*, 657 N.W.2d 721 (Mich. Ct. App. 2002); *Schweich, et. al. v. Ziegler*, 463 N.W.2d 722 (Minn.1990); *Ordinola v. Univ. Physician Associates*, 625 S.W.3d 445, 453 (Mo. banc 2021); *Arbino v. Johnson & Johnson*, 880 N.E.2d 420 (Ohio 2007); *Wayt v. DHSC, L.L.C.*, 122 N.E.3d 92 (Oh. 2018); *Watson v. Hortman, et. al.*, 844 F.Supp.2d 795 (E.D. Texas 2012); *Judd v. Drezga*, 103 P.3d 135 (Utah 2004); *Robinson v. Charleston Area Med. Ctr.*, 414 S.E.2d 877 (W. Va. 1991); *MacDonald v. City Hospital*, 715 S.E.2d 405 (W. Va. 2011); *Verba v. Ghaphery*, 552 S.E.2d 406 (W. Va. 2001); and *Mayo v. Wisconsin Injured Patients and Families Compensation Fund*, 914 N.W. 2d 678 (Wis. 2018).

140. *Johnson v. St. Vincent Hosp.*, 404 N.E.2d 585 (Ind. 1980); *In re Stephens*, 867 N.E.2d 148 (Ind. 2007); *Arrington v. Galen-Med*, 947 So.2d 724 (La. 2007); *Oliver v. Magnolia Clinic, et. al.*, 85 So.3d 39 (La. 2012); *Prendergast v. Nelson*, 256 N.W.2d 657 (Neb. 1977); *Gourley ex. rel. Gourley v. Neb. Methodist Health Sys.*, 663 N.W.2d 43 (Neb. 2003); *Fed. Express Corp. v. U.S.*, 228 F. Supp. 2d 1267 (N.M. 2002); *Siebert v. Okun*, 485 P.3d 1265 (2021); and *Etheridge, et. al. v. Med. Ctr. Hosp.*, 376 S.E.2d 525 (Va. 1989).

141. *See Moore v. Mobile Infirmary Ass'n*, 592 So.2d 156 (Ala. 1991); *N. Broward Hosp Dist. v. Kalitan*, 219 So. 3d 49 (Fla. 2017); *Atlanta Oculoplastic Surgery, P.C. v. Nestlehutt*, 286 Ga. 731 (2010); *Lebron v. Gottlieb Mem. Hosp.*, 930 N.E.2d 895 (Ill. 2010); *Hilburn v. Enerpipe*, 442 P.3d 509 (Kan. 2019); *Watts v. Lester E. Cox Med. Ctr.*, 376 SW 3d 633 (Mo. 2012); *Carson v. Mauer,* 424 A.2d 825 (N.H. 1980) (overruled on other grounds); *Arneson v. Olson,* 270 N.W.2d 125 (N.D. 1978); *Woods v. Unity Health Center, Inc.*, 196 P.3d 529 (Okla. 2008); *Beason v. I. E. Miller Servs., Inc.*, 441 P.3d 1107 (Okla. 2019); *Busch v. McInnis Waste Sys., Inc.*, 366 Or. 628 (2020); *Sofie v. Fibreboard Corp.*, 771 P.2d 711 (Wash. 1989).

142. *Stinnett v. Tam*, 130 Cal.Rptr.3d 732 (Cal. Ct. App. 2011).

143. *Rashidi v. Moser*, 219 Cal.App.4th 1170 (Cal. Ct. App. 2013).

144. *Hughes v. Pham*, No. E052469, LEXIS (Cal. App. Aug. 22, 2014).

145. *Chan v. Curran*, 237 Cal.App. 4th 601 (Cal. Ct. App. 2015).

Florida

On March 13, 2014, the Florida Supreme Court, by a split decision, found that in a wrongful death action the cap on noneconomic damages was without a rational basis. According to the court, the cap imposed "unfair and illogical burdens on injured parties when an act of medical negligence gives rise to multiple claimants." Accordingly, the court held that the cap violated the Equal Protection Clause of the Florida Constitution.[146]

In a follow-up decision on June 8, 2017, the Florida Supreme Court ruled that caps on personal injury noneconomic damages in medical negligence actions imposed by Fla. Stat. 766.118 violated the equal protection clause of the Florida Constitution.[147] The court went on to hold that caps on personal injury noneconomic damages do not pass what is known as the "rational relationship test," where a challenged law must be rationally related to a legitimate government interest. In its opinion, the court relied heavily on its 2014 decision striking down noneconomic damage caps in wrongful death medical negligence cases.

Georgia

On March 22, 2010, the Georgia Supreme Court struck down the state's cap on noneconomic damages.[148] The Supreme Court ruled that the cap violated the right to a trial by jury provision of the Georgia Constitution. The Georgia statute being challenged included a $350,000 cap on noneconomic damages against all health care providers in a claim, a separate $350,000 cap on noneconomic damages against a single medical facility that could increase to $700,000 if more than one facility was involved, and a $1.05 million total limit on noneconomic damages in a medical liability claim.

Illinois

On Feb. 4, 2010, the Illinois Supreme Court upheld a lower court ruling that held that Illinois' cap on noneconomic damages for medical liability claims ($500,000 for physicians/$1 million for hospitals) was unconstitutional.[149] The Supreme Court ruled by a 4–2 majority that the legislatively created cap violated the state's separation of powers requirement by establishing a legislative remittitur.[150] The MLR legislation was enacted in 2005 and included other liability provisions, such as an apology inadmissibility provision and expert witness requirements. All were nullified by the ruling based on the statute's inseverability provision.

Indiana

In January 2013 the Indiana Supreme Court rejected a challenge to the state's $1,250,000 cap on damages in medical liability cases.[151] The plaintiff complained that the trial court had denied him an opportunity to prove that the cap no longer served the purposes for which it was originally enacted and was thus unconstitutional. The court held that such evidence might be allowed in a proper case, but here the plaintiff had forfeited his right to challenge the cap because he had not raised the issue properly in the trial court.

Louisiana

In 2007 the Louisiana Supreme Court reinstated the state's cap on total damages in medical liability cases.[152] The $500,000 cap (excluding future medical care) was struck down by the 3rd Circuit Court of Appeals in 2006.[153] The court of appeals determined that the current cap did not provide an adequate remedy and was unconstitutional because of this finding. The Louisiana Supreme Court set aside and vacated the judgment based on pleading and appellate errors. In 2012 the Louisiana Supreme Court reaffirmed the state's $500,000 limit on total medical liability damages, once again declaring the cap constitutional and applicable to all health care providers.[154]

Maryland

In 2010 Maryland's highest court ruled that the cap on noneconomic damages in general tort claims is constitutional.[155] It based this decision on the legal doctrine of *stare decisis*, meaning that the court based its decision on prior legal decisions.[156]

146. *Estate of McCall v. United States*, 134 So.3d 894 (Fla. 2014).
147. *North Broward Hosp. Dist. v. Kalitan*, 219 So.3d 49 (Fla. 2017).
148. *Atlanta Oculoplastic Surgery, P.C. v. Nestlehutt*, 691 S.E.2d 218 (Ga. 2010).
149. *Lebron v. Gottlieb Mem. Hosp.*, 930 N.E.2d 895 (Ill. 2010).
150. Remittitur is the process by which excessive jury verdicts are reduced by a court.
151. *Plank v. Comm. Hosp. of Indiana, et al.*, 981 N.E.2d 49 (Ind. 2013).
152. *Arrington v. Galen-Med*, 947 So. 2d 724 (La. 2007).
153. *Arrington v. ER Physicians Group*, 940 So.2d 777 (La. Ct. App. 2006).
154. *Oliver v. Magnolia Clinic*, et. al., 85 So.3d 39 (La. 2012).
155. *DRD Pool Serv. v. Freed*, 5 A.3d 45 (Md. 2010).
156. *Oaks v. Connors*, 660 A.2d 423 (Md. 1995); *Murphy v. Edmonds*, 601 A.2d 102 (Md. 1992).

Michigan

On Aug. 18, 2005, the U.S. Court of Appeals for the 6th Circuit upheld Michigan's cap on noneconomic damages.[157] Specifically, the court held the cap does not violate the Seventh Amendment or Equal Protection Clause of the U.S. Constitution.[158]

Missouri

In August 2012 the Supreme Court of Missouri threw out the state's $350,000 noneconomic damages cap on medical lawsuits, which was established in 2005.[159] Prior to 2005, Missouri had a less restrictive cap on noneconomic damages of $579,000 (adjusted for inflation). The court's 2012 decision overturned the 1992 state Supreme Court decision that was the basis for the previous cap.[160]

In response to this 2012 Missouri Supreme Court case, in 2015 Missouri enacted a new medical liability reform law that addressed concerns raised in that decision. For "non-catastrophic" injuries, the cap was initially established at $400,000, while the cap for "catastrophic" injuries was set at $700,000, and the caps are adjusted annually by 1.7%. In 2023, the caps were set at $457,749 and $801,861 respectively. In July 2021, the Missouri Supreme Court upheld the constitutionality of the noneconomic caps in the 2015 law.[161]

New Mexico

In March 2021, the New Mexico Supreme Court upheld the constitutionality of the existing cap of $600,000 on noneconomic damages.[162]

Oklahoma

In 2008 the Oklahoma Supreme Court struck down several medical liability statutes and caps on noneconomic damages on the grounds that the statutes and caps violated the Oklahoma Constitution.[163] As discussed in more detail above, in 2011 Oklahoma enacted a law putting in place a cap of $350,000 for noneconomic damages. In 2019 the Oklahoma Supreme Court ruled that this cap was unconstitutional.[164]

Oregon

In 2020, the Oregon Supreme Court invalidated the state's cap on noneconomic damages, finding that while the Court "had no doubt that [the cap] was intended to reduce insurance costs and improve insurance availability," it nevertheless violated the state constitution's remedy clause.[165]

Tennessee

In June 2021, the Tennessee Supreme Court upheld the constitutionality of Tennessee's cap of $750,000 on noneconomic damages.[166]

Texas

In March 2012, in a one-page ruling, a federal judge upheld Texas' $250,000 cap on non-economic damages.[167] This cap was established in 2003 through the Medical Malpractice and Tort Reform Act of 2003, a law that was later approved via constitutional amendment, Proposition 12. In Texas, the plaintiffs sought relief in federal court because of the state's constitutional amendment that permits caps; however, the federal judge rejected their claims and ruled that the cap should stay in effect.

Utah

In an opinion issued Nov. 5, 2004, the Utah Supreme Court upheld Utah's cap on noneconomic damages[168] as constitutional. Specifically, the court held that the cap does not violate the open courts, uniform operation of laws or due process provisions of the Utah Constitution.[169] The court also held that the cap does not violate separation of powers or right to a jury trial as protected by the Utah Constitution.

West Virginia

On June 22, 2011, the West Virginia Supreme Court of Appeals upheld the state's cap on noneconomic damages.[170] It rejected claims by the appellant that the cap on noneconomic damages violated the right to a jury trial, separation of powers, equal protection, special legislation and/or the "certain remedy" provisions of the West Virginia Constitution.

157. MCLS § 600.1483 (2008).
158. *Smith v. Botsford General Hosp.* 419 F.3d 513 (6th Cir. 2005).
159. *Watts v. Lester E. Cox Med. Ctr.*, 376 S.W.3d 633 (Mo. 2012).
160. *Adams By and Through Adams v. Children's Mercy Hosp.*, 832 S.W.2d 898 (Mo. banc 1992).
161. *Ordinola v. Univ. Physician Associates*, 625 S.W.3d 445, 453 (Mo. banc 2021).
162. *Siebert v. Okun*, 485 P.3d 1265 (2021).
163. *Woods v. Unity Health Center, Inc.*, 196 P.3d 529 (Okla. 2008).
164. *Beason v. I. E. Miller Servs., Inc.*, 441 P.3d 1107 (Okla. 2019).
165. *Busch v. McInnis Waste Sys., Inc.*, 366 Or. 628 (2020).
166. *Yebuah v. Ctr. for Urological Treatment, PLC*, 624 S.W.3d 481, 491 (Tenn. 2021).
167. *Watson v. Hortman, et. al.*, 844 F.Supp.2d 795 (E.D. Texas 2012).
168. Utah Code Ann. § 78-14-7.1
169. *Judd v. Drezga*, 103 P.3d 135 (Utah 2004).
170. *MacDonald v. City Hospital,* 715 S.E.2d 405 (W. Va. 2011).

Wisconsin
On June 27, 2018, the Wisconsin Supreme Court, in a split decision, upheld the cap on noneconomic damages against a claim that it was either invalid on its face or as applied, based on equal protection and due process grounds. The Court held that the damages cap, Wis Stat. 839.55, should be analyzed under a rational basis test, which the law passed.[171]

Judicial support for caps on noneconomic damages

Favorable state case law establishes a rationale for supporting legislative reforms.[172]

Equal protection clause

Under the "deferential rational relationship" test, a number of courts have upheld damage caps as a permissive and rational means of achieving the legitimate state goal of reducing insurance premiums paid by physicians. Other societal goals supporting the implementation of caps that have been upheld by courts include:

- Ensuring the availability of physicians in the state
- Continuing the existence of state compensation funds
- Continuing the existence of insurance for physicians in the state
- Assuring medical related payments to all claimants

Some courts have held it constitutional for a damage cap to differentiate between medical liability tort claimants who have suffered injuries valued at a level below the damage cap, and those who have suffered damages valued above the damage cap amount based upon the legitimate purpose of the legislature.

Due process clause

Court analysis of due process challenges in some cases also has proceeded under the rational relationship test where damages caps have been found to be neither arbitrary nor irrational legislative goals.

Right to trial by jury

After a plaintiff is awarded damages up to the amount of the statutory cap, the determination of damages is removed from consideration by the jury and given to the court. This is not a denial of the right to trial by jury, since the jury already has completed its fact-finding mission, determining that the plaintiff is owed compensation.

Reviewing courts also have held that it is within the legislature's power to modify common law and statutory rights and remedies, as was done with the caps.

Open court challenge

Some courts have rejected the argument that a damage cap impermissibly allows the legislature to intrude on the judicial process. Instead of being an impermissible barrier to the courts, a cap is merely a limitation on recoveries.

Intrusion on the rulemaking power of the judicial branch

Some courts did not find that caps allow the legislature to overstep its constitutional powers. Instead, courts have found that the legislature has full purview over questions of policy, as opposed to procedural questions. Damage caps are questions of policy, properly within the legislature's power.

Other issues

Court decisions on other issues relating to medical liability reform can be found at the website for the Litigation Center of the AMA and the State Medical Societies.[173]

171. *Mayo v. Wisconsin Injured Patients and Families Compensation Fund*, 914 N.W.2d 678 (Wis. 2018).
172. *See cases cited supra*, note 123.
173. https://www.ama-assn.org/health-care-advocacy/judicial-advocacy/litigation-center

Innovative reforms

While the AMA remains fully committed to the enactment of proven MLR laws, such as MICRA, the AMA is also calling for the implementation and evaluation of innovative reforms to see if those reforms are able to improve the nation's medical liability climate. The AMA has called for federal funding for pilot projects to test such concepts as health courts, liability safe harbors for the practice of evidence-based medicine, early disclosure and compensation models, expert witness guidelines and affidavits of merit, to name some of the more promising options. These reforms could either complement traditional MLR provisions, such as caps, or they may be able to improve the liability climate in a state that is not able to enact traditional MLR provisions for political or judicial reasons. Implementation and evaluation of these innovative reforms are needed to determine their effectiveness.

Health courts

Health courts are an idea that gained attention during the most recent liability crisis. Policymakers seeking an innovative solution to fix the medical liability system were intrigued with the concept, and the AMA supports the testing and evaluation of health court pilot projects as an innovative way to address the medical liability problem. Health court proponents suggest that such courts could:

- Lead to a fairer and more expedited resolution of medical liability claims
- Lead to verdicts being based more on whether or not there was a deviation from the standard of care rather than emotional appeals to juries
- Provide compensation to those harmed by medical negligence in a fairer and more streamlined fashion
- Dismiss meritless claims in a timely manner

However, there is not unanimous support for health courts from the medical community. Those skeptical of health courts have expressed concern about their ability to decrease costs and concern about the judicial appointment process.

The AMA adopted a detailed list of health court recommendations in 2007 to serve as legislative guidelines for state medical associations interested in establishing a health court. Included on the list are six main health court principles:

- Health courts should be structured to create a fair and expeditious system for the resolution of medical liability claims—with a goal of resolving all claims within one year from the filing date.
- Health court judges should have specialized training in the delivery of medical care that qualifies them for serving on a health court.
- Negligence should be the minimum threshold for compensation to award damages.
- Health court judgments should not limit the recovery of economic damages, but noneconomic damages should be based on a schedule.
- Qualified experts should be consulted to assist a health court in reaching a judgment.
- Health court pilot projects should have a sunset mechanism in place to ensure that participating physicians, hospitals and insurers do not experience a drastic financial impact based on the new judicial format.

Liability safe harbors for the practice of evidence-based medicine

In 2009 the AMA adopted principles related to liability safe harbors for physicians when they practice in accord with evidence-based medicine (EBM) guidelines. This is a concept that has garnered increased attention in the health system reform debate.

While EBM guidelines hold potential for improving patient care and lowering health care costs, they may also expand physician liability if policymakers do not establish protections for physicians who comply with EBM guidelines. The AMA principles are meant to offer guidance to federal, state or local policymakers as they seek to implement and evaluate pilot projects on this concept.

In the early 1990s, a handful of states attempted to implement programs that offered EBM guideline protections to physicians. The program in Maine was the most thorough and lasted for close to a decade. The Maine program was sunset eventually due to a lack of use by physicians, but several of the provisions included in the Maine program are relevant to current efforts and could be used by lawmakers as a starting point.

The following AMA principles and legislative recommendations include several aspects of the Maine statutory and regulatory framework. The principles are broad enough to provide state or local entities with necessary flexibility as they implement such a program, but they also highlight the key provisions that are needed to ensure that the program offers sufficient liability protections to physicians to make it successful.

- Participation in a pilot program relating to evidence-based guidelines would be voluntary for patients and physicians.
- Physicians who elect to participate in the program would follow evidence-based guidelines that could include a decision support process/application based on the guidelines.
- Participating physicians who follow evidence-based guidelines should receive liability protections for diagnosis and treatment in compliance with the guidelines.
- Such liability protections could include, but are not limited to:
  * Civil immunity related to the claims
  * An affirmative defense to the claims
  * A higher burden of proof for plaintiffs
- There would be no presumption of negligence if a participating physician does not adhere to the guidelines.
- Admissibility of a guideline by a plaintiff(s) should be prohibited unless the physician introduces that guideline first.
- The evidence-based guidelines should be developed and promulgated by national medical specialty societies or other public or private groups that provide physicians with substantial representation on oversight committees and with central decision-making roles in the development of the guidelines.
- Implementation of the evidence-based guidelines in the pilot program should be done in accord with AMA policy H-410.980 (Principles for the Implementation of Clinical Practice Guidelines at the Local/State/Regional Level).

Expert witness requirements

The AMA has adopted a model bill that was drafted to help states strengthen their expert witness requirements. The AMA's goals in drafting the model bill were to ensure that expert witnesses are qualified to provide the testimony that they are offering and to provide state medical boards with the authority to review and sanction improper testimony. Nearly every state requires expert testimony to prove a medical liability claim, but the requirements to qualify as an expert vary. Under the AMA model bill, a person may qualify as an expert witness on the issue of the appropriate medical standard of care if the witness:

- Is licensed in the state, or some other state, as a doctor of medicine or osteopathy
- Is trained and experienced in the same discipline or school of practice as the defendant or has specialty expertise in the disease process or procedure performed in the case
- Is certified by a board recognized by the American Board of Medical Specialties or the American Osteopathic Association, or by a board with equivalent standards
- Within five years of date of alleged occurrence or omission giving rise to the claim, was in active medical practice in the same discipline or school of practice as the defendant or has devoted a substantial portion of their time teaching at an accredited medical school or in university-based research in relation to the medical care and type of treatment at issue

The model bill also calls for the temporary deeming of out-of-state experts with an in-state license for the purpose of providing expert testimony. This will give the in-state medical board the right to review and possibly discipline an out-of-state expert for improper testimony. In 2011 Florida enacted a law that requires the department of health to issue a certificate to an out-of-state physician seeking to provide testimony in a medical liability case. The statute subjects the out-of-state physician to the jurisdiction of the department of health or board of medicine.[174]

174. Fla. Stat. § 458.3175

Affidavit of merit

An affidavit of merit, sometimes called a certificate of merit, is a procedural tool that some states employ to limit the adjudication of meritless lawsuits. In some states, a plaintiff must file an affidavit along with the complaint to establish that the claim has merit.

In other states, plaintiffs must file such an affidavit following a defendant's answer to the complaint. It is usually signed by a health care professional who qualifies under state law as an expert witness. As with other pre-trial mechanisms, affidavits of merit help eliminate meritless lawsuits that burden the court system and can save defendants the costs of litigation. About half of the states have some form of certificate or affidavit of merit requirement in place.

The AMA has drafted model legislation for states to use if they wish to consider an affidavit of merit provision. The AMA model bill calls on the plaintiff or the plaintiff's attorney to file an affidavit with the court stating that he or she has obtained the written opinion of a legally qualified health care provider that states that the defendant health care provider failed to use such care as a reasonably prudent and careful health care provider would have under similar circumstances and that such failure to use such reasonable care directly caused or directly contributed to the cause of the damages claimed in the petition. The model bill uses the suggested expert witness requirements from the AMA's model bill on this topic as well.

Early disclosure and compensation

In recent years, early disclosure and compensation (EDC) programs have received increasing attention as an innovative option that health systems might use to address adverse events and the risk management concerns that result from them. Several states, including Iowa,[175] Massachusetts[176] and Oregon,[177] have enacted legislation to support such initiatives. Several of the health systems that are implementing such programs have reported positive results. An example of an EDC program is the one operated by the University of Michigan Health System (UMHS).[178]

175. Iowa Code Title IV, Chapter 135P.
176. Mass. Gen. Laws ch 231, § 60L.
177. Or. Rev. Stat. § 31.250.
178. See https://www.uofmhealth.org/michigan-model-medical-malpractice-and-patient-safety-umhs. Accessed March 18, 2024.

UMHS follows three basic principles in its program:

- Compensate quickly and fairly when unreasonable medical care causes injury
- Defend medically reasonable care vigorously
- Reduce patient injuries (and, therefore, claims) by learning from patients' experiences

Federal funding has facilitated the implementation of new EDC programs and the expansion of ongoing programs in several states. These expanded efforts will help to answer some of the key questions about EDC programs, including whether or not they will increase the frequency of liability claims; whether they can succeed in states without traditional liability reforms; if they can be expanded outside of large integrated health system settings; and will they be sustainable if and when the liability climate worsens in a state.

Federal grants

As part of its health system reform efforts, the AMA urged the Obama administration and Congress to fund demonstration projects on innovative reforms, such as health courts, safe harbors for the practice of evidence-based medicine, and early disclosure and compensation models.

In 2009 the Obama administration announced that it was providing $25 million in funding to establish medical liability and patient safety demonstration grants and planning grants that would be available to states and health systems. The demonstration grants spanned three years and were intended for programs that are ready to be implemented. The Agency for Healthcare Research and Quality (AHRQ) was charged with implementing the programs. After a thorough application and review process, AHRQ awarded $23.2 million in grant funding, providing seven demonstration grants ($19.7 million total) and 13 planning grants ($3.5 million total).

To highlight a few models, early disclosure and compensation models were implemented in Illinois, Massachusetts, New York and Washington. The New York grant established a special docket with several elements that a health court model would include, such as specially trained judges. Finally, Oregon used its grant to review the safe harbor concept. The final grant programs concluded in the summer of 2015. AHRQ then contracted with JBA/RAND

to conduct a comprehensive evaluation of the program to look at the effects of various types of reforms, focusing on issues of patient safety, liability premiums and the number of medical liability lawsuits. General observations from the evaluation include that grantees who sought to improve communication learned that the beliefs, preferences and behaviors of physicians play a key role in facilitating or impeding the adoption of new practices and processes. Additionally, taking the time to identify areas of shared agreement and concern regarding communication between patients and providers can help hone communication improvement efforts.

Based on expert input and lessons learned from the grant initiative, AHRQ developed the Communication and Optimal Resolution (CANDOR), which is a process that health care institutions and practitioners can use to respond in a timely, thorough and just way when unexpected events cause patient harm. The CANDOR process is a more patient-centered approach that emphasizes early disclosure of adverse events, and a more proactive method to achieving an amicable and fair resolution for the patient/family and involved health care providers.

Conclusion

As this document has articulated, medical liability remains a continuing concern for physicians. It affects both how and where they practice. The ramifications of the broken liability system are wide-ranging, from patients who now have limited access to health care to the financial implications on the health care system as a whole. A growing number of policymakers from both sides of the aisle agree that this issue needs to be addressed. The AMA remains committed to advocating for proven reforms—such as caps on noneconomic damages—to fix the problem. The AMA is also advocating for innovative reforms, such as health courts, safe harbors, and early disclosure and compensation models, as a way to complement traditional reforms. This AMA effort is occurring at both the federal and state levels.

Please visit ama-assn.org/practice-management/sustainability/state-medical-liability-reform

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NewsRoom

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Triangle Business Journal

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Rates cut; state tort laws cited

Chris Bagley

RALEIGH – The state's second largest medical malpractice insurer has cut its premiums in response to the effects of tort reform laws in North Carolina and other states as well as to put it on a more competitive footing.

Mag Mutual Insurance Co. has cut doctors' premiums by an average of 7.4 percent for 2012, North Carolina Department of Insurance spokeswoman Kerry Hall says. The company calls 3 percentage points of that a "tort reform credit."

A spokesman for the Atlanta-based company says the cuts also are aimed at making it a stronger competitor in North Carolina. "That's being called out in the marketing we do," spokesman Michael Chlon says. "We're in a highly competitive market."

Mag Mutual's 19 percent market share in North Carolina trails only Raleigh-based Medical Mutual Insurance Co. of North Carolina, which holds a 31 percent share. Delaware-based Steadfast Insurance Co. is No. 3 with 4.9 percent.

No other insurer has notified the insurance department of rate reductions. Medical Mutual CEO Dale Jenkins and others in the industry say they need to amass at least a year of claims data under the new law before calculating new rates.

It's also too soon to say how much the cut rates are helping to boost Mag Mutual's market share, Chlon says. Doctors usually switch carriers only with the new calendar year and in July, he says. The tort reform law took effect Oct. 1.

Mag Mutual's 3 percent "tort reform credit" reflects reduced payouts and litigation costs in Georgia and other states that have overhauled their medical tort laws in recent years, Chlon says. The carrier does business in nine states.

Chlon also says the immediate cuts are aimed at returning money to the mutual insurer's customer-members.

All told, the company expects to collect $44 million in premiums from its 3,545 customers this year, compared to $47.3 million in the prior year, according to a filing it made last year after the law took effect.

Premiums very widely, with general practicioners paying less than high-risk and litigation-prone specialties such as obstetrics, but the bulk of polices carry annual rates of $5,000 to $20,000.

A key feature of the new North Carolina tort law is a $500,000 cap on court judgments for non-economic damages that can't be quantified, such as pain. The law does not cap economic damages such as medical costs and lost income. It also allows a

judge to separate a trial into two phases so that a jury can hear evidence on negligence without being swayed by graphic images and other evidence about the injury itself.

Critics of the law say it's discouraging some attorneys from taking on clients with meritorious but difficult-to-prove cases. Critics also note that premiums for medical malpractice insurance have been declining for years in North Carolina.

About one-third fewer lawsuits were filed against clients of Medical Mutual between Oct. 1 and Feb. 29 than in the same period a year earlier, the company revealed in early March. The reasons for the decline are unclear for now, says CEO Jenkins.

---- Index References ----

Company: MEDICAL MUTUAL INSURANCE COMPANY OF NORTH CAROLINA; STEADFAST INSURANCE CO; MAG MUTUAL INSURANCE CO

Industry: (Practice Management & Malpractice (1PR50); Healthcare Regulatory (1HE04); I.T. in Insurance (1IT17); Insurance Software (1IN05); I.T. Vertical Markets (1IT38); Medical Malpractice Insurance (1ME71); I.T. (1IT96); Commercial Property & Casualty Insurance (1CO35); Insurance (1IN97); I.T. in Financial Services (1IT24); Financial Services (1FI37); Healthcare (1HE06); U.S. National Healthcare Reform (1US09))

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SPECIAL ARTICLE

Malpractice Risk According to Physician Specialty

Anupam B. Jena, M.D., Ph.D., Seth Seabury, Ph.D., Darius Lakdawalla, Ph.D., and Amitabh Chandra, Ph.D.

ABSTRACT

BACKGROUND

Data are lacking on the proportion of physicians who face malpractice claims in a year, the size of those claims, and the cumulative career malpractice risk according to specialty.

METHODS

We analyzed malpractice data from 1991 through 2005 for all physicians who were covered by a large professional liability insurer with a nationwide client base (40,916 physicians and 233,738 physician-years of coverage). For 25 specialties, we reported the proportion of physicians who had malpractice claims in a year, the proportion of claims leading to an indemnity payment (compensation paid to a plaintiff), and the size of indemnity payments. We estimated the cumulative risk of ever being sued among physicians in high- and low-risk specialties.

RESULTS

Each year during the study period, 7.4% of all physicians had a malpractice claim, with 1.6% having a claim leading to a payment (i.e., 78% of all claims did not result in payments to claimants). The proportion of physicians facing a claim each year ranged from 19.1% in neurosurgery, 18.9% in thoracic–cardiovascular surgery, and 15.3% in general surgery to 5.2% in family medicine, 3.1% in pediatrics, and 2.6% in psychiatry. The mean indemnity payment was $274,887, and the median was $111,749. Mean payments ranged from $117,832 for dermatology to $520,923 for pediatrics. It was estimated that by the age of 65 years, 75% of physicians in low-risk specialties had faced a malpractice claim, as compared with 99% of physicians in high-risk specialties.

CONCLUSIONS

There is substantial variation in the likelihood of malpractice suits and the size of indemnity payments across specialties. The cumulative risk of facing a malpractice claim is high in all specialties, although most claims do not lead to payments to plaintiffs. (Funded by the RAND Institute for Civil Justice and the National Institute on Aging.)

From the Department of Medicine, Massachusetts General Hospital, and Harvard Medical School, Boston (A.B.J.); RAND, Santa Monica, CA (S.S.); Schaeffer Center for Health Policy and Economics and School of Policy, Planning, and Development, University of Southern California, Los Angeles (D.L.); and the Harvard Kennedy School, Harvard University, Cambridge, MA (A.C.). Address reprint requests to Dr. Chandra at the Harvard Kennedy School, Harvard University, 79 JFK St., Cambridge, MA 02138, or at amitabh_chandra@harvard.edu.

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Despite tremendous interest in medical malpractice and its reform,[1-10] data are lacking on the proportion of physicians who face malpractice claims according to physician specialty, the size of payments according to specialty, and the cumulative incidence of being sued during the course of a physician's career.[11-13] A recent American Medical Association (AMA) survey of physicians showed that 5% of respondents had faced a malpractice claim during the previous year.[14] Studies estimating specialty-specific malpractice risk from actual claims are much less recent,[15,16] including a Florida study from 1975 through 1980 showing that 15% of medical specialists, 34% of obstetricians and anesthesiologists, and 48% of surgical specialists faced at least one claim that resulted in an associated defense cost or payment to a claimant (an indemnity payment) during the 6-year study period.[17]

Each of these earlier studies has limitations, including the use of older data[15-17] with limited geographic coverage,[17] reliance on self-reports with limited sample size and low response rates,[14] limited information on physician specialty,[13,14] and a lack of information on the size of payments.[14] Although the National Practitioner Data Bank includes most cases in the United States in which a plaintiff was paid on behalf of a licensed health care provider,[18] it does not report the specialties of physicians and does not record information on cases that do not result in a payment.

Using physician-level malpractice claims obtained from a large professional liability insurer, we characterized three aspects of malpractice risk among physicians in 25 specialties: the proportion of physicians facing a malpractice claim in a given year, the proportion of physicians making an indemnity payment, and the size of this payment. In addition, we estimated the cumulative career risk of facing a malpractice claim for physicians in high- and low-risk specialties.

METHODS

MALPRACTICE-CLAIMS DATA

We obtained physician-level data on malpractice claims from a large, physician-owned professional liability insurer that provided coverage to physicians in every U.S. state and the District of Columbia. The procedures for safeguarding these data were approved by the institutional review board at RAND. The data included records on closed malpractice claims for 40,916 physicians who were covered for at least one policy year from 1991 through 2005. The number of physicians grew steadily from 12,498 in 1991 to 17,376 in 2005. We identified 24 specialties that had at least 200 physicians represented in our sample. Physicians belonging to other, smaller specialties were grouped together in an "other specialty" category. Across specialties, there were 233,738 physician-years of coverage, with an average duration of coverage of 5.7 years (range, 4.6 in pediatrics to 7.3 in thoracic–cardiovascular surgery). The most common specialties in our data were anesthesiology, family general practice, and internal medicine (Table 1).

Claims were available for all years during which a physician was covered by the insurer. Claims that were not yet closed by the insurer were not available. Indemnity payments that were associated with a claim reflected payments to a claimant that arose from either a settlement with the claimant or a jury verdict.

Although the data included physicians from all 50 states, California was overrepresented in our data, accounting for 16,076 physicians (39.3%). We corrected for this oversampling by weighting each physician in our data by the relative number of physicians who are not employed by the federal government reported in the Area Resource File of the Department of Health and Human Services. After weighting, the share of physicians in California was 12.2%, which by construction matches the share reported in the Area Resource File. Because we relied on data from a single insurer, we verified that the average number of indemnity claims per physician and payment levels in our data matched similar numbers in the National Practitioner Data Bank. In a previous study, investigators also relied on claims from a single insurer.[19]

We included physicians between the ages of 30 and 70 years in the study. The average age of physicians in all specialties was 49.0 years (range, 43.2 for emergency medicine to 53.0 for gynecology). Data on other demographic characteristics (e.g., sex and race) were not available.

DESCRIBING MALPRACTICE RISK

For each specialty, we began by calculating the proportion of physicians who faced a malpractice claim in a given year. We distinguished between claims leading to indemnity payments versus over-

Table 1. Summary Statistics for Physician Specialties.*

Specialty	Physician-Years of Coverage	No. of Physicians	Physician Age	Coverage Years per Physician
	no.		*yr*	*no.*
All physicians	233,738	40,916	49.0±9.5	7.2±4.4
Anesthesiology	29,952	5,037	45.6±8.5	7.2±3.9
Cardiology	4,155	777	49.8±8.9	5.9±4.4
Dermatology	3,627	532	47.8±9.9	8.0±5.1
Diagnostic radiology	4,905	808	48.6±9.1	6.6±4.3
Emergency medicine	1,631	352	43.2±8.1	4.8±3.3
Family general practice	25,758	4,975	48.9±9.7	6.2±4.2
Gastroenterology	3,981	639	50.2±8.6	7.0±4.7
General surgery	7,352	1,205	48.9±9.4	7.2±4.5
Gynecology	2,577	459	53.0±9.1	5.8±3.9
Internal medicine	27,268	4,905	47.8±9.4	7.2±4.6
Nephrology	1,373	248	47.2±9.1	7.3±5.0
Neurology	3,037	519	48.4±8.4	6.6±4.8
Neurosurgery	1,927	351	48.6±8.2	5.1±3.2
Obstetrics and gynecology	10,385	1,899	47.5±9.0	6.2±3.5
Oncology	1,207	245	49.8±7.9	6.1±3.5
Ophthalmology	5,203	807	50.0±9.9	7.6±4.9
Orthopedic surgery	11,928	2,224	48.3±8.9	6.0±4.4
Pathology	20,717	3,094	51.8±9.6	9.5±4.3
Pediatrics	7,381	1,616	45.8±9.4	5.2±4.1
Plastic surgery	11,882	1,862	47.4±9.0	7.6±4.4
Psychiatry	19,011	3,011	52.5±8.7	6.6±3.5
Pulmonary medicine	2,362	380	47.5±8.2	7.7±5.0
Thoracic–cardiovascular surgery	3,187	437	50.6±9.1	8.7±4.6
Urology	2,328	368	51.9±9.3	7.3±4.9
Other specialty	20,604	4,166	47.3±9.7	5.4±4.0

* Plus–minus values are means ±SD. All calculations were performed with the use of a database of physicians covered by a large, multistate liability insurer. The numbers of physician-years and physician observations are reported for all physicians between the ages of 30 and 70 years during the period from 1991 through 2005.

all claims (those with a defense cost but not necessarily a payment). In sensitivity analysis, we adjusted for physician age, year, and state to examine whether these adjustments would affect our reported estimates.

Given the long period studied, we separated our sample into three periods (1991–1995, 1996–2000, and 2001–2003) in order to investigate how claims rates varied over time for high- and low-risk specialties, which were defined as the five specialties with the highest and lowest proportions of physicians with a claim in a year, respectively. We did not include 2004–2005, since many claims that had been filed during that period might not have been closed by the end of 2005.

We then characterized the size of malpractice payments for each specialty by computing mean and median annual payments. We also determined how many payments exceeded $1 million to characterize specialties with outlier awards. Payments were normalized to 2008 dollars on the basis of the Consumer Price Index.

Finally, we analyzed data on physician age to estimate the cumulative career malpractice risk of

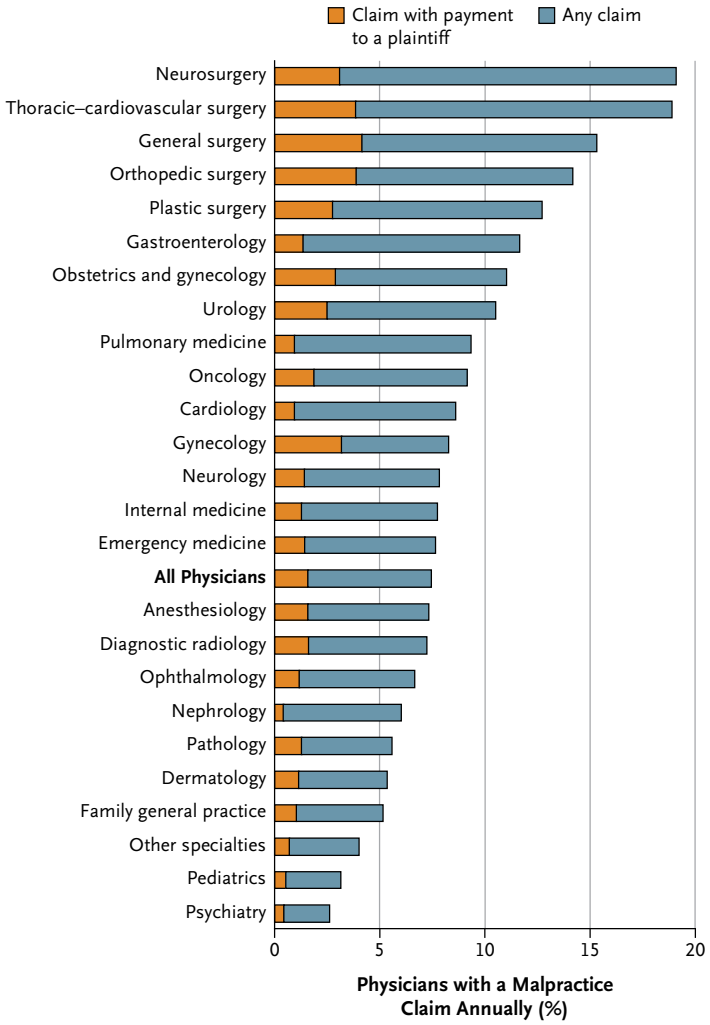

Figure 1. Proportion of Physicians Facing a Malpractice Claim Annually, According to Specialty.

being sued at least once by a given age for both high- and low-risk specialties. We first estimated a multivariate regression model of the probability of facing at least one claim in a given year as a function of physician age, physician random effects, physician specialty, state of practice, and county–year demographic variables (per capita income, age distribution, and the proportions of residents who were white or male). We allowed the effect of age to vary according to specialty. Physician random effects were included to account for unobserved differences among physicians that might have led some physicians to have been sued more frequently than others. This estimation yielded predicted annual rates of facing a claim at every age of a physician's career and for each specialty. These estimated lifetime risk profiles were then used to compute cumulative career malpractice risks for physicians in high- and low-risk specialties, as well as in each of the largest specialties in our data (internal medicine and its subspecialties, general surgery and surgical subspecialties, anesthesiology, obstetrics and gynecology, and pathology).

Our model assumes that the probability of being sued was unrelated to the duration of coverage by the insurer and that the probability of being sued at a given age was independent of being sued at an earlier age (after adjustment for physician random effects). To ensure that estimates of the cumulative risk of being sued in each specialty were not determined by the experience of a few idiosyncratic physicians, we conducted two sensitivity analyses: we excluded physicians after their first claim (consequently ignoring the subsequent experiences of physicians who were sued repeatedly) and estimated fixed-effects specifications that allow for correlation between physician characteristics (such as age) and unobserved propensities to be sued.

RESULTS

MALPRACTICE CLAIMS ACCORDING TO SPECIALTY

Figure 1 shows the proportion of physicians who faced a malpractice claim in a year according to specialty. Across specialties, 7.4% of physicians annually had a claim, whereas 1.6% made an indemnity payment. There was significant variation across specialties in the probability of facing a claim, ranging annually from 19.1% in neurosurgery, 18.9% in thoracic–cardiovascular surgery, and 15.3% in general surgery to 5.2% in family medicine, 3.1% in pediatrics, and 2.6% in psychiatry. Specialties in which physicians were most likely to face claims were not always specialties in which indemnity claims were most prevalent. Our estimates of rates of overall and paid claims were unaffected by adjustment for physician age, year, and state of practice.

Another measure of risk is the likelihood of a payment conditional on a claim. The payment rate can be inferred as the proportion of physicians making a payment divided by the proportion facing a claim. The proportion of physicians with a claim was not well correlated with the payment rate (Pearson's correlation, 0.17; P=0.42). For ex-

ample, gynecology alone had the 12th highest average annual proportion of physicians with a claim, but it had the highest payment rate (>38%).

TRENDS IN CLAIMS

The proportion of physicians facing a malpractice claim varied moderately across the study period (Fig. 2). Between the 1991–1995 and 2001–2003 periods, the average annual proportion of physicians in low-risk specialties with a claim decreased from 8.3% to 5.8%. Among high-risk specialties, the proportion of physicians with a claim was highest during the 1996–2000 period. Claims with an indemnity had similar patterns, and the differences between periods were significant ($P<0.001$ for all comparisons). Differences in overall and indemnity claims were stable between high-risk and low-risk specialties over time.

SIZE OF MALPRACTICE INDEMNITY PAYMENTS

Figure 3 shows mean and median indemnity payments per physician for each specialty after the exclusion of claims that did not result in an indemnity payment. Across specialties, the mean indemnity payment was $274,887, and the median was $111,749. The difference between the mean and median payment reflects the right-skewed payment distribution. Specialties that were most likely to face indemnity claims were often not those with the highest average payments. For example, the average payment for neurosurgeons ($344,811) was less than the average payment for pathologists ($383,509) or for pediatricians ($520,924), even though neurosurgeons were several times more likely to face a claim in a year. The estimated correlation between the proportion of physicians with a claim and the average payment amount was 0.13 ($P=0.52$). The correlation between the proportion of physicians with an indemnity payment and the average payment was similar and was not significant. This suggests that factors driving the likelihood of a claim are largely independent of factors that drive the size of a payment.

Outlier awards, which were defined as those exceeding $1 million, were infrequent, in part because the full size of outlier awards would not have been recorded if they had exceeded individual policy limits. Among all physician-years, 66 payments exceeded this amount, accounting for less than 1% of all payments. Obstetrics and gynecology accounted for the most payments (11), followed by pathology (10), anesthesiology (7), and pediatrics (7).

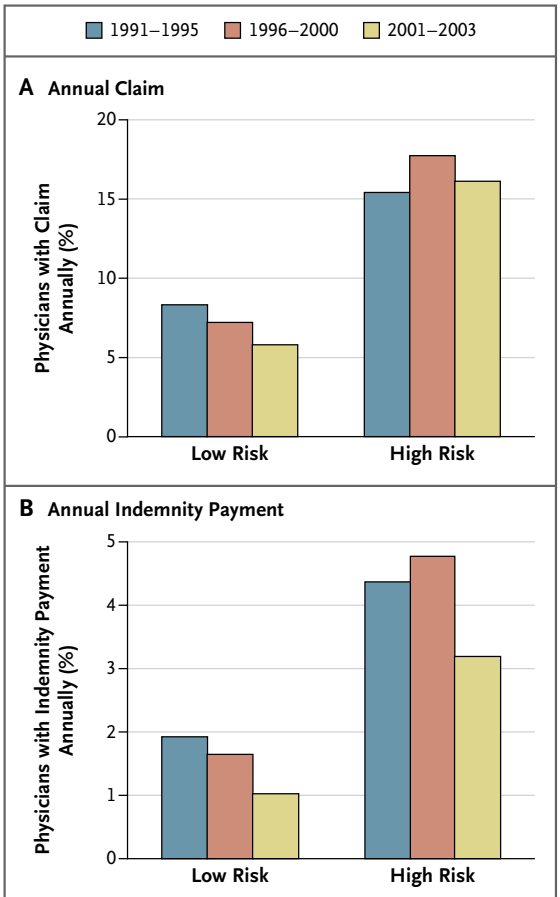

Figure 2. Trends in Overall Claims and Claims with an Indemnity Payment, According to Risk of Specialty.

Panel A shows the proportions of physicians with an annual claim, and Panel B shows the proportion with an indemnity payment (compensation paid to a plaintiff), according to the risk associated with the specialty. High-risk and low-risk specialties were defined as the five specialties with the highest average annual proportion of physicians with a malpractice claim and the five specialties with the lowest average annual proportion, respectively.

CUMULATIVE CAREER MALPRACTICE RISK

The projected proportion of physicians facing a malpractice claim by the age of 65 years was high (Fig. 4). Among physicians in low-risk specialties, 36% were projected to face their first claim by the age of 45 years, as compared with 88% of physicians in high-risk specialties. By the age of 65 years, 75% of physicians in low-risk specialties and 99% of those in high-risk specialties were projected to face a claim. The projected career risk of

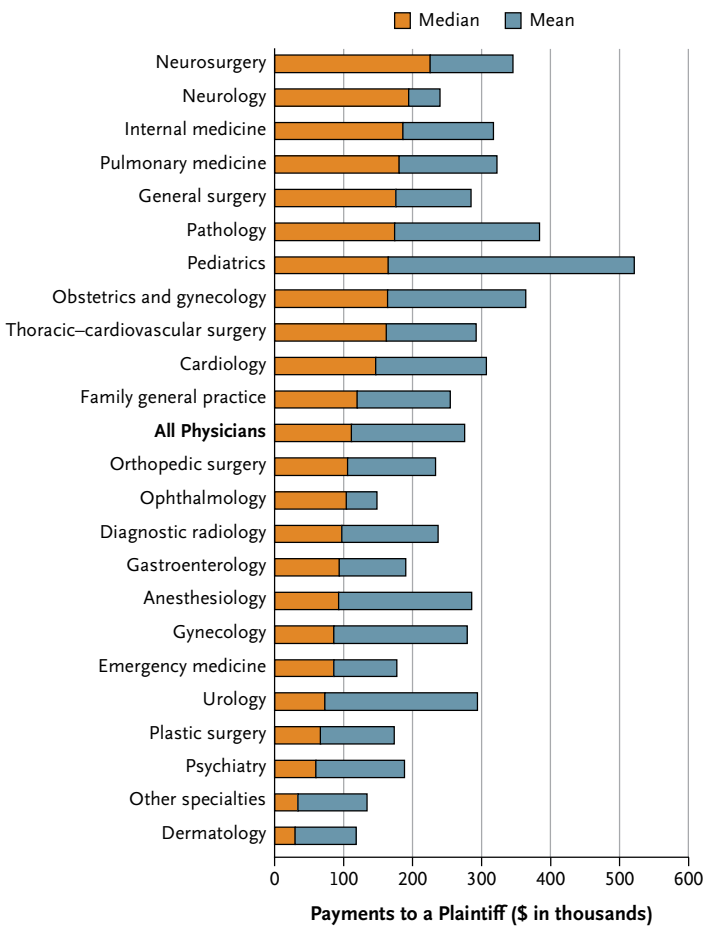

Figure 3. Amount of Malpractice Payments, According to Specialty.
Payments are shown in 2008 dollars. Specialties that had fewer than 30 payments (i.e., oncology and nephrology) are not listed.

making an indemnity payment was also large. Roughly 5% of physicians in low-risk specialties and 33% in high-risk specialties were projected to make their first indemnity payment by the age of 45 years; by the age of 65 years, the risks had increased to 19% and 71%, respectively.

Specialty-specific projections of career malpractice risk were also calculated (Table 1 in the Supplementary Appendix, available with the full text of this article at NEJM.org). Roughly 55% of physicians in internal medicine and its subspecialties were projected to face a malpractice claim by the age of 45 years, and 89% by the age of 65 years. In contrast, 80% of physicians in surgical specialties (including general surgery) and 74% of physicians in obstetrics and gynecology were projected to face a claim by the age of 45 years. The results were unchanged after the exclusion of data for physicians after their first claim or in models that allowed for a correlation between physician characteristics and an unobserved propensity to be sued.

DISCUSSION

There are few recent estimates on the likelihood of malpractice claims and the size of payments according to physician specialty. Using physician-level malpractice claims from a nationwide liability insurer, we found substantial variability across specialties in each of these descriptors of liability risk. Specialties in which the largest proportion of physicians faced a claim were not necessarily those with the highest average payment size. For example, physicians in obstetrics and general surgery — both fields that are regarded as high-risk specialties — were substantially more likely to face a claim than pediatricians and pathologists, yet the average payments among pediatricians and pathologists were considerably greater. The same pattern was noted in a national analysis that was performed more than two decades ago.[15]

For many high-risk specialties, our estimates of annual and career malpractice rates match self-reported claims rates reported in a recent AMA survey of physicians.[14] For several low-risk specialties, however, our findings suggest that the proportion of physicians facing claims is consistently higher than that reported in the AMA survey. This finding suggests underreporting by physicians in low-risk specialties, perhaps because these physicians did not report a claim or because those with previous claims were less likely to respond to the survey. Such a trend could be because the stigma of a claim is worse in specialties in which such claims are less common or because recall bias is more severe for rare events.

Our study uncovered an important aspect of malpractice liability: the high likelihood of claims that do not result in payments to a plaintiff. Annual rates of claims leading to indemnity payments ranged from 1% to 5% across specialties, whereas rates of all claims ranged from 5% to 22%. Our projections suggest that nearly all physicians in high-risk specialties will face at least one claim during their career; however, a substantial minority will not have to make an indemnity payment.

Our results may speak to why physicians consistently report concern over malpractice and the

intense pressure to practice defensive medicine,[20] despite evidence that the scope of defensive medicine is modest.[4,21,22] Concern among physicians over malpractice risk varies far less considerably across states than do objective measures of malpractice risk according to state (e.g., rates of paid claims, average payment sizes, malpractice premiums, and state tort reforms).[1] For example, 65% of physicians practicing in states in the bottom third of rates for paid malpractice claims (5.5 paid claims per 1000 physicians) express substantial concern over malpractice, as compared with 67% of physicians in the top third (14.6 claims per 1000 physicians).[1] Although these annual rates of paid claims are low, the annual and career risks of any malpractice claim are high, suggesting that the risk of being sued alone may create a tangible fear among physicians.

The perceived threat of malpractice among physicians may boil down to three factors: the risk of a claim, the probability of a claim leading to a payment, and the size of payment. Although the frequency and average size of paid claims may not fully explain perceptions among physicians,[1] one may speculate that the large number of claims that do not lead to payment may shape perceived malpractice risk. Physicians can insure against indemnity payments through malpractice insurance, but they cannot insure against the indirect costs of litigation, such as time, stress, added work, and reputational damage.[23] Although there is no evidence on the size of these indirect costs, direct costs are large. For example, a Harvard study of medical malpractice suggested that nearly 40% of claims were not associated with medical errors and that although a low percentage of such claims led to payment of compensation (28%, as compared with 73% of claims with documented medical errors), they accounted for 16% of total liability costs in the system.[19]

Our study has several limitations. As in a previous study,[19] we used data from a single insurer, which may not be nationally representative, even though it is one of the largest in the United States and covers physicians in every state. Whether the claims rates in our study are representative of those nationwide depends on whether physicians who were covered by the insurer that we studied were more or less likely to be sued than physicians who were insured elsewhere. To assess the representativeness of the data, we compared our weighted estimates with the probability and size of indemnity claims reported by the National Practitioner Data Bank. The results are reassuring: the weighted number of indemnity claims per 1000 full-time, nonfederal physicians during the period from 1991 through 2005 was 17.1 in our sample, as compared with 19.6 in the federal database. The weighted average payment in our sample was $274,887 (in 2008 dollars), which is only 4.8% less than the average in the database. These small differences may reflect the fact that the mix of specialties in our sample may not be nationally representative.

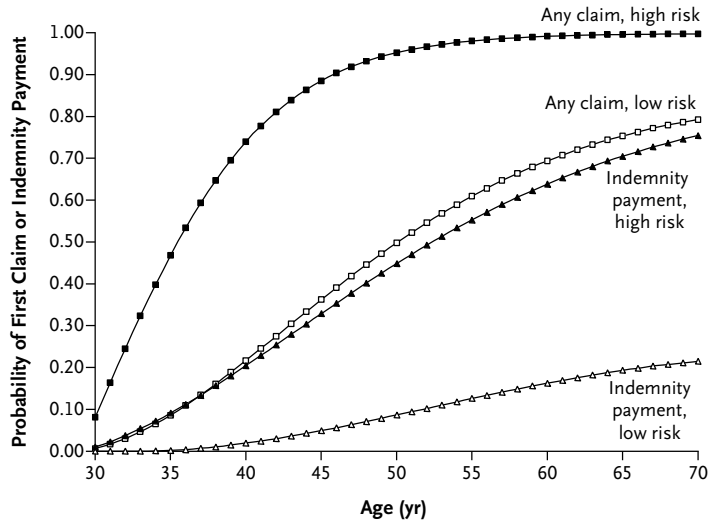

Figure 4. Cumulative Career Probability of Facing a Malpractice Claim or Indemnity Payment, According to Risk of Specialty and Age of Physician.
Cumulative probabilities were estimated from a multivariate linear regression model with adjustment for physician random effects, physician specialty, state of practice, and county demographic characteristics.

Our estimates provide a glimpse into U.S. malpractice risk among physician specialties. High rates of malpractice claims that do not lead to indemnity payments, as well as a high cumulative career malpractice risk in both high- and low-risk specialties, may help to explain perceived malpractice risk among U.S. physicians.

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Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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FEATURE ARTICLE

Do noneconomic damage caps reduce medical malpractice insurance premiums? Evidence from North Carolina

Hao Yu | **Olesya Baker**

Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, Massachusetts, USA

Correspondence
Hao Yu, Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Landmark Center, 401 Park Dr, Suite 401 East, Boston, MA 02215, USA.
Email: hao_yu@hphci.harvard.edu

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Abstract

The impact of medical malpractice reforms, especially caps on noneconomic damages, is of special interest to policymakers and physicians. Adopting such caps has become rare during the past decade, and most existing analyses study state reforms occurring during periods of dramatic rises in malpractice insurance rates. This study contributes to the literature by examining how caps implemented in noncrisis periods affect malpractice premiums. It examines the effect of the 2011 North Carolina's adoption of a noneconomic damages cap by comparing county-level malpractice premiums for three specialties between North Carolina and states without caps both before and after the reform. It finds little evidence of pre-existing trends, followed by a lagged but significant reduction in premiums for each of the studied specialties in North Carolina. The timing and size of the effects are comparable to findings from the literature studying malpractice reforms passed during times of more dramatic liability trends.

1 | INTRODUCTION

Medical malpractice liability continues to be a key concern of policymakers and physicians in the United States (Mello et al., 2017). A recent study by the American Medical Association found that "in 2019 and 2020, the proportions of premiums that increased year-to-year reached

highs not seen since the 2000s" (Guardado, 2021). The goal of most medical malpractice reforms is to reduce the exposure of physicians to liability for possible negligent care resulting in patient injury. Limiting this liability could potentially reduce defensive medicine and medical costs while possibly improving physician supply in needed specialties and geographic areas. On the other hand, there are potential disadvantages to implementing such reforms. For example, introducing caps or otherwise limiting tort can limit the recovery of those wrongfully injured and reduce incentives for physicians and hospitals to avoid malpractice.

The empirical literature has examined how medical malpractice reforms affect medical care quality (Frakes & Jena, 2016), health-care spending (Dubay et al., 2001; Frakes & Gruber, 2019; Kessler & McClellan, 1996, 2002; Lakdawalla & Seabury, 2012), use of defensive medicine (Baicker et al., 2007; Frakes & Gruber, 2019; Frakes, 2012; Kessler & McClellan, 1996), employer-sponsored health insurance premiums (Avraham & Schanzenbach, 2015; Avraham et al., 2010), average malpractice payments (Seabury et al., 2014), physician supply (Malani & Reif, 2015), provider reimbursement (Friedson, 2017), and a host of other outcomes, often finding mixed evidence. An important immediate indicator of the effectiveness, negatively or positively, of these reforms is whether medical practice premiums are reduced. Physicians purchase insurance to protect themselves from incurring the full burden of potential malpractice lawsuits, and premium changes act as useful indicators of whether medical malpractice reforms reduced liability costs.

The vast majority of the empirical literature on the consequences of medical malpractice reforms consider state-level policy changes occurring as responses to medical malpractice crises, which refer to periods of sharp medical malpractice cost increases. For example, a wave of state reforms occurred during the last medical malpractice crisis in the early 2000s (Mello et al., 2003). Nine states which had not previously implemented noneconomic damages caps adopted them between 2002 and 2005 (Born & Karl, 2016). However, many states chose not to implement such policies during any of the crises, and medical malpractice reforms since the last crisis have been rare. In fact, we are unaware of any published study examining medical malpractice premium data for years after 2010.

There are two reasons why it is important to examine how noneconomic damages caps implemented in noncrisis periods affect malpractice premiums. First, prior studies of state policy changes in response to medical malpractice crises are plagued by endogeneity concerns. This study contributes to the literature by examining the enactment of a reform in noncrisis times and overcoming some endogeneity concerns that plague prior studies. Second, the consequences of medical malpractice reforms enacted during noncrisis periods is of special policy interest given that they occurred independent of national concerns with rising malpractice premiums. Such policies may have different ramifications for the health-care system relative to those adopted during medical malpractice crisis periods, and they are also likely more pertinent to the current policy environment in most states. States considering the adoption of comparable policies may be particularly interested in the experience of a state which enacted reforms in a similar time period and atmosphere regarding medical liability trends.

In this article, we study North Carolina's implementation of a $500,000 medical malpractice cap on noneconomic damages and its association with changes in medical malpractice insurance premiums. This cap was implemented in October 2011, and starting in 2014, this cap was adjusted every 3 years for inflation.

Between 2005 and 2013, only two states—North Carolina and Tennessee—imposed noneconomic damages caps. Since 2013, Missouri (2015) and Iowa (2017) have also

implemented noneconomic damages caps, but these caps were adopted too recently to evaluate their medium-term consequences. Tennessee's caps were enacted in 2011, following a series of other medical malpractice reforms beginning in 2008. Because of this package of reforms in Tennessee, it is difficult to isolate the role of any specific policy. However, the 2011 North Carolina reform imposed a noneconomic damages cap with relatively few other changes to the medical malpractice system in the state, permitting a rare opportunity in the literature to isolate the effect of a strict noneconomic damages cap on medical malpractice premiums. Given the timing of the North Carolina policy, there is adequate postreform data to study medium-term effects. Previous research, typically studying much older state reforms (in 1984–1991) (Viscusi & Born, 2005), has found evidence that limits on noneconomic damages have the most influence on insurance market outcomes (Mello et al., 2011).

We study dynamic effects in the postimplementation period because the literature has recognized that premiums do not necessarily respond immediately and, in fact, there is evidence that it may take years to observe a premium reduction (Born et al., 2009). Our approach documents the effects in each postadoption year, pinpointing the timing of the effect. We also test for pre-existing trends which has rarely been examined in this literature as noted by a review study (Zeiler & Hardcastle, 2012) with few exceptions such as the study by Born & Karl (2016).

2 | METHODS

2.1 | Variables and data

Our outcomes are medical liability insurance premiums at the county-level for three different specialties: internal medicine, general surgery, and obstetrics/gynecology. These data were collected in a series of annual surveys conducted by the *Medical Liability Monitor (MLM)*, and have been used before by studies of malpractice liability at both state and county levels (Baicker et al., 2007; Polsky et al., 2010). The MLM represents the only source of national, longitudinal data about malpractice insurance premium rates. We focus on the years between 2008 and 2017, which surround the North Carolina reforms while providing an adequate postperiod (i.e., 6 years) to estimate medium-term effects. While the length of our pretreatment period represents a common practice in the current literature, which suggests that a minimum of three to five baseline data points should be required to obtain a reliable pretreatment trend (College of Education & Human Development University of Missouri, 2022; National Professional Development Center on Autism Spectrum Disorder at University of North Carolina, 2014), we are not able to include more years in the pretreatment period because North Carolina imposed a voluntary cap on total damages for medical malpractice liability in 2007 (Koonz McKenney & DePaolis, 2020). To avoid this confounding factor, our study period starts from 2008.

We study each of the above three specialties separately for the purposes of providing complementary evidence while also testing for possible heterogeneity in the effects of the reform since prior research has identified two of the three specialties—general surgery and obstetrics/gynecology—as high-risk specialties for malpractice liability (Jena et al., 2011). Because the unweighted MLM data "understate the premium paid by a typical physician in these specialties" as noted by Black et al. (2017), we choose to weight the data. Specifically, like previous studies (Carrier et al., 2010), we weight the MLM premiums by market share data from the National Association of Insurance Commissioners. Because premiums are skewed for each of the specialties, we study the natural logarithm of the weighted premiums in our analyses.

We select states which did not have noneconomic damages caps in our study period to act as a control group (see Section 2.2). We use the Database of State Tort Law Reforms (Avraham et al., 2020) to categorize states based on their medical malpractice policies in the study period.

To control for factors driving medical malpractice premiums, we included in our analysis county-level sociodemographic characteristics (i.e., age, gender, racial/ethnicity, rural status, and unemployment rate), which are from the Area Health Resources File created by the Health Resources and Services Administration, health-care spending per capita from the National Health Expenditure Accounts created by the Centers for Medicare & Medicaid Services, and health status (i.e., adult smoking rate and obesity rate) from the County Health Rankings & Roadmaps (CHR&R) program of the University of Wisconsin Population Health Institute.

2.2 | Statistical analysis

We implemented a difference-in-differences (DD) design, comparing the log of the weighted premiums between North Carolina counties and counties in control states. The specification of interest is:

$$\ln(P_{cst}) = \alpha_{cs} + \gamma_t + X'_{cst}\beta + \delta 1(t > 2011)_t \times 1(\text{North Carolina})_s + \varepsilon_{cst}, \quad (1)$$

where $\ln(P_{cst})$ represents the natural logarithm of the weighted premiums in county c and state s at time t. The specification includes county fixed effects (α_{cs}) and time fixed effects (γ_t) while X_{cst} represents a set of time-varying covariates, including county-level unemployment rate, rural-urban status, demographic characteristics (age, gender, and race/ethnicity), health-care spending, and health status (smoking and obesity).

Coefficients in the logged Ordinary Least Square model above quantify the growth rates. To provide an estimate of the growth in dollar amount, we specify the above equation by using a generalized linear model with the Gaussian distribution and log-link before applying the margin command in Stata Version 16.1.

In addition, we adopted an event study design, which is recommended for evaluating the impact of health policy (Dimick & Ryan, 2014). Whereas the DD design estimates the average change in the difference between North Carolina and the control group from the pre- to the postreform period, the event study approach helps capture the change by year in the difference between the two groups. This approach permits us to test for pre-existing trends while also differentiating between short-term and longer term effects. Given that the literature in this area rarely studies pretreatment trends (Zeiler & Hardcastle, 2012), a contribution of our paper is testing for pre-existing trends in a flexible manner. There is also evidence in the literature the premiums do not change immediately in response to medical malpractice reforms but, instead, may take years. An event study approach permits us to understand these dynamics. Below is our event study specification:

$$\ln(P_{cst}) = \alpha_{cs} + \gamma_t + X'_{cst}\beta + \delta_t \times 1(\text{North Carolina})_s + \varepsilon_{cst}, \quad (2)$$

where $\ln(P_{cst})$, α_{cs}, γ_t, and X_{cst} were described before. In this specification, North Carolina is permitted to experience differential effects in each year. When presenting the estimates, we normalize the 2011 estimate to zero (normalization is necessary given the inclusion of county and time fixed effects). All estimates then represent the difference in log premiums relative to the difference between North Carolina counties and the control counties in 2011.

For each of the above two approaches, we conducted multivariate analyses of the log of the weighted premiums by specialty. Our control group consists of counties in states which did not have noneconomic damages caps between 2008 and 2016, including 1185 counties in 24 states (For a list of these states, see the first column in Appendix Table A1). As a sensitivity check, we further select a control group of states that are from the South Census Region and have no caps on noneconomic damages. These states are likely more comparable to North Carolina because they are geographically close to North Carolina and culturally similar to it, providing a useful sensitivity test. This selection leaves us with eight states (including North Carolina) and 565 counties (See the second column the Appendix Table A1).

Since the North Carolina malpractice reform was enacted by the state's General Assembly in October 2011, the year of 2011 lies between the pre- and the postreform periods. We run a sensitivity check by dropping 2011 from our DD analyses. We do not run the sensitivity check for the event study analyses because the analyses do not require us to specify the beginning of the postperiod.

Finally, to address the issue that our sample includes only one treated unit (i.e., North Carolina), we apply three approaches that have been recently recommended by Button (2020) for conducting inference in DD analyses with small numbers of units. The three approaches are the Conley–Taber method (2011), the Donald–Lang method (2007), and the Synthetic Control Method (Abadie et al., 2010).

For each analysis, we estimate Huber–White robust standard errors clustered at the state level to account for serial correlation. We present 95% confidence intervals based on these standard errors when presenting the event study results.

3 | RESULTS

3.1 | Summary statistics

Table 1 summarizes our study sample ($N = 12{,}850$ county-years) and the covariates. Rural counties account for the majority (60.07%) of our sample. The average unemployment rate among people aged 16 and over is 6.79%; the population in the study counties is predominantly non-Hispanic Whites (80.39%); population age 20–44, 45–65, and 65+ account for 30.07%, 27.77%, and 17.13% of the total population in the study counties, respectively; less than one-fifth (18.75%) of the population is reproductive age women (15–44); On average, health-care spending per capita is $7,771.11 in the study period; The average adult smoking rate is 22%; the average adult obesity rate is 32%.

We present summary statistics of our outcome variables in Table 2 for both the prereform (2008–2011) and postreform period (2012–2017). In the preperiod, premiums are relatively similar between North Carolina counties and the control counties for internal medicine ($10,719 vs. $9,356) while there are considerable differences in premiums between the two groups for general surgery ($50,563 vs. $34,007) and obstetrics and gynecology (OB/GYNs) ($77,083 vs. $49,157). These differences motivate the use of an empirical approach which accounts for fixed differences across counties. In fact, our *smallest* DD estimates (in magnitude) are for internal medicine (see Table 3 below), suggesting that such an initial difference appears to work *against* finding an effect and are not driving our main findings.

Table 2 also provides some initial evidence that the North Carolina damages caps reduced premiums relative to other states. Whereas the two groups have relatively small changes in premiums for internal medicine ($355 vs. $25 with a DD estimate of $380) between the pre and postreform periods, premiums decreased more for general surgery ($4,834 vs. $93 with

TABLE 1 Summary of the covariates

	Mean or proportion
Rural counties	60.07%
Unemployment Rate, 16+	6.79%
Percent White Non-Hisp Pop	80.39%
Percent population age 20–44	30.07%
Percent population age 45–65	27.77%
Percent population age 65+	17.13%
Percent reproductive-age women	18.75%
Health Care Spending per capita ($)	7771.11
Adult smoking rate	22%
Adult obesity	32%
N	12,850

TABLE 2 Average premiums in North Carolina counties and control counties, pre versus postreform period

	Prereform	Postreform	Difference	Difference-in-differences estimate
Internal medicine				
North Carolina	$ 10,719	$10,364	$355	$380
Control states	$ 9,356	$9,381	$25	
General surgery				
North Carolina	$50,563	$45,729	$4,834	$4,741
Control states	$34,007	$33,914	$93	
OB-GYN				
North Carolina	$77,083	$69,425	$7,658	$7,018
Control states	$ 49,157	$48,517	$640	

Note: Premiums are weighted by individual insurance companies' market share.

a DD estimate of $4,741) and OB/GYNs ($7,658 vs. $640 with a DD estimate of $7,018) in North Carolina counties than in the control counties. We confirm these differences in our multivariate analyses below.

3.2 | Main results

We present our main DD estimates in Table 3. For all three specialties, we find that premiums decreased in North Carolina counties relative to the control counties after the reform. When interpreting a coefficient estimate on an indicator variable for a logged outcome, it is standard to convert the estimate to the implied percentage change. Given that the estimates are relatively

TABLE 3 Difference-in-differences estimates for logged premiums by specialty

	Main results with all the control counties	Sensitivity analysis with the south controls only				
	(1)	(2)	(3)	(4)	(5)	(6)
	Internal Medicine	General Surgery	OB-GYN	Internal Medicine	General Surgery	OB-GYN
DD estimate	0.0550*	0.110***	0.0981***	0.0560*	0.102*	0.115*
	[0.091, 0.01]	[0.164, 0.06]	[0.144, 0.053]	[0.102, 0.01]	[0.17, 0.033]	[0.210, 0.019]
Urban	0.0008	0.0019	0.0015	0.00161	0.00138	0.0028
counties	[0.008,0.007]	[0.006,0.010]	[0.005,0.008]	[0.004,0.007]	[0.003,0.005]	[0.005,0.010]
% Unemploy-	0.00744	0.0076	0.0013	0.0004	0.00447	0.0037
ment	[0.017,0.003]	[0.021,0.006]	[0.010,0.008]	[0.010,0.010]	[0.010,0.019]	[0.016,0.023]
% White	0.00011	0.0018	0.00191	0.000272	0.0029	0.0072*
	[0.008,0.008]	[0.009,0.005]	[0.010,0.006]	[0.003,0.004]	[0.005,0.001]	[0.013, 0.002]
% Age 20–44	0.0030 [0.014,0.008]	0.0005 [0.009,0.008]	0.0045 [0.014,0.005]	0.0072 [0.016,0.001]	0.0032 [0.001,0.003]	0.0065 [0.022,0.009]
% Age 45–65	0.0007 [0.019,0.021]	0.0065 [0.010,0.023]	0.003 [0.010,0.017]	0.0083* [0.02, 0.001]	0.0019 [0.009,0.006]	0.0037 [0.008,0.016]
% Age 65+	0.0004	0.00425	0.001	0.0045	0.0002	0.0039
	[0.013,0.014]	[0.008,0.016]	[0.008,0.010]	[0.012,0.003]	[0.008,0.007]	[0.007,0.015]
Healthcare spending	0.0046 [0.005,0.015]	0.0024 [0.007,0.012]	0.0078 [0.002,0.018]	0.0024 [0.018,0.013]	0.0073 [0.024,0.010]	0.0033 [0.024,0.017]
% Smoking	0.121	0.142	0.0843	0.0360	0.0328	0.0011
	[0.090,0.332]	[0.093,0.376]	[0.116,0.285]	[0.035,0.107]	[0.026,0.092]	[0.153,0.151]

(Continues)

TABLE 3 (Continued)

	Main results with all the control counties	Sensitivity analysis with the south controls only				
	(1)	(2)	(3)	(4)	(5)	(6)
	Internal Medicine	General Surgery	OB-GYN	Internal Medicine	General Surgery	OB-GYN
% Obesity	0.0561	0.0330	0.0190	0.0378	0.0239	0.0226
	[0.081,0.193]	[0.094,0.160]	[0.115,0.153]	[0.074,0.149]	[0.106,0.154]	[0.166,0.120]
% Women (15-–44)			0.0070* [0.001,0.013]			0.0133* [0.004,0.023]
R-Squared	0.9771	0.9656	0.9782	0.9769	0.9673	0.9579
Adj R-Squared	0.9745	0.9618	0.9758	0.9742	0.9635	0.9530
Observations	12820	12820	12820	5620	5620	5620

Note: 95% confidence intervals in brackets. The results are from six ordinary least square models, and the outcome in each model is the natural logarithm of the weighted premiums for the specialty at the top of the column. All regressions include county and year fixed effects. 95% confidence intervals are in parentheses and adjusted for within-state clustering.

Abbreviation: DD, difference-in-differences.

*$p < 0.05$.; ***$p < 0.001$.

close to zero, this transformation provides percentages which are approximately 100 times the coefficient estimates.[1] When discussing the estimates, we will refer to this metric.

For internal medicine, the estimate implies that premiums in North Carolina counties decreased by 5.50% relative to premiums in other counties from the pre- to postreform period (Column [1] of Table 3), which is significant at 0.05 level and represents a decrease of $381. We find even larger reductions for general surgery and obstetrics/gynecology. For general surgery and obstetrics/gynecology, we estimate that premiums in North Carolina counties decreased by 11.0% and 9.81%, respectively (Column [2] and [3] of Table 3), both of which are significant at 0.001 level and represent a decrease of $4,740 and $7,018, respectively.

The main estimates (See details in Appendix Table A2) from the event study analyses are presented graphically in Figure 1. Figure 1a shows the results for internal medicine. Before the reforms, the estimates are all statistically insignificant from zero, suggesting similar preexisting trends between North Carolina and the control group. The prereform estimates are increasing slightly over time and would work against finding a postreform reduction in premiums. After the reform, the estimates are not statistically different from zero until 2014. In 2014, the estimate drops substantially and has stayed stable since. This evidence indicates that the reform has a delayed but significant effect on reducing premiums for internal medicine.

Figure 1b shows the event study for general surgery. The results follow a similar pattern. Before the reform, the estimates are statistically insignificant and close to zero. In 2014, we estimate a large drop in premiums in North Carolina relative to premiums in the control group. The difference between the two groups are also significant for 2015, 2016, and 2017.

Figure 1c presents the event study for obstetrics/gynecology. The estimates are similar. We again observe a large premium decrease in 2014. The significant reduction in premiums remains through the end of our sample period.

The steadiness of the effect since 2014 shown in the three panels of Figure 1 suggests that the estimated reduction is not the result of short-term premium shifts due to instability of the market or secular trends caused by components of the "insurance cycle" not appropriately accounted for by the control group.

3.3 | Sensitivity tests

Column (4), (5), and (6) of Table 3 present the results of our sensitivity analysis, using the control group from the South Census Region only. The results are similar to our main results in Column (1), (2), and (3) of Table 3, confirming the robustness of our analysis.

Figure 2 shows the results from our sensitivity test based on the event study design, which limits the control group to counties in the South Census Region. For all three specialties, the results are not meaningfully changed from the corresponding estimates provided in Figure 1, further confirming that the estimates of our analyses are not driven by a particular control group or unobserved factors that make the control counties different from North Carolina counties. Selecting on more comparable counties generally reduces concerns about such unobserved factors. The results do not change meaningfully when we make this selection,

[1]Given estimate β, it is standard to report $100(e^{\beta}-1)\%$ when the outcome is logged. However, when β is close to zero in magnitude, $100(e^{\beta}-1)\%$ is close to $100\beta\%$.

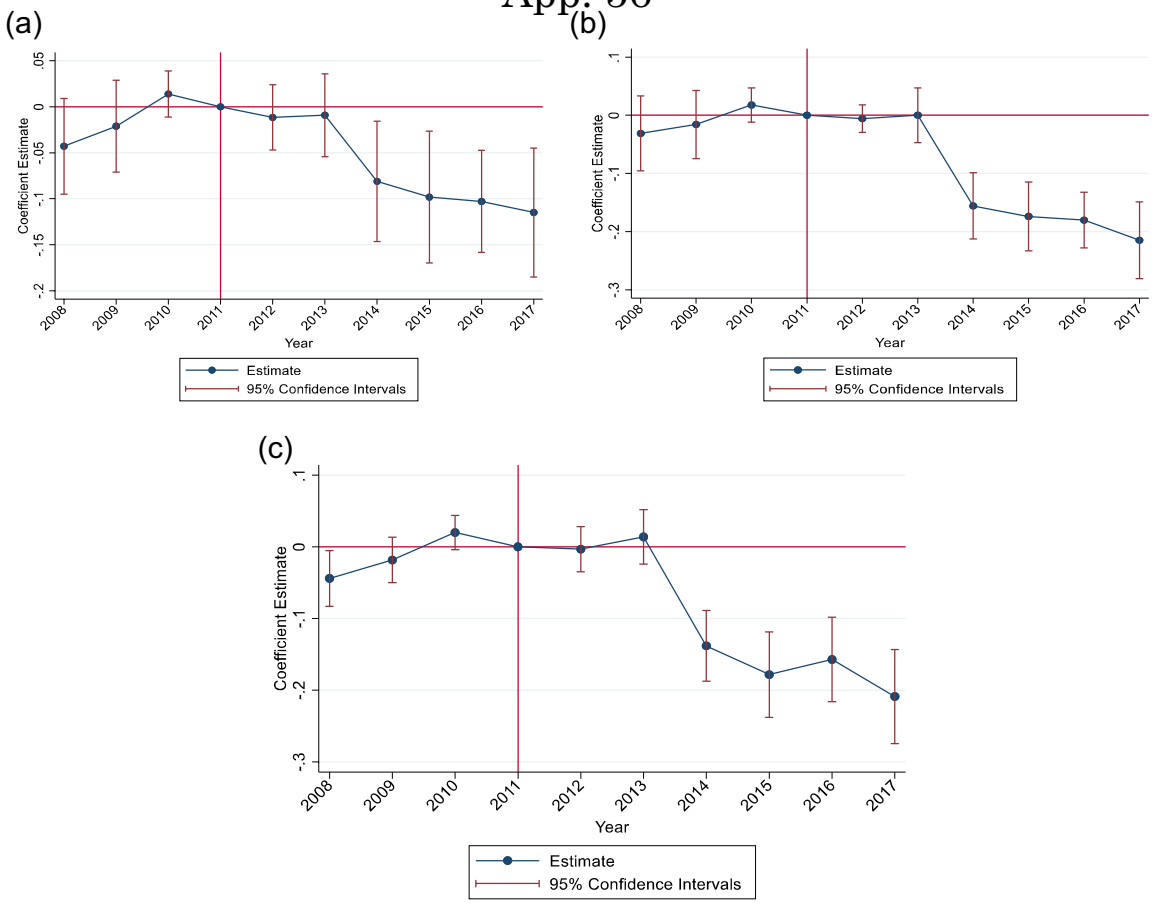

FIGURE 1 Event study results comparing North Carolina counties to control counties in each year for the natural logarithm of the weighted premiums. (a) Internal Medicine Premiums. (b) General Surgery Premiums. (c) OB/GYN Premiums. Each figure shows the results of an event study. The outcome is the natural logarithm of the weighted premium for that specialty described in the figure. The specification includes county and year fixed effects as well as the covariates described in the text. The estimates are normalized to 0 in 2011. 95% confidence intervals adjusted for within-state clustering.

which is consistent with our specifications appropriately accounting for relevant factors driving premiums through the inclusion of county and time fixed effects.

Because the North Carolina reform was enacted in October 2011, it may be inappropriate to consider 2011 as "untreated." We replicate Figures 1 and 2 while dropping 2011 from the analysis, and we found the results are nearly-identical without 2011 in the analysis.

Our results all remain significant at 0.05 level using the Donald–Lang method (the upper section of Table 4), but not significant using the Conley–Taber method (the lower section of Table 4). The result is significant for internal medicine using the synthetic control method (Table 5), but not for general surgery or OB-GYN.

4 | CONCLUSION AND DISCUSSION

There is significant interest in understanding the scope for medical malpractice reforms, especially noneconomic damages caps, to reduce malpractice premiums. We study a recent implementation of this type of reform, the enactment of the North Carolina reform imposing a

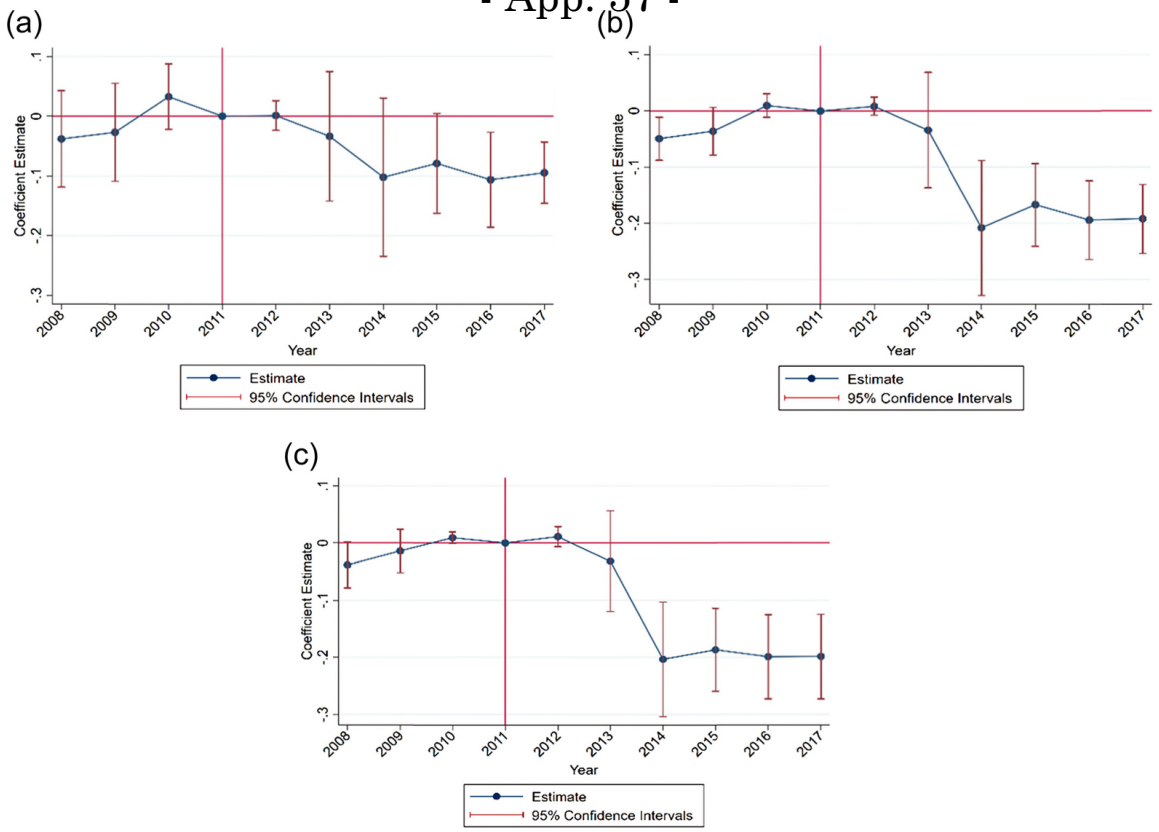

FIGURE 2 Event study results comparing North Carolina counties to control group counties in the south census region in each year for logged premiums. (a) Internal Medicine Premiums. (b) General Surgery Premiums. (c) OB/GYN Premiums. The control group includes only counties in the seven states in the South Census Region. Each figure shows the results of an event study. The outcome is the natural logarithm of the weighted premium for that specialty described in the figure. The specification includes county and year fixed effects as well as the covariates described in the text. The estimates are normalized to 0 in 2011. 95% confidence intervals adjusted for within-state clustering.

$500,000 cap on noneconomic damages. We found significant premium reductions for each of the three studied specialties after the reform. These estimates are similar to those found in the literature (Mello et al., 2011). A summary of the literature indicates that premiums in states with noneconomic damages caps rise 6%–13% *slower* than premiums in states without caps (Mello et al., 2011), remarkably similar to our findings from the DD analyses. The similarity of our results compared with those found in the literature is important because the North Carolina reform did not, like most state reforms studied in the literature, occur in reaction to sharply rising premiums at the national level. Thus, our results confirm that caps on noneconomic damages are useful for reducing malpractice premiums in noncrisis periods. The North Carolina reform also included relatively few other provisions, allowing us to isolate the effect of such a cap. Given the current medical liability environment, the North Carolina case is potentially more representative of the premium effects of such a reform in noncrisis periods. Our findings provide support for other states that implemented such a reform after North Carolina with the goal of reducing malpractice premiums in noncrisis periods.

However, our event study indicates that these premium reductions occurred with a lag, presumably as insurers observed reductions in lawsuits and damage awards, and adjusted premiums over time. For example, one recent study found that the noneconomic damages cap

TABLE 4 Donald–Lang and Conley–Taber regression results by specialty and control group

	Using all the control counties				Using the south controls only	
	(1)	(2)	(3)	(4)	(5)	(6)
	Internal Medicine	General Surgery	OB-GYN	Internal Medicine	General Surgery	OB-GYN
Donald–Lang Regression						
DD estimate	0.0369*	0.101*	0.0943*	0.0386*	0.103*	0.0960*
	[0.074, 0.0004]	[0.190, 0.011]	[0.184, 0.005]	[0.076, 0.001]	[0.193, 0.013]	[0.186, 0.006]
Conley–Taber Regression						
DD estimate	0.023	0.090	0.080	0.037	0.106	0.097
	[0.194, 0.359]	[0.324, 0.161]	[0.211, 0.147]	[0.312, 0.312]	[0.514, 0.110]	[0.434, 0.158]

Note: 95% confidence intervals in brackets.

Abbreviation: DD, difference-in-differences.

*$p < 0.05$.

TABLE 5 Regression results with synthetic controls by specialty

	(1) Internal medicine	(2) General surgery	(3) OB-GYN
DD estimate	0.208*	0.0557	0.188
	[0.395, 0.0218]	[0.234,0.123]	[0.497,0.120]

Note: 95% confidence intervals in brackets.

Abbreviation: DD, difference-in-differences.

*$p < 0.05$.

in North Carolina reduced the number of lawsuits filed against physicians and hospitals (Donovan, 2015). This lagged effect is consistent with findings in the literature that caps have a phase-in period before they fully take effect (Paik et al., 2013). In fact, previous research found that effects began to appear in the third year after implementation (Paik et al., 2013), the same timeframe that we observe in this study. When we estimate effects by year, we estimate that North Carolina premiums had a large drop compared with the control states, depending on the specialty, in the third year after the reform. This effect persisted through the last year in our analyses.

We use event study analyses to show that our results are not driven by pre-existing trends. As noted above, testing for pre-existing trends is rare in this literature (Zeiler & Hardcastle, 2012). While our models may not capture all possible determinants of medical malpractice premiums, any factors not captured by our covariates and county fixed effects would only drive our results if they suddenly began influencing premiums in North Carolina relative to other states in 2014. Our results are also not sensitive to the chosen control group. We find similar results when we compare North Carolina counties to control counties in the South Census Region.

Our analysis has several limitations. First, we only study malpractice premiums, which are an informative proxy for whether medical malpractice reforms are effectively reducing physician risk and liability. They are also a useful summary metric for the costs of medical liability and cost-savings associated with medical malpractice reforms (Mello et al., 2010). Changes in premiums are likely necessary conditions for changes in other important outcomes, such as physician supply and health spending. If premiums do not decrease, then it is less likely that physician supply would respond. Other variables are also potentially dependent on premium reductions. Note also that the premium data that we study include costs that are unrelated to the tort system or settlement costs. However, these other factors should only add noise to our estimates. If the caps reduce premiums, then we should still observe premium reductions as long as these other factors do not obfuscate the true effects.

Second, our analysis is limited to North Carolina. It is common in this literature to study the experience of just one state at a time with the benefits of isolating the effect of a specific policy (Born et al., 2017; Hyman et al. 2015). This study follows in that tradition. However, we recognize the concerns about only one treated unit in DD analyses. After applying three approaches that are proposed for potentially address the concerns, we generated mixed results. Given the fact that econometric methods are constantly evolving, including a new manuscript about inference with a single treated unit that is still under review (Hagemann, 2020), it would be interesting for future studies to apply the newly developed method to the topic of malpractice reform.

Third, we recognize that our study, which takes advantage of the natural experiment created by the 2011 North Carolina adoption of a noneconomic damages cap, has no randomization and is subject to unmeasured confounders.

Finally, we would like to point out directions for future research. Even though the United States is not currently experiencing a "medical malpractice crisis," policymakers continue to consider methods of reducing physician liability risk and malpractice premiums. We find that noneconomic damages caps have economically meaningful effects of reducing medical malpractice premiums across three different specialties, providing encouraging results for other states that are interested in adopting this type of reform to reduce premiums in noncrisis periods. Future work can explore the more recent state reforms, such as the cap on noneconomic damages adopted by Iowa in 2017, which will be an interesting case study when there is a longer postperiod to evaluate. Examining the impacts of the dramatic change in Missouri's tort reform can be another interesting case study as the state abolished a noneconomic damage cap in 2012 and then implemented a new one in 2015. Further research is also needed to examine how noneconomic damages caps affect other outcomes, such as physician supply, health-care spending, and patient health outcomes.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

DATA AVAILABILITY STATEMENT

The malpractice premium data were purchased from Medical Liability Monitor, which conducts annual survey of medical malpractice insurance rates.

ORCID


Hao Yu https://orcid.org/0000-0001-6169-4243

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APPENDIX A

Table A1; Table A2

TABLE A1 List of control states

Main sample	South census region sample
Alabama	Alabama
Arizona	
Arkansas	Arkansas
Connecticut	
Delaware	Delaware
District of Columbia	District of Columbia
Indiana	
Iowa	
Kentucky	Kentucky
Louisiana	Louisiana

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TABLE A1 (Continued)

Main sample	South census region sample
Maine	
Minnesota	
Nebraska	
New Hampshire	
New Jersey	
New Mexico	
New York	
Oregon	
Pennsylvania	
Rhode Island	
Vermont	
Virginia	Virginia
Washington	
Wyoming	

Note: Our control groups include counties in states that do not have noneconomic damages caps at any point during our sample period, 2008-2017. These states are listed under "Main Sample" in the table above. As a sensitivity check, we only use the subset of counties which are in the South Census Region. These states are listed under "South Census Region Sample" above.

TABLE A2 Event study regression results by specialty

	(1) Internal medicine	(2) General surgery	(3) OBGYN
2008	0.0429	0.0312	0.0441*
	[0.0977,0.0120]	[0.0990,0.0366]	[0.0851, 0.00310]
2009	0.0211	0.0158	0.0185
	[0.0739,0.0317]	[0.0777,0.0461]	[0.0519,0.0149]
2010	0.0139	0.0176	0.0199
	[0.0125,0.0403]	[0.0133,0.0485]	[0.00543,0.0452]
2012	0.0116	0.00576	0.00337
	[0.0490,0.0258]	[0.0308,0.0193]	[0.0367,0.0299]
2013	0.00913	0.000155	0.0138
	[0.0566,0.0384]	[0.0495,0.0498]	[0.0264,0.0540]
2014	0.0811*	0.156***	0.138***
	[0.150, 0.0121]	[0.216, 0.0959]	[0.190, 0.0863]

(Continues)

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TABLE A2 (Continued)

	(1) Internal medicine	(2) General surgery	(3) OBGYN
2015	0.0982*	0.174***	0.178***
	[0.174, 0.0226]	[0.236, 0.112]	[0.242, 0.115]
2016	0.103**	0.180***	0.157***
	[0.161, 0.0443]	[0.231, 0.130]	[0.220, 0.0951]
2017	0.115**	0.215***	0.209***
	[0.189, 0.0409]	[0.284, 0.145]	[0.278, 0.140]
Rural status	0.000862	0.00160	0.00125
	[0.00779,0.00606]	[0.00586,0.00907]	[0.00457,0.00707]
Unemployment	0.00893	0.0103	0.00385
	[0.0183,0.000432]	[0.0222,0.00162]	[0.0114,0.00371]
Percent White	0.00000768	0.00199	0.00206
	[0.00784,0.00783]	[0.00873,0.00475]	[0.0103,0.00617]
Percent age 20 44	0.00350	0.00103	0.00376
	[0.0144,0.00742]	[0.0106,0.00859]	[0.0129,0.00537]
Percent age 45 65	0.00201	0.00912	0.00415
	[0.0173,0.0213]	[0.00630,0.0246]	[0.00878,0.0171]
Percent age 65+	0.00144	0.00637	0.00220
	[0.0114,0.0142]	[0.00478,0.0175]	[0.00695,0.0114]
% women (15-44)	0.00443	0.00702*	0.00691*
	[0.00148,0.0103]	[0.000136,0.0139]	[0.00102,0.0128]
Healthcare spending	0.00573	0.00444	0.0100
	[0.00541,0.0169]	[0.00582,0.0147]	[0.000303,0.0203]
Adult smoking rate	0.116	0.134	0.0755
	[0.0955,0.328]	[0.106,0.374]	[0.127,0.278]
Adult obesity rate	0.0714	0.0584	0.0427
	[0.0614,0.204]	[0.0572,0.174]	[0.0829,0.168]
Observations	12,820	12,820	12,820

Note: 95% confidence intervals in brackets.

*$p < 0.05$.; **$p < 0.01$.; ***$p < 0.001$.