No. COA24-454 TWENTY-EIGHTH DISTRICT

NORTH CAROLINA COURT OF APPEALS

****

ALLISON SWEENEY MOHEBALI,

Plaintiff-Appellant,

JOHN DAVID HAYES, M.D. and HARVEST MOON WOMEN'S HEALTH, PLLC,

Defendants-Appellees.

From Buncombe County
No. 21 CVS 2884

****

BRIEF OF *AMICI CURIAE* NORTH CAROLINA CHAMBER LEGAL INSTITUTE , NORTH CAROLINA ASSOCIATION OF DEFENSE ATTORNEYS, NORTH CAROLINA FARM BUREAU FEDERATION, INC., NORTH CAROLINA HOME BUILDERS ASSOCIATION, AND NORTH CAROLINA RETAIL MERCHANTS ASSOCIATION IN SUPPORT OF DEFENDANTS-APPELLEES

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TO THE HONORABLE COURT OF APPEALS OF NORTH CAROLINA

The North Carolina Chamber Legal Institute ("NCCLI"), the North Carolina Association of Defense Attorneys ("NCADA"), the North Carolina Farm Bureau Federation, Inc. ("NCFBF"), the North Carolina Home Builders Association ("NCHBA"), and the North Carolina Retail Merchants Association

[1] No person or entity, other than the *amici curiae*, their members, or their counsel, helped write this brief or contributed money for its preparation.

("NCRMA") (collectively "*Amici*") encourage the Court to affirm the Superior Court of Buncombe County's application of N.C.G.S. § 90-21.19(a) to the jury's award of noneconomic damages in this matter.

STATEMENT OF INTEREST OF *AMICI CURIAE*

NCCLI is a North Carolina nonprofit corporation organized to promote and improve North Carolina's business and economic development climate. One way that NCCLI accomplishes this goal is by defending established legal principles and the legality of long-standing business practices against unwarranted intrusion.

NCADA is an association of approximately 1,000 civil litigation attorneys who represent North Carolina businesses and industry, large and small, as well as insurance companies that insure our State's businesses, industry, and individuals.

NCFBF is a non-profit organization that advocates for the interest of North Carolina's farm families before Congress, the North Carolina General Assembly, and state and federal regulatory agencies. NCFBF's approximately 31,000 farmer members are the backbone of North Carolina's $111.1 billion agriculture economy. They raise livestock and poultry and produce a wide

variety of crops, including tobacco, sweet potatoes, melons, cotton, soybeans, corn, and wheat.

NCHBA is a not-for-profit trade association that was incorporated in 1963 for the purpose of being the voice for the residential construction industry in this state. NCHBA is composed of more than 16,000 member firms, including licensed general contractors and businesses that provide goods and services to builders. The Association's builder member firms are responsible for constructing the overwhelming majority of homes offered for sale in North Carolina.

NCRMA is the voice of the retail industry in North Carolina and is comprised of over 2,500 members representing over 25,000 store locations throughout the State. NCRMA's membership includes chain and independent retailers of all trade lines including, but not limited to, grocery, pharmacy, home improvement, department, clothing, jewelry, electronics, restaurants, furniture, shopping centers, and distribution centers.

Here, *Amici* are concerned that plaintiff's arguments challenging the constitutionality of N.C.G.S. § 90-21.19 could have far-reaching consequences for the North Carolina business community. Businesses across the state, and the consumers they serve, greatly benefit from statutes like N.C.G.S. § 90-21.19, which provide predictability in legal judgments and protections against open-ended exposure to legal costs and damages awards. Should this Court

determine that N.C.G.S. § 90-21.19 is unconstitutional, other statutory reforms could be subject to similar challenges. Such matters should be left to the legislature as the policy-making branch of our state's government, not subject to piecemeal adjudication.

ISSUES ADDRESSED

Does Section 90-21.19 of the General Statutes, through which the Legislature engaged in its policy-making function to enact a statutory limit on noneconomic damages in medical-malpractice cases, violate the Jury Trial Clause of the North Carolina Constitution?

SUMMARY OF ARGUMENT

In this appeal, plaintiff asks the Court to deem unconstitutional a statutory limit on noneconomic damages in medical-malpractice cases. Such a ruling, however, would threaten the legal predictability and dependability relied upon by businesses across North Carolina. In analyzing this appeal, therefore, *Amici* ask the Court to consider three things.

First, N.C.G.S. § 90-21.19 is just one of many statutory modifications to common law claims that the legislature has enacted over decades, including, for example, the Workers' Compensation Act. Due in no small part to this system of legal reform, North Carolina's economy is thriving. A ruling in this case that N.C.G.S. § 90-21.19 is unconstitutional, however, would be at odds

with this system and could threaten the statutory framework currently supporting businesses in North Carolina.

Second, N.C.G.S. § 90-21.19 and similar statutes that protect and promote business are matters of public policy over which the General Assembly has exclusive purview. The Court should adhere to the separation of powers outlined in the North Carolina constitution and apply with full force here the presumption that such laws are constitutional.

Third, this case may not be the right vehicle to scrutinize N.C.G.S. § 90-21.19 because a critical statutory exception does not appear to have been explored below. Thus, there may be nuances to N.C.G.S. § 90-21.19 that are not apparent on this record.

With these reasons in mind, the Court should affirm the judgment below.

ARGUMENT

I. LEGAL REFORM ENABLES NORTH CAROLINA'S SUCCESS

A. Legal Reforms Like N.C.G.S. § 90-21.19 Benefit North Carolina Businesses and Consumers

The North Carolina Department of Commerce touts our state as "foster[ing] a pro-business environment [due to its] favorable legal and regulatory climate."[2] Indeed, the Department of Commerce reports that CNBC

[2] *Why North Carolina*, NORTH CAROLINA DEPARTMENT OF COMMERCE, https://www.commerce.nc.gov/business/why-north-carolina (last accessed Oct. 7, 2024).

has ranked North Carolina in its top five best states to do business for five years in a row.[3]

This should come as no surprise. North Carolina has billion-dollar investments from major corporations.[4] It has four cities in the top twenty-five of U.S. News and World Report's list of best places to live.[5] And it has a series of statutes, enacted over the course of decades, that have modified traditional common law claims and remedies to make all this possible, including N.C.G.S. § 90-21.19.

Indeed, N.C.G.S. § 90-21.19 provides a paradigmatic example of how these reforms benefit businesses and consumers alike. Like the General Assembly, legislatures across the country have passed caps on medical malpractice damages, reasoning that a "cap on noneconomic damages would reduce rising medical malpractice premiums and, in turn, prevent physicians from leaving the state thereby increasing the quality of, and access to,

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[3] *For Fifth Year in a Row, North Carolina Ranks in Top Three States to Do Business*, NORTH CAROLINA DEPARTMENT OF COMMERCE, https://www.commerce.nc.gov/news/press-releases/2024/07/11/fifth-year-row-north-carolina-ranks-top-three-states-do-business (last accessed Oct. 7, 2024).

[4] Zachery Eanes, *Triangle Expansions from Apple, others make progress*, AXIOS, https://www.axios.com/local/raleigh/2023/06/14/triangles-nc-mega-projects-apple-wolfspeed-toyota (last accessed Oct. 7, 2024).

[5] Erika Giovanetti, The 25 Best Places to Live in the U.S. in 2024-2025, U.S NEWS & WORLD REPORT, https://realestate.usnews.com/real-estate/articles/25-best-places-to-live-in-the-us (last accessed Oct. 7, 2024).

healthcare." *MacDonald v. City Hosp., Inc.*, 227 W.Va. 707, 715 S.E.2d 405, 418 (2011). Experience shows that this reasoning is correct.

For example, with respect to costs to healthcare providers and to consumers, a report by the United States Department of Health and Human Services explained that "[t]he cost of excesses of the litigation system shows up in the cost of malpractice insurance coverage" and that there is "a substantial difference in the level of medical malpractice premiums in states with meaningful caps [on non-economic damages]."[6] The DHS report notes that these higher costs were ultimately "paid by all Americans, through higher premiums for health insurance (which reduces workers' take home pay if the insurance is provided by an employer), higher out-of-pocket payments when they obtain care, and higher taxes."[7]

These costs may also hinder access to a doctor. For example, a statistical analysis of physician data in Texas showed that after that state implemented comprehensive tort reform, there were "significant increases in Texas

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[6] U.S. DEP'T OF HEALTH & HUMAN SERVS, IMPROVING HEALTH CARE QUALITY AND LOWERING COSTS BY FIXING OUR MEDICAL LIABILITY SYSTEM, 12, 15 (2002), https://aspe.hhs.gov/sites/default/files/migrated_legacy_files/40241/litrefm.pdf.

[7] *Id.* at 7.

physicians relative to the Texas population."[8] Another study that examined county-level physician data from across the country for years 1970-2000 determined that damages caps "appear[ed] to increase the supply of frontier rural specialist physicians by 10-12 percent."[9]

It is thus unsurprising that, when plaintiffs have challenged similar damages limitations, courts across the country have recognized the concern for protecting businesses from unreasonable verdicts and thus higher insurance costs. *See, e.g.*, *Zauflik v. Pennsbury Sch. Dist.*, 629 Pa. 1, 44, 104 A.3d 1096, 1121 (2014) ("That unpredictable and catastrophic losses can wreak financial havoc is [a] simply-stated but powerful argument."); *Evans ex rel. Kutch v. State*, 56 P.3d 1046, 1053 (Alaska 2002) (holding that legislature's tort reform objectives, including "stop[ping] 'excessive' punitive damages awards in order to foster a 'positive' business environment" were legitimate).

The General Assembly enacted N.C.G.S. § 90-21.19 to bring these benefits to North Carolina. And—as a state whose legislature has enacted reforms like N.C.G.S. § 90-21.19 to protect businesses and as a state whose

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[8] Ronald Stewart et al., *Tort Reform is Associated with Significant Increases in Texas Physicians Relative to the Texas Population*, 17 J GASTROINTEST. SURG. 168 (2013).

[9] David A. Matsa, *Does Malpractice Liability Keep the Doctor Away: Evidence from Tort Reform Damage Caps*, 36 J. LEGAL STUD. S143 (June 2007).

courts heretofore have not interfered with those reforms—North Carolina has thrived. *Amici* ask the Court to protect that success.

B. The Reforms Contributing to North Carolina's Success

In fact, the General Assembly has been successfully reforming common law claims for decades. Other than N.C.G.S. § 90-21.19, ready examples of the General Assembly's efforts to improve laws—some with origins dating as far back as medieval England—include the following: the Workers' Compensation Act, N.C.G.S. § 97-1 *et seq*.; the Right to Farm Act, N.C.G.S. § 106-700 *et seq*.; and the several statutes of repose, N.C.G.S. § 1-46 *et seq*. Accepting plaintiff's arguments here, however, threatens these efforts.

Take workers' compensation reforms. As the Supreme Court of North Carolina has commented, "[w]here the employer and the employee are subject to and have accepted and complied with the provisions of the [Workers' Compensation Act], the rights and remedies therein granted to the employee *exclude all other rights and remedies in his favor* against the employer." *Bryant v. Dougherty*, 267 N.C. 545, 548, 148 S.E.2d 548, 551 (1966) (emphasis added). Thus, while one purpose of workers' compensation is "to provide certain limited benefits to an injured employee," it is "simultaneously" intended "*to deprive the employee of certain rights he had at the common law*." *Brown v. Motor Inns of Carolina, Inc.*, 47 N.C. App. 115, 118, 266 S.E.2d 848, 849 (1980) (emphasis added). In other words, as a matter of policy, the General

Assembly has "remove[d] the employee's right to pursue potentially larger damages awards in civil actions." *Woodson v. Rowland*, 329 N.C. 330, 407 S.E.2d 222, 227 (1991).

North Carolina employers now rely on the Workers' Compensation Act for predictability in their operations. *See Matthews v. Charlotte-Mecklenburg Hosp. Auth.*, 132 N.C. App. 11, 16-17, 510 S.E.2d 388, 393 (1999) (noting Workers' Compensation Act's policy of "ensur[ing] a limited and determinate liability for employers"). The act allows employers to evaluate the risks in their business, including calculating the reasonable costs of those risks. As a result, businesses can responsibly plan both for their futures and for the future of their employees.

Notably, over ninety years ago, the Workers' Compensation Act survived a constitutional challenge similar to the one presented here. In *Heavner v. Town of Lincolnton*, a litigant argued, like plaintiff here, that the act was unconstitutional because it "destroys the ancient right of trial by jury." 202 N.C. 400, 162 S.E. 909, 910 (1932). Our Supreme Court squarely rejected the challenge, noting that it had "approved expressly and unequivocally the liberal and beneficent provisions" of the Act and that, as confirmed by "many other courts throughout the country," "compensation legislation falls within the exercise of the police power of sovereignty." *Id.*

If the General Assembly can, through the Workers' Compensation Act, limit and make determinate employers' liability to their employees, it follows that the General Assembly can similarly limit a patient's damages in some circumstances. Conversely, if plaintiff is correct that the North Carolina Constitution guarantees an injured patient the right to pursue unlimited noneconomic damages, why would it not also guarantee an injured employee the right to pursue unlimited damages against an employer?

Next consider the Right to Farm Act, which limits private nuisance actions. The General Assembly found that such actions were forcing agricultural operations to shut down, discouraging investments in farm improvements. *See* N.C.G.S. § 106-700. Accordingly, although nuisance is a traditional common law action, the General Assembly restricted when a plaintiff can bring a private nuisance action against a farm, N.C.G.S. § 106-701, and also limited damages recoverable in such an action, N.C.G.S. § 106-702.

Like the Workers' Compensation Act, the Right to Farm Act has also survived constitutional challenge. *Rural Empowerment Ass'n for Cmty. Help v. State*, 2021-NCCOA-693, ¶ 30, 281 N.C. App. 52, 64, 868 S.E.2d 645, 654 (2021). Specifically, a panel of this Court noted that, "[a]s with many other caps on compensation and remedies enacted in other areas of civil tort law, [the relevant provision of the Right to Farm Act] did not impair nor abolish the

right to a jury trial." *Id.* So, again, if the General Assembly can limit nuisance damages, it can likewise limit noneconomic damages in medical malpractice actions. And, again, if the statutory cap on noneconomic damages from medical malpractice damages is unconstitutional, as urged by plaintiff, then longstanding protections for North Carolina's agriculture industry would be under threat.

The threat would not stop there. Consider, finally, North Carolina's statutes of repose. Like the other acts already discussed, "statutes of repose are intended to mitigate the risk of inherently uncertain and potentially limitless legal exposure." *Christie v. Hartley Const., Inc.*, 367 N.C. 534, 539, 766 S.E.2d 283, 287 (2014). A statute of repose does so by cutting off a plaintiff's ability to bring an action, including, in some instances, common law actions. *See, e.g.*, N.C.G.S. § 1-52(3) (establishing three-year repose period for trespass). The North Carolina Supreme Court has described statutes of repose as "a substantive definition of, rather than a procedural limitation on, rights." *Lamb v. Wedgewood S. Corp.*, 308 N.C. 419, 426, 302 S.E.2d 868, 872 (1983).

Like the Workers' Compensation Act and the Right to Farm Act, North Carolina's statutes of repose go back decades. And, like the Workers' Compensation Act and the Right to Farm Act, they have survived several constitutional challenges (albeit not one under N.C. Const. art. I, § 25). *See, e.g., id.* (rejecting state constitutional challenges under the equal protection

clause, the emoluments clause, and the open courts clause). Indeed, as the Fourth Circuit succinctly stated, while "plaintiffs will always have a problem with a statute of limitation or repose, this does not mean that they have been denied a constitutional right." *Barwick v. Celotex Corp.*, 736 F.2d 946, 956 (4th Cir. 1984).

Nevertheless, a determination that N.C.G.S. § 90-21.19 is unconstitutional may open the door to a constitutional challenge to the statutes of repose, putting in danger yet another critical "bulwark against the possibility of open-ended exposure to suits for damages." *Christie*, 367 N.C. at 540, 766 S.E.2d at 287 (2014).

In short, it is critical to businesses throughout this state, from agricultural operations to retailers to manufacturing firms, that this Court reaffirm the validity of the other legal reforms that businesses rely on and uphold N.C.G.S. § 90-21.19.

II. COURTS SHOULD RESPECT THE POLICY JUDGMENTS OF THE GENERAL ASSEMBLY

Furthermore, as N.C.G.S. § 90-21.19 is an act of the General Assembly, it enjoys a presumption of constitutionality, and a court must resolve all doubts in favor of that constitutionality. *City of Greensboro v. Wall*, 247 N.C. 516, 520, 101 S.E. 2d 413, 416 (1958). Applying that high standard is particularly

justified here, where the statute at issue is part of a major legislative effort to foster economic growth by modernizing state law.

The North Carolina Constitution provides that "[t]he legislative, executive, and supreme judicial powers of the State government shall be forever separate and distinct from each other." N.C. Const. art I, § 6. The legislative branch "is without question the policy-making agency of our government." *Rhyne v. K-Mart Corp.*, 358 N.C. 160, 169, 594 S.E.2d 1, 8 (2004) (cleaned up). As such, "when it elects to legislate in respect to the subject matter of any common law rule, the statute supplants the common law rule and becomes the public policy of the State in respect to that particular matter." *Id.* (cleaned up). "[I]t is the role of the legislature, rather than this Court, to balance disparate interests and find a workable compromise among them." *Cmty. Success Initiative v. Moore*, 384 N.C. 194, 212, 886 S.E.2d 16, 32 (2023) (quoting *Beaufort Cnty. Bd. Of Educ. V. Beaufort Cnty. Bd. Of Comm'rs*, 363 N.C. 500, 502, 681 S.E.2d 278, 280 (2009)). In other words, "questions as to public policy are for legislative determination." *Martin v. N.C. Housing Corp.*, 277 N.C. 29, 41, 175 S.E.2d 665, 671 (1970).

As set out above, North Carolina's General Assembly has modified many common law claims to protect and foster business in North Carolina as a matter of public policy. *E.g.*, N.C.G.S. § 106-700 ("It is the declared policy of the State to conserve and protect and encourage the development and

improvement of its agricultural land[.]"). This Court should defend these policy decisions of the General Assembly—as courts of this state have done before. *See Lamb*, 308 N.C. at 444, 302 S.E.2d at 882 (1983) (holding that it was within the province of the General Assembly to pass a statute of repose related to liability for defective construction); *Tetterton v. Long Mfg. Co., Inc.*, 314 N.C. 44, 332 S.E.2d 67 (1985) (rejecting constitutional challenge to statute of repose for product liability actions); *Rhyne*, 358 N.C. at 169, 190 594 S.E. at 8, 21 (recognizing that punitive damages hold an "established place" in North Carolina common law but nevertheless affirming General Assembly's ability to limit punitive damages by statute). By doing so, the Court would join courts across the country, who have similarly held that limits to recovery fall squarely within the ambit of their states' legislative branches. *E.g.*, *Gourley ex rel. Gourley v. Neb. Methodist Health Sys., Inc.*, 265 Neb. 918, 956, 663 N.W.2d 43, 77 (2003) ("[T]he cap imposes a limit on recovery … as a matter of legislative policy. … [T]he ability to cap damages in a cause of action is a proper legislative function."); *Etheridge v. Medical Ctr. Hospitals*, 237 Va. 87, 101, 376 S.E.2d 525, 532 (1989) ("[W]ere a court to ignore the legislatively-determined remedy and enter an award in excess of the permitted amount, the court would invade the province of the legislature.").

Accordingly, the Court should presume that N.C.G.S. § 90-21.19 falls within the General Assembly's constitutional authority to enact public policy

and resolve all doubts in favor of the statute's constitutionality. And, with that high standard applied, the Court should reject plaintiff's challenge.

III. THE PROCEDURAL HISTORY OF THIS CASE RENDERS IT A POOR VEHICLE FOR EVALUATING THE CONSTITUTIONALITY OF N.C.G.S. § 90-21.19

Finally, setting aside the policy issues of the state economy and separation of powers, this specific case appears to be a poor vehicle to test the constitutionality of Section 90-21.19 because no meaningful defense was mounted below.

This is not an academic concern. For example, the statute includes an exception for serious injuries occasioned by greater culpability than ordinary negligence. Specifically, N.C.G.S. § 90-21.19(b) provides that "there shall be no limit on the amount of noneconomic damages" if a trier of fact finds both that "[t]he plaintiff suffered disfigurement, loss of use of part of the body, permanent injury or death," and "[t]he defendant's acts or failures … were committed in reckless disregard of the rights of others, grossly negligent, fraudulent, intentional or with malice." The exception, however, does not appear to have been pursued by plaintiff here—perhaps because the Defendant failed to present any defense and so the case was not vigorously litigated. But, because this exception was not tested below, nuances to the statute's application may not be evident from this record.

Because one party has entirely failed to participate in the case, deciding here whether N.C.G.S. § 90-21.19(b) passes constitutional muster risks running afoul of "settled principles of party presentation and adversarial testing." *Vidal v. Elster*, 602 U.S. 286, 328 (2024) (Sotomayor, J. concurring in judgment) (cleaned up). Accordingly, this appeal may not present the right opportunity for the Court to consider the far-reaching relief sought by plaintiff.

CONCLUSION

For these reasons, this Court should hold that N.C.G.S. § 90-21.19 is constitutional and affirm the judgment.

This the 8th day of October, 2024

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N.C. R. App. P. 33(b) Certification:
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CERTIFICATE OF COMPLIANCE

Pursuant to Rule 28.1 of the North Carolina Rules of Appellate Procedure, counsel for *amici curiae* certifies that the foregoing brief, which is prepared using a proportional font, is less than 3,750 words (excluding the cover page, caption, index, Table of Authorities, signature blocks, Certificate of Service, and this Certificate of Compliance) as reported by the word-processing software.

This the 8th day October, 2024.

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CONTENTS OF ADDENDUM

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2012 SSAT PLENARY PRESENTATION

Tort Reform Is Associated with Significant Increases in Texas Physicians Relative to the Texas Population

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Abstract
Introduction Texas implemented comprehensive tort reform in 2003. We hypothesized that tort reform was followed by a significant increase of physicians practicing in Texas.
Methods To test this hypothesis, we compared the rate of physician growth prior to and following tort reform, and the number of licensed physicians and physicians per 100,000.
Results Comparing before and after tort reform, the rate of increase in Texas physicians per 100,000 population increased significantly ($p<0.01$). From 2002 to 2012, the Texas population increased 21 %. The number of actively practicing Texas physicians increased by 15,611 a 44 % increase (46 % metro areas vs. 9 % non-metro areas), an increase of 30 physicians per 100,000 population ($p<0.01$). Non-metropolitan Texas had a net increase of 215 physicians; however, there was no change in the number of physicians per 100,000. Examining the data by trauma service areas (TSAs), 20 of 22 TSAs had an increase in both number of physicians and physicians per capita, five greater than 50 %.
Conclusions The post-tort reform period in Texas was associated with a significantly increased growth rate of physicians relative to the Texas population. Tort reform, as implemented in Texas, provides a needed framework for improving access to health care.

Keywords Licensure, medical · Liability, legal · Health care reform · Tort reform · Insurance, liability · Malpractice · Jurisprudence · Litigation · Risk · Health policy · Healthcare access

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Introduction

The economic impact of rising medical malpractice premiums and the cost of associated litigation had reached a crisis level by 2002 in many regions of the United States, including Texas.[1] The financial and emotional impact of malpractice claims were driving physicians and surgeons away from high-risk specialties as well as from high-risk, litigious, geographic environments.[2]

In 2003, the Texas state legislature enacted comprehensive tort reform laws that included a cap on noneconomic damages in most medical malpractice cases at $250,000.[3] Texas voters subsequently approved a state constitutional amendment supporting this legislation.[4] Multiple reports have documented dramatic decreases in the cost of medical malpractice premiums across the state for all specialties, along with a decrease in the incidence of medical malpractice claims and lawsuits.[1,5–8] In our own practice, we witnessed a 5-fold decrease in the risk of general surgical malpractice lawsuits and a 55 % decrease in premiums after the implementation of comprehensive tort reform in Texas

in 2003.[7] Less evident is whether tort reform achieved its intended goal of increasing access to health care for Texas citizens.[8,9]

We hypothesized that comprehensive tort reform led to significant increases in the total number of physicians practicing in Texas and the number of physicians relative to the Texas population. To test this hypothesis, we compared the number of licensed physicians by both specialty and geographic location before and after the implementation of comprehensive tort reform.

Methods

Data Sources

The study was performed using publicly accessible data from the Texas Medical Board (TMB), the United States Census Bureau/Texas State Library and Archives Commission and the Texas Department of State Health Services.[10–12] The TMB is the statutorily directed authority that regulates the practice of medicine in Texas. The TMB maintains detailed data with respect to physician demographics, status of practice, location of practice by county, complaints, compliance, litigation and enforcement.[10] These data sets are electronically accessible to the public from January 1999 to December 2010. The TMB supplied archival data for 1995–1998. The TMB's statutory authority is based on 18 chapters of the Occupations Code. Agency statutes have undergone major revisions in recent legislative sessions. In June 2003, the 78th Texas Legislature passed comprehensive tort reform in House Bill 4, which became effective September 1, 2003.[3] During the same legislative session, Senate Bill 104 provided statutory reinforcement and strengthening of the TMB along with additional funding.[13]

Description of Geographic Areas

Texas consists of 254 separate counties encompassing 268,581 square miles. In 2011, the estimated Texas population was 25,674,681. Texas counties range in size from a minimum of 127 square miles to a maximum of 6,184 square miles. County populations range from a minimum of 65 people to a maximum of 4.3 million people. County population density in these counties ranges from a minimum of 0.1 person per square mile to a maximum of 2,851 persons per square mile. Texas consists of 25 distinct metropolitan service areas (MSAs). Eighty-eight percent of Texans reside in these MSAs. Texas consists of 22 trauma service areas (TSAs). These TSAs were defined in 1989, with geographic divisions along traditional, regional, medical practice referral lines. Each TSA is large enough to support at least one regional trauma center.

Hospital Survey

In July 2008, the Texas Hospital Association surveyed hospitals and health systems to measure the impact of medical liability reform (http://www.tha.org/HealthCareProviders/Issues/TortReform/Hospitals%20Reap%20Benefits%20of%20Tort%20Reform.pdf). The survey asked five questions: (1) What impact has decreased liability insurance cost had on operations or provision of services? (2) Has the hospital been able to expand services based on decreased hospital liability expense?; (3) Has the hospital been able to expand emergency or specialized services (trauma, surgery, etc.) due to a larger number of physicians willing to take call or expand their practice? (4) If your facility has maintained or expanded emergency or specialized services to what extent has declining physician liability expense or a more favorable liability climate in Texas contributed? (5) Since September 2003 has your facility found it easier to recruit physicians?

Data Analysis

TMB data tables, with respect to number of physicians practicing in Texas, and the number and specialty of physicians practicing in each county were retrieved. These data sets were translated into an electronic spreadsheet, Microsoft Excel® 2011 for Macintosh.

Actively practicing, licensed physicians in Texas were divided into broad specialty categories: (1) all physicians; (2) primary care physicians (PCPs) (emergency medicine, family medicine, internal medicine, general practice, pediatrics, geriatrics, general preventive medicine, and obstetrics and gynecology); (3) obstetrics and gynecology; and (4) all surgical specialties.

Comprehensive tort reform in Texas was implemented mid-year in 2003. The two periods prior to (January 1995–December 2002) and following 2003 (January 2004–December 2012) were used as pre-tort reform and post-tort reform periods.

Detailed specialty and demographic analysis was performed comparing the year immediately prior to tort reform, January 2002 to the present time, January 2012. This analysis was done using unadjusted data, data normalized per 100,000 population and data normalized per square mile. These data were analyzed by four geographic subdivisions: the entire state, by TSA, by MSA, and by individual county.

Nonparametric data were analyzed using a chi-square with Yates' correction for nominal variables. Relative risk is displayed with 95 % CI. Statistical analyses were performed using SAS Version 9.3 for Windows (SAS Institute, Cary, NC), AnalystSoft, StatPlus:mac® — statistical analysis program for Mac OS v. 2009, Microsoft Excel®, GraphPad Prism for Windows®. Differences were considered statistically significant if the p value was <0.05. For

repeated measures, the Bonferroni correction was employed to reduce the possibility of false positive statistical associations. The change and rate of change in physicians per 100,000 in the pre-tort period (1995–2002) and post-tort period were analyzed using three different methods: chi square (sum of repeated annual measures pre-tort and post-tort reform), a linear regression model, and a repeated-measures Poisson model.

Results

When comparing the period after tort reform (2004–2012) to the period before tort reform (1995–2002), the rate of increase in Texas physicians per 100,000 Texas residents was significantly greater ($p<0.01$ by chi square and linear regression) (Fig. 1). Based on the repeated measures Poisson model, the ratio of the number of physicians per resident per year increased by year and with tort reform ($p<0.001$). Prior to tort reform, the increase per year was 0.854 %, 99 % CI (0.854 %, 0.854 %) and after tort reform the increase per year grew by 69 % to 1.45 % (1.45 %, 1.45) and the percentage increase was significantly different from zero both before ($p<0.001$) and after ($p<0.001$) tort reform.

The absolute growth in Texas physicians relative to absolute growth in the Texas population before and after tort reform demonstrates a 2-fold greater growth in the post-tort reform period compared to the pre-tort reform period.

A detailed comparison between 2002 and 2012 demonstrates the ramifications of these differing growth rates (Table 1: Texas Now and Immediately Prior to Tort Reform and Table 2: The Change from 2002 to 2012 by MSA). Table 1 summarizes the demographic changes from just prior to tort reform to 8.5 years following tort reform. From 2002 to 2012, the Texas population increased 21 %, with 88 % of Texans residing in a metropolitan area. Over this time period, Texas metropolitan areas increased in size disproportionately to non-metropolitan areas (23 % vs. 8 % increase in population, respectively). The number of Texas physicians increased by 15,611 (44 % increase with a 46 % increase in metro areas vs. a 9 % increase in non-metro areas). This absolute change led to an increase of 30 physicians per 100,000 population (19 % increase, $p<0.01$). The non-metropolitan areas of Texas had a net increase of 215 physicians; however, there was no change in the number of physicians per capita in these non-metropolitan areas. Twenty-three of 25 MSAs had both an increase in the absolute number of physicians and an increase in physicians relative to the population being served. Twelve of these increases were statistically significant without Bonferroni correction (10 with Bonferroni correction). In general, the larger MSAs in central Texas had the greatest increase in physicians per capita. No MSA had a statistically significant decrease in the number physicians or physicians/100,000 population.

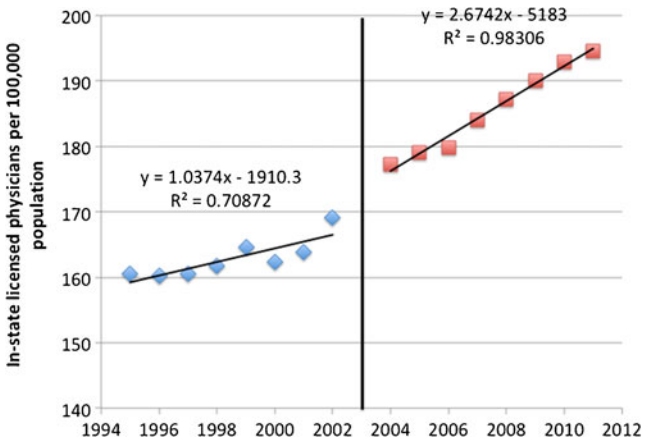

Fig. 1 Total number of licensed physicians per 100,0000 residents before and after tort reform

TSAs are generally larger than the MSAs. The TSAs include rural and frontier counties, and are intentionally aligned along regional referral patterns (Fig. 2). By geographic area, the largest is TSA-J (West Texas) with 32,447 square miles, while the smallest is TSA-M with 3,884 square miles. By population size, the largest is TSA-E (Dallas–Fort Worth area) with 7.3 million people, while the smallest is TSA-K with a population of 162,047. Table 3 details the changes from 2002 to 2012. There was an increase of 15,599 physicians (44 % absolute increase and an increase of 30 physicians per 100,000 residents). PCPs increased by 6,538 (38 % absolute increase and an increase of 11 PCPs per 100,000; $p<0.01$). OB-Gyn physicians increased in absolute numbers by 567 (25 % increase, and an increase of 0.3 per 100,000; $p=0.28$). Surgeons increased by 1,557 (26 % absolute increase, and an increase of 1.1/100,000; p=0.02). Twenty of the 22 TSAs had an increase in the number of total physicians and physicians per 100,000 population during the period. Figures 3 and 4 display these changes graphically. The greatest increase in physicians relative to the population being served occurred in central Texas. The less populous western and eastern borders of Texas encountered the lowest growth in the number of physicians per capita.

Responses from a hospital survey came from ten health care systems and ten independent hospitals, representing 176 facilities and more than 31,000 licensed beds — approximately 55 % of the private medical–surgical hospitals in Texas. Regarding Question 1 on the impact of reduced liability coverage costs on hospital operations: 58 % of hospitals reported using their reduced liability coverage costs to expand patient safety programs; 51 % reported they used their reduced liability coverage costs to maintain/

Table 1 Texas population and licensed actively practicing physicians in 2002 and 2012

Area Name	2002 Population	2012 Population	2002 Physicians	2012 Physicians	2002 Physicians per 100,000	2012 Physicians per 100,000
Texas	21,779,893	26,403,743	35,606	51,217	163	194
Metropolitan	18,831,827	23,213,579	33,124	48,520	176	209
Non-metropolitan	2,948,066	3,190,164	2,482	2,697	84	85
Abilene MSA	159,356	167,500	283	396	178	236
Amarillo MSA	232,215	261,345	473	607	204	232
Austin–Round Rock MSA	1,332,367	1,818,740	2,372	3,924	178	216
Beaumont–Port Arthur MSA	386,433	379,176	599	595	155	157
Brownsville–Harlingen MSA	356,745	433,449	427	530	120	122
College Station–Bryan MSA	193,758	216,544	325	450	168	208
Corpus Christi MSA	405,972	425,814	779	860	192	202
Dallas–Fort Worth–Arlington MSA	5,482,761	6,955,794	9,311	14,278	170	205
El Paso MSA	699,557	791,317	855	1,191	122	151
Houston-Sugar Land-Baytown MSA	4,967,350	6,280,138	9,261	13,985	186	223
Killeen–Temple–Fort Hood MSA	340,234	407,477	663	1,154	195	283
Laredo MSA	208,605	270,381	175	213	84	79
Longview MSA	197,186	215,359	291	365	148	169
Lubbock MSA	254,215	277,682	700	833	275	300
McAllen–Edinburg–Mission MSA	615,343	842,344	607	853	99	101
Midland MSA	117,298	133,004	175	208	149	156
Odessa MSA	122,926	135,331	185	252	150	186
San Angelo MSA	105,808	105,335	212	270	200	256
San Antonio MSA	1,782,686	2,156,984	3,602	5,285	202	245
Sherman–Denison MSA	114,545	123,128	152	244	133	198
Texarkana MSA	91,178	93,477	222	248	243	265
Tyler MSA	181,819	215,243	564	757	310	352
Victoria MSA	113,205	121,587	229	228	202	188
Waco MSA	217,826	238,787	383	497	176	208
Wichita Falls MSA	152,439	147,643	279	297	183	201

expand coverage or services for uninsured/underinsured patients; 46 % have used their reduced liability coverage costs to subsidize the various payment shortfalls (e.g., Medicaid); 41 % reported they used the savings to meet monthly obligations, improve salaries for nursing personnel, maintain/increase nurse staffing levels, or maintain/expand staff educational opportunities; 39 % reported using liability savings to maintain/update/add new medical equipment; while 37 % reported using the savings to establish/increase payments to on-call physicians or expand/update their facility. Regarding question (2): Since September 1, 2003 has your facility been able to maintain or expand services (e.g., surgery, primary care, obstetrics)? Sixty-nine percent of the responding hospitals reported that they were able to maintain or expand their services; 60 % reported that they have been able to maintain or expand cardiothoracic surgery, neurosurgery, orthopedic surgery and plastic surgery; 50 % reported that they had been able to maintain or expand their emergency department services; 46 % reported that they have been able to maintain or expand their primary care services; 36 % reported that they have been able to maintain or expand their OB Gyn services; and 33 % reported that they had been able to maintain or expand their general surgery services. Regarding Question 3 — "Since Sept 1, 2003 has your facility been able to maintain or expand its ability to provide emergency or specialized care services (e.g., trauma, surgery) due to a larger number of physicians willing to take call or expand their practice?" — 52 % of the hospitals responded that they have been able to maintain or expand their ability to provide emergency or specialized care services; 65 % responded that they have been able to maintain or expand their ability to provide services due to a larger number of emergency department physicians willing to take call or expand their practice; and 52 % responded that they have been able to maintain or expand their ability to provide services due to a larger number of orthopedic and general surgeons willing to take call or expand their practice; 47 % responded that they maintained or grew services due to a larger number of cardiothoracic

Table 2 Change by geographic area

	Population change	% population change	Net physician change	% net physician change	Change in physicians per 100,000	% change physicians per capita	*p* (Bonferroni correction)
Total Texas	+4,623,850	21 %	+15,611	44 %	+30	19 %	<0.01 (<0.01)
Total metropolitan	+4,381,752	23 %	+15,396	46 %	+33	19 %	<0.01 (<0.01)
Total Non-metropolitan	+242,098	8 %	+215	9 %	0	0 %	0.88 (NS)
Abilene MSA	+8,144	5 %	+113	40 %	+59	33 %	<0.01 (<0.01)
Amarillo MSA	+29,130	13 %	+134	28 %	+29	14 %	0.03 (NS)
Austin–Round Rock MSA	+486,373	37 %	+1,552	65 %	+38	21 %	<0.01 (<0.01)
Beaumont–Port Arthur MSA	−7,257	−2 %	−4	−1 %	+2	1 %	0.83 (NS)
Brownsville–Harlingen MSA	+76,704	22 %	+103	24 %	+3	2 %	0.74 (NS)
College Station–Bryan MSA	+22,786	12 %	+125	38 %	+40	24 %	<0.01 (0.09)
Corpus Christi MSA	+19,842	5 %	+81	10 %	+10	5 %	0.3 (NS)
Dallas–Fort Worth–Arlington MSA	+1,473,033	27 %	+4,967	53 %	+35	21 %	<0.01 (<0.01)
El Paso MSA	+91,760	13 %	+336	39 %	+28	23 %	<0.01 (<0.01)
Houston–Sugar Land–Baytown MSA	+1,312,788	26 %	+4,724	51 %	+36	19 %	<0.01 (<0.01)
Killeen–Temple–Fort Hood MSA	+67,243	20 %	+491	74 %	+88	45 %	<0.01 (<0.01)
Laredo MSA	+61,776	30 %	+38	22 %	−5	−6 %	0.44 (NS)
Longview MSA	+18,173	9 %	+74	25 %	+22	15 %	0.08 (NS)
Lubbock MSA	+23,467	9 %	+133	19 %	+25	9 %	<0.01 (0.09)
McAllen–Edinburg–Mission MSA	+227,001	37 %	+246	41 %	3	3 %	0.62 (NS)
Midland MSA	+15,706	13 %	+33	19 %	+7	5 %	0.21 (NS)
Odessa MSA	+12,405	10 %	+67	36 %	+36	24 %	0.03 (NS)
San Angelo MSA	−473	0 %	+58	27 %	+56	28 %	<0.01 (0.2)
San Antonio MSA	+374,298	21 %	+1,683	47 %	+43	21 %	<0.01 (<0.01)
Sherman–Denison MSA	+8,583	7 %	+92	61 %	+65	49 %	<0.01 (<0.01)
Texarkana MSA	+2,299	3 %	+26	12 %	+22	9 %	0.35 (NS)
Tyler MSA	+33,424	18 %	+193	34 %	+41	13 %	0.02 (NS)
Victoria MSA	+8,382	7 %	−1	0 %	−15	−7 %	0.51 (NS)
Waco MSA	+20,961	10 %	+114	30 %	+32	18 %	0.01 (0.34)
Wichita Falls MSA	−4,796	−3 %	+18	6 %	+18	10 %	0.26 (NS)

surgeons willing to take call or expand their practice; 34 % reported they had been able to maintain or expand their ability to provide services due to a larger number of neonatologists and OB-Gyn physicians; 30 % reported they had been able to maintain or expand their services due to a larger number of neurosurgeons and anesthesiologists willing to take call or expand their practice; and, lastly, 21 % reported they had been able to maintain or expand their ability to provide services due to a larger number of neurologists willing to take call or expand their practice. Regarding Question 4, 80 % of the hospitals indicated that stable/declining *physician* liability insurance costs or a more favorable liability climate had a "significant" or "somewhat significant" impact on the hospital's ability to provide emergency or specialized care services. For Question 5, 85 % of hospitals indicated that they found it easier to recruit physicians because of either stable/declining physician liability insurance costs or a more favorable liability climate in Texas. Fifty-seven percent of hospitals indicated that they found it easier to recruit OB-Gyn physicians and general surgeons; 50 % found it easier to recruit orthopedic surgeons; 42 % indicated that they found it easier to recruit neurosurgeons; 32 % of hospitals indicated that they found it easier to recruit anesthesiologists and neonatologists; 27 % found it easier to recruit cardiothoracic surgeons and neurologists; and 22 % of hospitals indicated that they found it easier to recruit emergency medicine physicians.

Discussion

Key Findings

In this report we have attempted to paint an accurate description of the landscape before and after comprehensive tort reform in Texas. Our data show that the period following tort reform was associated with an increase in the

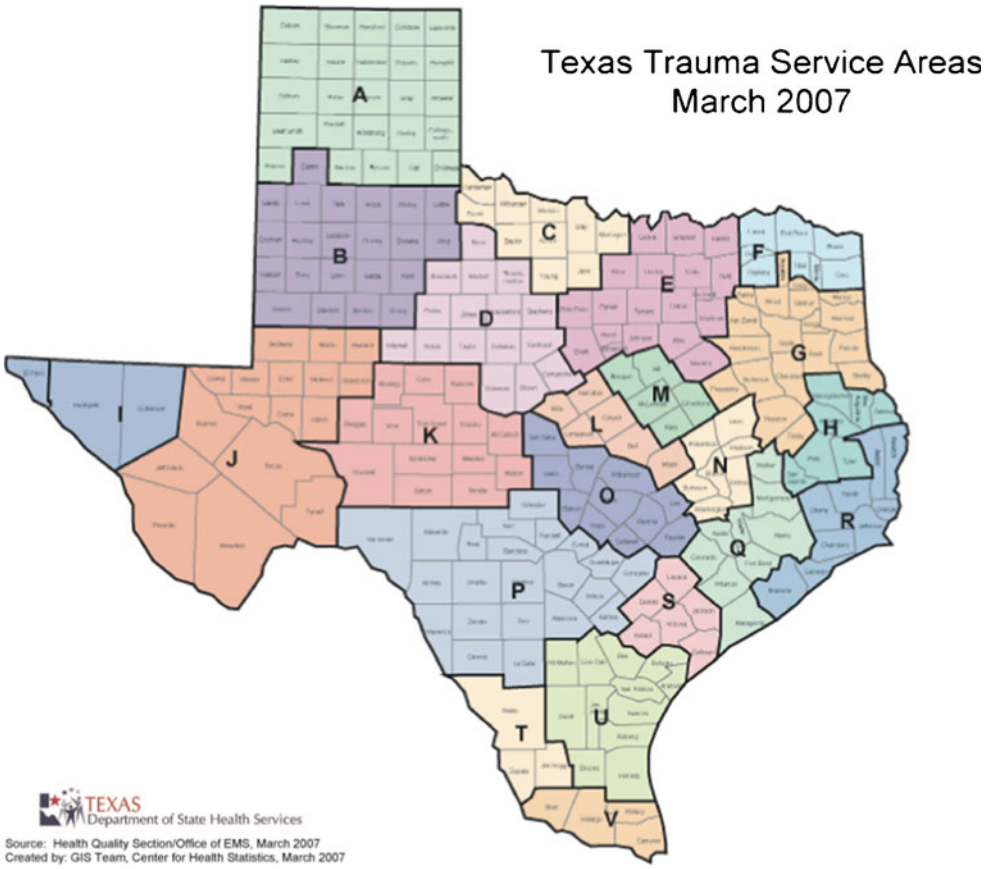

Fig. 2 Geographic boundaries and counties in the 22 Texas trauma service areas

number of physicians relative to the Texas population. This change occurred across most of the regions of Texas, although it was significantly greater in the metropolitan areas and the central geographic areas of the state. Five of the 22 TSAs had increases in the number of physicians in their regions by more than 50 %.

This effect was most prominent among PCPs and surgeons. Physicians practicing obstetrics and gynecology increased in number, but the increase was flat relative to the increase in the Texas population. Of note, there was a 27 % increase in OB Gyn physicians practicing in the nonmetropolitan areas of Texas, although this was not statistically significant.

Limitations

This report has limitations that should be considered in interpreting these data. As noted above, the rate of physician growth relative to the population was significant; however, these data, from a cross-sectional, prospectively maintained, database which was retrospectively reviewed, do not show causation. There are other factors that may have occurred concomitantly. One of the potentially most significant confounders is the growth in the Texas economy. Texas gross domestic product increased significantly over time, which plausibly could also have influenced the increase in the number of physicians. Although the economy or other factors may have played a role, we believe it is very likely that tort reform had an effect on the disproportionate net increase in physicians. Similar to financial savings, the rate in physician growth does not have to be dramatic to see substantial absolute increases over time. Over the time period of the study medical school class sizes did grow. There was also growth of academic medical centers in Temple, Round Rock, El Paso and Austin. These changes may also have contributed to the increased number of physicians in Texas, potentially independent of tort reform.

Comparison to Previous Data

Tort reform has been beneficial to Texas physicians. The financial impact of comprehensive medical malpractice tort reform in Texas was soon evident to physicians. Within 1 year of passage of HB-4, the Texas Medical Liability Trust (TMLT), the state's largest carrier, had reduced its malpractice premiums by 17 %.[14] The TMLT then cut costs by another 5 % on January 1, 2005. The self-insured University of Texas System Malpractice Plan has reinvested malpractice savings into patient safety and clinical efficacy programs in its academic medical centers. Multiple sources have documented decreased filing of medical malpractice lawsuits. In 2003, there were 1108 medical liability suits

Table 3 Change in population, physicians and physicians per capita from 2002 to 2012

Trauma service area	Population change(%)	Total physician change (%)	Per-capita physician change(%)	OB-Gyn change (%)	OB-Gyn per-capita change (%)	PCP change (%)	PCP per-capita change (%)	Surgeon change (%)	Surgeon per-capita change (%)
TSA-A	37,111 (9 %)	113 (19 %)	13 (9 %)	12 (32 %)	1.9 (21 %)	44 (14 %)	3.5 (5 %)	1 (1 %)	−1.9 (−8 %)
TSA-B	29,199 (7 %)	103 (12 %)	10 (5 %)	−6 (−12 %)	−2.0 (−6 %)	−10 (−3 %)	−7.7 (−9 %)	10 (6 %)	0 (0)
TSA-C	−1,272 (−1 %)	31 (9 %)	15 (10 %)	1 (6 %)	0.5 (6 %)	23 (14 %)	10.8 (15 %)	−6 (−10 %)	−2.6 (−10 %)
TSA-D	10,113 (3 %)	32 (8 %)	6 (4 %)	5 (25 %)	1.4 (24 %)	29 (14 %)	7.2 (10 %)	−4 (−5 %)	−2.2 (−8 %)
TSA-E	1,521,282 (26 %)	5,112 (53 %)	35 (21 %)*	201 (29 %)	0.3 (3 %)*	2,133 (47 %)	13 (16 %)*	571 (36 %)	2.1 (8 %)*
TSA-F	11,269 (4 %)	50 (12 %)	12 (7 %)	2 (6 %)	0.2 (2 %)	−12 (−6 %)	−7.5 (−10 %)	5 (6 %)	0.5 (1 %)
TSA-G	96,763 (11 %)	278 (23 %)	15 (10 %)*	4 (6 %)	−0.4 (−5 %)	117 (19 %)	4.9 (7 %)	21 (10 %)	−0.4 (−1 %)
TSA-H	27,221 (11 %)	145 (69 %)	44 (52 %)*	10 (100 %)	3.2 (80 %)	68 (56 %)	20 (41 %)	30 (97 %)	10 (77 %)
TSA-I	91,969 (13 %)	336 (39 %)	28 (23 %)*	27 (42 %)	2.3 (26 %)	180 (45 %)	16 (28 %)*	43 (27 %)	2.8 (13 %)
TSA-J	30,999 (8 %)	89 (19 %)	12 (9 %)	9 (27 %)	1.6 (17 %)	48 (19 %)	6.7 (10 %)	23 (31 %)	4.2 (20 %)
TSA-K	2,462 (2 %)	58 (24 %)	33 (22 %)	0 (0 %)	−0.1 (−2 %)	25 (20 %)	14 (18 %)	3 (6 %)	1.4 (5 %)
TSA-L	70,793 (18 %)	492 (70 %)	79 (45 %)*	5 (15 %)	−0.2 (−3 %)	226 (65 %)	35 (40 %)	68 (65 %)	11 (40 %)*
TSA-M	26,626 (9 %)	118 (27 %)	25 (17 %)*	6 (23 %)	1.1 (13 %)	75 (33 %)	17 (22 %)	5 (6 %)	−0.7 (−2 %)
TSA-N	31,593 (11 %)	142 (37 %)	32 (23 %)*	12 (57 %)	3.1 (41 %)	94 (46 %)	22.9 (31 %)	20 (34 %)	4.3 (21 %)
TSA-O	510,430 (35 %)	1,595 (65 %)	37 (22 %)*	74 (47 %)	0.9 (8 %)	745 (60 %)	16 (18 %)*	184 (48 %)	2.5 (9 %)
TSA-P	404,364 (20 %)	1,711 (43 %)	38 (20 %)*	43 (20 %)	0 (0 %)	640 (36 %)	12 (14 %)*	179 (29 %)	2.3 (8 %)
TSA-Q	1,170,285 (26 %)	4,478 (52 %)	40 (21 %)*	133 (25 %)	−0.1 (−1 %)	1,740 (45 %)	13 (15 %)*	378 (26 %)	0 (0 %)
TSA-R	135,004 (13 %)	264 (18 %)	6 (5 %)	6 (7 %)	−0.5 (−5 %)	111 (15 %)	1.4 (2 %)	18 (8 %)	−0.9 (−4 %)
TSA-S	9,762 (6 %)	−6 (−2 %)	−12 (−8 %)	−2 (−15 %)	−1.6 (−20 %)	8 (6 %)	0 (0 %)	−5 (−13 %)	−4 (−17 %)
TSA-T	64,866 (29 %)	38 (21 %)	−4.5 (−6 %)	3 (18 %)	−0.6 (−9 %)	24 (26 %)	−0.8 (−2 %)	4 (13 %)	−1.8 (−13 %)
TSA-U	23,285 (4 %)	65 (7 %)	4.9 (3 %)	2 (4 %)	0 (0 %)	36 (8 %)	3.0 (4 %)	−14 (−9 %)	−3.5 (−13 %)
TSA-V	319,726 (30 %)	355 (34 %)	2.4 (2 %)	20 (26 %)	−0.2 (−3 %)	194 (31 %)	0.4 (1 %)	23 (14 %)	−2 (−13 %)
Total Texas	4,623,850 (21 %)	15,599 (44 %)	30 (19 %)*	567 (25 %)	0.3 (3 %)	6,538 (38 %)	11.1 (14 %)*	1,557 (26 %)	1.1 (4 %)*

*$p<0.05$, chi square with Bonferroni correction for repeated measures

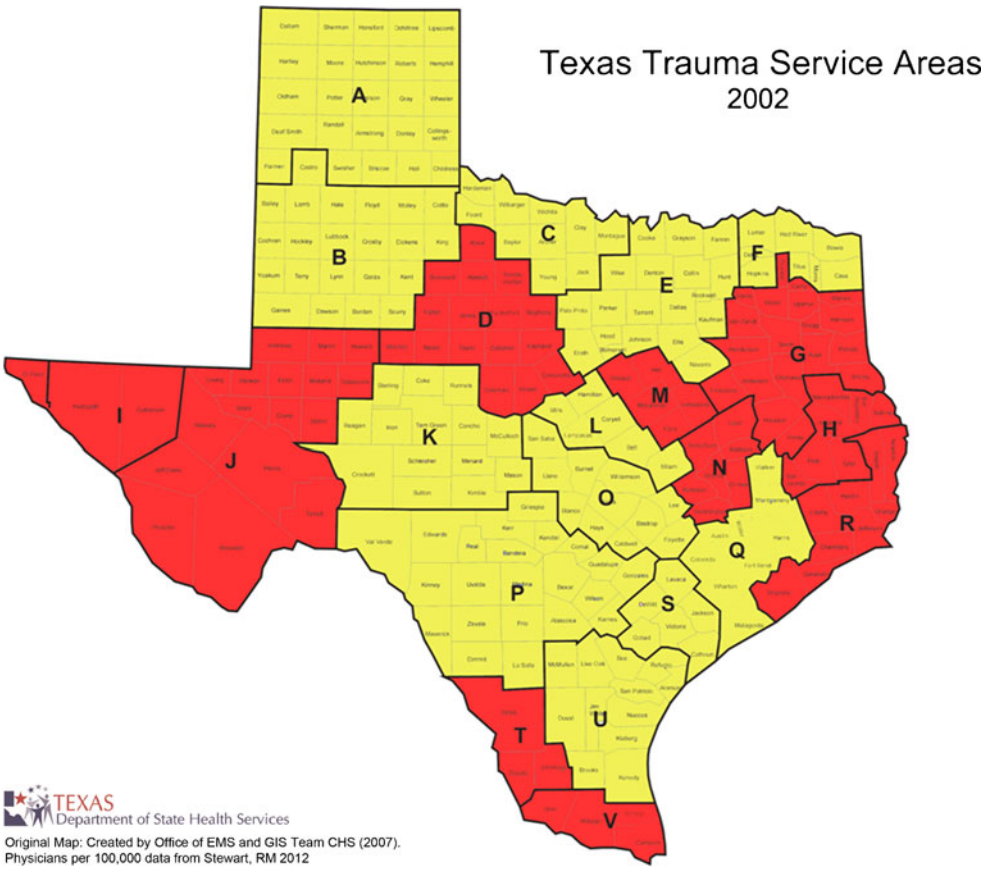

Fig. 3 Texas trauma service areas in 2002. Areas with less than 150 physicians per 100,000 residents are shown in red. Those with 150–199 physicians per 100,000 are in yellow, and those with greater than or equal to 200 physicians per 100,000 are in green

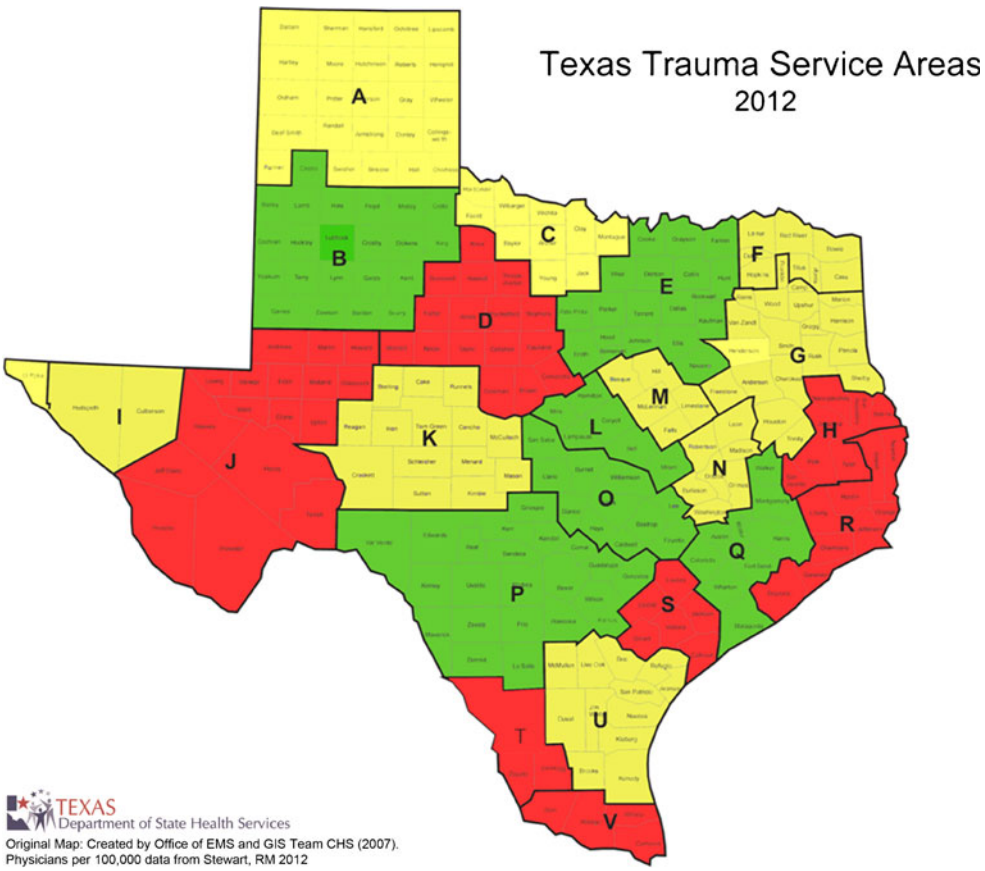

Fig. 4 Texas trauma service areas in 2012. Areas with less than 150 physicians per 100,000 residents are shown in red. Those with 150–199 physicians per 100,000 are in yellow, and those with greater than or equal to 200 physicians per 100,000 are in green

filed in Dallas County. This decreased to 142 cases in 2004 and 184 cases in 2005.[5,15] A prior report from our institution showed a 5-fold decrease in the number of malpractice claims and a 55 % reduction in the cost of premiums following tort reform in 2003.[7] In May 2006, the American Medical Association (AMA) removed Texas from its list of states experiencing a liability crisis, marking the first time the AMA has removed any state from its crisis list.[16]

By 2002, most physicians and health care organizations believed that excess malpractice lawsuits had started to affect the delivery of health care. Most felt that physicians had left or avoided geographic areas of Texas known as "litigious hotbeds," while others totally avoided high-risk procedures.[2,15] Advocates reported many physicians no longer performed nursing home work and hospitals experienced great difficulty in obtaining physician on-call coverage for emergency rooms, trauma centers, and emergency surgery and obstetrics.[17]

Within 2 years of tort reform, advocates reported that Texas had gained 3,000 physicians, including 93 orthopedic surgeons, 91 obstetrician–gynecologists, 24 neurosurgeons, 20 pediatric cardiologists, 14 pediatric oncologists and ten pediatric surgeons.[2] These reports were consistent with data that states that have enacted medical malpractice tort reform and capped the non-economic award have had an increased supply of physicians, especially in rural areas.[6]

As of 2011, there appeared to be an influx of practices into the Rio Grande Valley, many in critical medical specialties hardest hit by the liability crisis.[17] Since 2007, Texas has consistently awarded licenses to 60 % more new physicians each year compared to the 3 years preceding tort reform.[1,17,18] Advocacy groups have estimated there have been an additional 6.4 million office visits secondary to tort reform.[8,17,18] According to the Department of Health and Human Services, Texas ranks tenth nationally in the percentage growth of patient care physicians per capita, up from 23rd just 5 years earlier.[8]

There is, of course, opposition to comprehensive tort reform in Texas.[9,19] Most opponents are associated with or supported by those in the tort business, but opposition has also come from consumer or public rights advocacy groups. Public Citizen, a not for profit consumer rights group, published a report in October 2011 entitled, "A Failed Experiment: Health Care in Texas Has Worsened in Key Respects Since State Instituted Liability Caps in 2003".[19] A segment of this report addressed a putative decline in physicians per capita. The authors opted to use a Texas Department of State Health Services (DSHS) definition of Direct Patient Care Physicians that excludes a number of physician groups including medical school faculty, (DSHS Description: "The reasoning behind making these selections is that only Direct Patient Care Physicians (not Faculty, Researchers, etc.) are actually treating patients as opposed to doing administrative work, teaching, or research…"). From our vantage point, this is, at best, an antiquated notion that excludes very large numbers of practicing physicians from their analysis. As a concrete example, over the past year the faculty of the University of Texas Health Science Center at San Antonio Department of Surgery provided approximately 86,000 patient care visits and performed more than 6,000 operations. A significant portion of this care was for patients with limited or no health care funding, or for patients from rural South Texas. Using the Direct Patient Care Physician definition completely excludes this care. Using a the definition of all active practicing physicians (as reported in this manuscript), leads to data which support a conclusion directly contrary to Public Citizen's report. With respect to the non-metropolitan areas of the State, our data and that of the Public Citizen are in general agreement: there have been absolute increases in physicians, but no change in physicians per-capita in the post-tort reform period. Hyman, Silver and Black describe an in-depth analysis of physician numbers relative to Texas population.[20] These authors use a similar methodology (Direct Patient Care Physician) to the Public Citizen, thereby excluding very large numbers of physicians who actually provide a significant amount of direct patient care—physicians employed or associated with a medical school faculty. For the reasons noted, we believe this methodology does not properly account for physicians providing significant patient care. Additionally, the DSHS definition has changed over the time period of the study, making interpretation of data using the Direct Patient Care Physician definition even more difficult. In short, we believe the simpler and more consistent definition of all active practicing Texas physicians is the best way to account for changes in the physician workforce before and after tort reform.

Most of the reports refuting the benefits of tort reform come from non-health care professionals; however, there are also dissenting voices in the medical and surgical community concerning potential benefit for the patient.[21–23] Although we do not generally agree with these critics, we do agree that the cost savings and benefits of tort reform should be passed along to the consumers of health care, not simply the providers of health care, and we believe that we have a professional obligation to see that patient care and service improves.

Challenges in Texas

Each region in the United States has unique challenges and unique strengths with respect to caring for patients. Texas has a rapidly increasing population, a tremendous degree of geographic and population diversity, and a high percentage of patients without any health care coverage (25 %). These

factors create great challenges to improving access to health care, and highlight the need for developing strategies to recruit and retain physicians into Texas. It is highly probable that comprehensive tort reform is one of those strategies that have been successful in improving patients' access to health care. To be more specific, we do not believe that tort reform is usually the primary factor that leads to individual physician recruitment or retention; however, it is clearly a permissive factor, which likely leads to decision making that greatly facilitates physician recruitment and retention. As the hospital survey data demonstrate, those recruiting physicians have found it significantly easier to do so in the post-tort reform period (85 % of responding hospitals). The second point illustrated by the survey data is that access is more than just absolute number of physicians or physicians per capita, it is also about what services physicians provide. Fifty-two percent of hospitals reported being able to expand emergency or specialized services due to more physician call availability or physicians' willingness to expand their practices. Eighty percent of hospitals reported they had been able to expand services due to the improved physician liability climate.

Conclusions

Our data demonstrate the post-tort reform period in Texas was associated with a significantly increased growth rate of physicians relative to the Texas population. The net change was seen across most regions of Texas, although it was significantly greater in the metropolitan areas of Texas and the central geographic areas of the State. These changes led to an expansion of physician and hospital services throughout Texas. We conclude that tort reform, as implemented in Texas, provides a needed framework for improving access to health care.

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Discussion

Dr. Andrew L. Warshaw (Boston, MA): In this analysis, Dr. Stewart and his colleagues find that the number of malpractice suits filed fell substantially; liability insurance premiums declined for doctors and hospitals; and the number of licensed physicians, adjusted for a rising population, increased significantly after passage of the Texas tort reform law in 2003.

My questions are:

1. The analysis by Public Citizen comes to a very different conclusion by calculation based only on practitioners, not on MD administrators, researchers, or medical school doctors. Does this

imply that the growth you demonstrate is disproportionately in employed or medical school physicians?
2. The number of surgeons increased, but were these all subspecialists? In particular, were there more general surgeons? OB/GYN surgeons are among the most highly targeted in malpractice suits: if they had relief from high premiums, how come more OB/GYN physicians did not come to Texas along with the others?
3. The uninsured and underinsured in Texas during this period was unchanged or increased, ranking higher than the national average. What is the evidence that *actual access* (not just potential access) to care increased, especially in the disadvantaged population and in the non-metropolitan regions, wherein the density of physicians did not increase?
4. Can the influx of physicians really be causally tied to tort reform, rather than to a concomitant substantial increase in Texas GDP, employment of physicians, or other drivers? Do you have controls in states without tort reform?
5. Was the resulting quality of care better? Lawsuits decreased but the number of complaints to the Texas Medical Board increased in proportion, as you recently reported.
6. Hospitals also benefitted from decreased insurance premiums and many of them claim in self-reported response to leading questions that the savings resulted in increased patient services, equipment, nursing salaries, etc. But is this cause and effect or a response to increased regulation, market competition, and evolution of practice? Would the hospitals have invested the same without tort reform savings?
7. Finally, patients continued to see health insurance costs rise while doctors and hospitals benefitted from the windfall of premium reductions. Since these premiums are a component of healthcare costs which are passed along to patients, would it not be fair to share the savings by reducing charges?

This is another important chapter by Dr. Stewart and his colleagues on the effects of MICRA-like tort reform in Texas. Their work will contribute significantly to the debate on how to control the economic and human cost of malpractice litigation. Thank you for the opportunity to comment.

Closing Discussion

Dr. Ronald M. Stewart: Thank you, Dr. Warshaw, for your thoughtful review and questions, and I also thank you for graciously sending your questions in advance of the meeting.

Concerning the comparison to the report by Public Citizen, it is true that we reach different conclusions. We use a different definition of physicians in Texas. We used all actively practicing in-state physicians as listed by the Texas Medical Board. Public Citizen used the Department of State Health Services definition of Direct Practice Physician. This definition excludes significant numbers of physicians who may be in full practice or part-time practice. We believe our definition is a fairer comparison. Additionally, the definition of the Direct Patient Care Physician has changed over the time period of the study making year-to-year comparison difficult. Although our data do not address the question of growth being primarily in employed physicians or physicians associated with a medical school, the data imply that growth may have been disproportionate with respect to medical school affiliated physicians.

The number of surgeons did increase, but general surgeons did not. In fact, looking at all physicians who have a Texas license, those classifying themselves as general surgeons actually fell in both absolute and per-capita numbers.

The question with respect to whether physician access really increased as physicians in Texas increased is hard to precisely answer. We believe that access did increase, but we agree with you that an increase in per-capita physicians alone does not prove that patients had more access to physicians. The hospital survey data support our hypothesis, providing real world experiences demonstrating that access really did improve. My own personal experience with decreased transfers from underserved areas, particularly in high risk areas, is also consistent with actual improvements in access in those areas.

As we noted in the manuscript and presentation, the net increase of physicians was associated with tort reform, but cannot be causally tied to tort reform, and we do not have controls from other states.

Our data do not address quality of care; however, as we reported in the Journal of the American College of Surgeons (JACS) last year the increase in TMB complaints was almost certainly related to concomitant Medical Board reform in Texas, not due to declining quality. And, as we noted in our paper in JACS 2010, the reduction in litigation following tort reform was unlikely related solely to increasing quality of care in Texas.

Although most hospitals believe the ability to expand services was causally related to tort reform, your question with respect to the hospital data correctly points out that the survey results are not definitively cause and effect either. I cannot speak to this directly, as I am not one of the hospital administrators; however, I can speak to what has happened in our practice following tort reform. Studdert, Mello and colleagues once stated that there is “a deep seated tension” between those in the patient safety/quality movement and those in the tort system. For those interested in quality and patient safety, tort reform changed the tenor of the discussion around quality and safety. Following tort reform, directly using malpractice savings, the system in which I practice has put millions of dollars into educational programs aimed at improving patient safety and clinical efficacy, and has implemented a mandatory educational program on disclosure and apology for physicians. These are ultimately good for the patient, and I don’t believe any of these would’ve come to fruition if not for tort reform in Texas.

Lastly, concerning your question with respect to reducing charges; based on declining surgical reimbursement over the past decade, from the surgeons’ point of view it appears these savings have *already* been implemented and passed on to the consumer or tax payer. Although in all seriousness, I believe the benefit to the patient comes through more access to physicians, expansion of programs, enhanced emphasis on quality improvement/patient safety and hopefully some reduction in unnecessary procedures or tests.