The Impact of the 2003 Texas Medical Malpractice Damages Cap on Physician Supply and Insurer Payouts: Separating Facts from Rhetoric

Charles Silver, David A. Hyman and Bernard Black

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* Silver is McDonald Endowed Chair in Civil Procedure, University of Texas Law School. Tel. 512-232-1337, email: csilver@law.utexas.edu. Silver is the corresponding author.

Hyman is Richard W. and Marie L. Corman Professor of Law and Professor of Medicine, University of Illinois. Tel. 217-333-0061, email: dhyman@law.uiuc.edu.

Black is Hayden W. Head Regents Chair for Faculty Excellence, University of Texas Law School, and Professor of Finance, University of Texas, Red McCombs School of Business. Tel. 512-471-4632, email: bblack@law.utexas.edu.
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Abstract

In 2003, Texas adopted House Bill 4 ("HB 4") which capped non-economic damages in medical malpractice cases and included several other smaller reforms. To proponents, HB 4 is a silver bullet, encouraging physicians to move to Texas by reducing frivolous lawsuits, preventing excessive damage awards by run-away juries, and reducing malpractice insurance premiums. To critics, it is ineffective (because it will neither materially increase the number of physicians, lower malpractice premiums, nor reduce health care costs) and unfair (because it forces injured patients to accept inadequate compensation and hits plaintiffs who are severely injured, women, children, or elderly especially hard).

In this short paper, prepared for a special issue on the effects of HB 4, we present new evidence of its effect on the number of physicians in Texas. There is, as yet, no evidence that HB 4 increased the number of physicians involved in direct patient care, but some evidence consistent with a delayed effect. There may have been a modest increase in the number of specialists engaged in direct patient care, in line with population growth. We also summarize our findings from a previous article on how the damages cap will affect payouts. We estimate that, if the same cases were brought, the cap would result in an 18-25% drop in per-case payouts in settled cases, and a 27% drop in tried cases. We also find that a cap on non-economic damages will have different effects on different groups of plaintiffs, with larger effects on the unemployed and deceased, and likely on the elderly as well. Because one would expect the cap to dissuade some plaintiffs from suing at all, especially those in the more severely affected groups, the cap's effect on insurers' costs -- and thus its long-run effect on malpractice insurance premiums -- will likely exceed our per-case estimates.
The Impact of the 2003 Texas Medical Malpractice Damages Cap on Physician Supply and Insurer Payouts: Separating Facts from Rhetoric

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I. Introduction

In 2003, Texas adopted House Bill 4 (“HB 4”), which capped non-economic damages in medical malpractice cases and restricted lawsuits in other ways. To its proponents, HB 4 was a silver bullet. It would curtail frivolous lawsuits, prevent runaway juries from making excessive damage awards, and reduce malpractice insurance premiums, all of which would encourage physicians to move to Texas. Critics saw HB 4 as ineffective (because it would neither materially increase the number of physicians, lower malpractice premiums, nor reduce the cost of health care) and unfair (because it would force injured patients to accept inadequate compensation and hit plaintiffs who are severely injured, women, children, or elderly especially hard).

Over the past several years, we have published a series of articles on the performance of the Texas medical malpractice (“med mal”) system. These articles rely on a comprehensive database maintained by the Texas Department of Insurance (“TDI database”) containing all closed insured medical malpractice claims in Texas from 1988-2005. In this article, we present new evidence on the effect of HB 4 on the number of physicians in Texas. We also summarize the findings of prior research, in which we estimate how HB 4’s damage cap will affect payouts in tried and settled cases. After briefly describing the mechanics of the Texas cap on non-economic damages, we consider how it affected the number of physicians in Texas, and then how it is likely to affect payouts in med mal cases. Our research relies on publicly available information,


and was funded by the universities with which we are affiliated. We have no reportable conflicts of interest.

On the question “Was HB 4 good policy?” we offer no bottom line. Our goal is to describe the effects of the statute, as best we can discern them. In our view, the evidence that tort reform increased the supply of direct patient care physicians or specialists in high-lawsuit-risk areas is inconclusive and does not support the claims of strong growth by reform advocates. In contrast, the evidence that tort reform reduced payouts to plaintiffs is compelling. Given that reform likely also reduced the number of malpractice claims brought, there is also a compelling case that it reduced malpractice insurers’ costs.

II. How the Non-Econ Cap Works

HB 4 imposed a cap on non-economic damages in medical malpractice cases filed after September 1, 2003. The cap limits non-economic damages against physicians and other individuals who are licensed health care providers to $250,000 (nominal, not adjusted for inflation) for all of these individuals together. A separate $250,000 (nominal) cap applies to each hospital or other licensed health care facility, with total non-econ damages capped at $500,000 (nominal) for all health care facilities. Thus, the cap will be $250,000 (nominal) if there is only one liable defendant, but can be as high as $750,000 (nominal) if there is one liable individual and two liable institutions. In its average effect, the Texas cap is equivalent to a simple cap on non-econ damages recoverable from all defendants of $336,000 (nominal) or $377,000 in 2007 dollars.

III. The Supply of Physicians in Texas Before and After HB 4

HB 4’s proponents argued that damage caps were needed because rising insurance premiums were driving doctors out of Texas and endangering patients’ access to care. Today, these same groups assert that since the passage of HB 4, new doctors have come to Texas in droves.

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3 Texas Civil Practice and Remedies Code § 74.301.

4 See, e.g., Paul Adrian, Tort Reform Benefits Questions, May 16, 2008, available at http://www.myfoxdfw.com/myfox/pages/Home/Detail?contentId=6552986&version=7&locale=EN-US&layoutCode=TSTY&pageId=1.1.1&slgl=1 (last visited July 15, 2008) (“Tort, or lawsuit, reform supporters accused trial lawyers of filing frivolous lawsuits, which jacked up malpractice insurance rates so high, that doctors were leaving in droves. ‘We wanted the bleeding to stop, the exodus of doctors leaving the state to stop, the insurance market to stabilize,’ said Jon Opelt, executive director of another lobby group, Texas Alliance for Patient Access, known as TAPA.”); Drew Thornley, Tort Reform the Right Cure for Texas’ Doctor Shortage, Houston Chronicle, Nov. 24, 2007, available at http://www.tapa.info/html/newsroom/2007/11_24_2007.html (“Prior to the reforms, Texas presented a hostile climate for medical practitioners. Frequent lawsuits against physicians and hospitals and escalating jury awards to plaintiffs drove doctors and insurers from the state, leading to physician shortages and higher costs for both doctors and patients.”).
One point can be dispensed with quickly. Texas was not losing physicians before HB 4 took effect. The supply of direct patient care (DPC) physicians grew every year, as shown below. The number of DPC physicians per capita was also rising in the immediate pre-cap period. The issue was the rate of growth. Was it high enough and, if not, would lawsuit restrictions increase it?

The principal evidence of faster growth after HB 4 is the number of license applications received by the Texas Medical Board (TMB). Although TMB’s application data are interesting, they are several steps away from providing a direct measure of growth in DPC physicians. Not all applications translate into licensed physicians, not all licensed physicians serve the general patient population, and the change in the physician population depends on both entry and exit. Therefore, application data, without more, provide a partial picture.

With that caveat, Table 1 shows the number of applications and issued licenses from 2001 to 2007 (the time period for which we have data), as reported by the TMB. Applications increased slightly in 2004-2005 and more significantly in 2006-2007. The number of new licenses more than doubled from 2001 to 2002, but then remained flat until 2007, when it rose by 32%.

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6 The TMB website contains records only back to 2001. We are in the process of trying to obtain data for earlier years.
Table 1: Texas Medical Licenses Applied for and Granted, 2001-2007

<table>
<thead>
<tr>
<th>Year</th>
<th>Applications</th>
<th>Licenses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>2,445</td>
<td>1,370</td>
</tr>
<tr>
<td>2002</td>
<td>2,552</td>
<td>2,828</td>
</tr>
<tr>
<td>2003</td>
<td>2,561</td>
<td>2,513</td>
</tr>
<tr>
<td>2004</td>
<td>2,947</td>
<td>2,343</td>
</tr>
<tr>
<td>2005</td>
<td>2,992</td>
<td>2,692</td>
</tr>
<tr>
<td>2006</td>
<td>4,026</td>
<td>2,516</td>
</tr>
<tr>
<td>2007</td>
<td>4,041</td>
<td>3,324</td>
</tr>
</tbody>
</table>

Source: Texas Medical Board, [http://www.tmb.state.tx.us/TMBstatsFY01-07.pdf](http://www.tmb.state.tx.us/TMBstatsFY01-07.pdf)

This pattern, especially the 2006-2007 jump in applications and 2007 jump in new licenses, could reflect a delayed response to the 2003 reforms. Before attributing the increase to HB 4, however, more study is required. One would need data for a longer period of time; one would want to compare Texas with other states that did not adopt new limits on malpractice suits; and one would want to control for other factors that affect the application rate, such as the growth of Texas’ economy and the increase in its population, both of which have been above the national average.7 One would also want to understand better why some applications don’t turn into licenses and the typical lag from application to license. Because these variables have not been studied, one can neither conclude that tort reform had a large, albeit delayed affect on applications and licenses nor refute this possibility.

Applications and new licenses are only part of the picture. If we are interested in the overall effect of tort reform on access to medical care, we need a number that more directly captures the number of physicians engaged in patient care, which will also reflect physicians who retire, leave the state, or stop seeing patients. Such a measure is available. The Texas Department of State Health Services (TDSHS) provides annual reports, in the fall of each year, on the number of doctors who “work[] directly with patients.” This count of DPC physicians excludes doctors who are fellows, teachers, administrators, researchers, federal, military, retired, or otherwise not available to the

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7 Economic growth and population growth (especially the number of elderly) are recognized predictors of the demand for health care and the supply of physicians. See, e.g., Richard A. Cooper, Thomas E. Getzen, and Prakash Laud, Economic Expansion Is a Major Determinant of Physician Supply and Utilization, 38 Health Services Research 2 676 (2003); Health Resources and Services Administration, Bureau of Health Professions, Department of Health and Human Services Physician Supply and Demand: Projections to 2020 (2006), [ftp://ftp.hrsa.gov/bhpr/workforce/PhysicianForecastingPaperfinal.pdf](ftp://ftp.hrsa.gov/bhpr/workforce/PhysicianForecastingPaperfinal.pdf). In the current decade Texas has enjoyed a more prosperous economy than most other states, Office of the Governor, Texas’ Business Climate Ranked No.1 by Corporate Executives: State Tops Development Counselors International Poll for Fourth Consecutive Time, available at [http://www.governor.state.tx.us/divisions/press/pressreleases/PressRelease.2008-08-01.1612#maincontent](http://www.governor.state.tx.us/divisions/press/pressreleases/PressRelease.2008-08-01.1612#maincontent) (“Overall, the Texas economy continues to grow at nearly three times the national average.”). Texas’ population growth has also been strong, at about 2% annually versus a national average of about 1%.
general population. Although TDSHS’ dataset goes back to 1981, we focus on the period from 1990 to 2007.8

Figure 1 shows the change over time in Texas DPC physicians. The top line plots the total number of DPC physicians. The bottom line provides a more meaningful figure—DPC physicians per 100,000 Texans. Although the number of DPC physicians grew every year, the per capita number did not. DPC physicians per capita was flat in the first half of the 1990s, grew steadily through 2003, then leveled off. This is not the pattern one would expect if HB 4 had dramatically improved the working climate for DPC physicians.

**Figure 1: Total DPC Physicians and DPC Physicians per 100,000 Texans, 1990-2007**

We also examined year-by-year changes in these measures. On average, the number of DPC physicians grew a bit more slowly after HB 4 was enacted than before. Texas added an average of 865 DPC physicians per year from 1991 to 2002 but only 817

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per year on average from 2004 to 2007. The physician population also grew more rapidly during 1999-2002 than it did after the 2003 reforms, even though during the earlier period the American Medical Association (AMA) described Texas as being in the midst of a “malpractice crisis.” 9 As of 2006, the AMA ranked Texas 43rd for patient care physicians per capita, down from 40th in 2003, casting further doubt on claims of unusual growth in patient care physicians in the post-reform period. 10 When competing with other states for physicians, Texas may be hampered by the extraordinary size of its uninsured population which, in percentage terms (24.2%), exceeds that of any other state. 11

Figure 1 shows that the supply of physicians in Texas did not increase significantly after tort reform took effect. It is possible, however, that physician supply was higher than it would have been without reform. We cannot evaluate this counterfactual. We can say that the data do not yet support claims of dramatic improvements in patient access to physicians.

The impact of HB 4 on overall access to care also seems questionable when one considers the historical rate of growth in the supply of Texas physicians. TDSHS’ time-series, which runs from 1981 to 2007, provides 19 years (1981-2002, less three years in the 1980s with missing data) with which to estimate the pre-reform trend. 12 Using only these years, we developed a simple but powerful regression model which predicts the annual growth rate in DPC physicians and DPC physicians per 100,000 Texans. Figure 2 shows the results for DPC physicians.

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10 Adrian, supra note 4 (relying on AMA, Physician Characteristics and Distribution in the US (annual publication)) (copies of state rankings on file with the authors).


12 We filled in the three missing years by taking the average of the two adjoining years.
The model uses only year and Real Texas Gross State Product (Texas GSP) as independent variables. It misses the actual number of DPC physicians (DPC physicians per 100,000 Texans) by an average of only 388 (1.92) in any given year. Using this model, one can predict how Texas’ physician supply would have grown in the post-reform period had Texas merely continued on its prior path. Figure 3 presents the results.

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13 Details of the regression are available from the authors on request. The adjusted $R^2$ of the regression was 0.983.
Had Texas attracted DPC physicians at the same rate it did from 1981 to 2002, in 2007 it would have had roughly 1,650 more DPC physicians and roughly 9 more doctors per 100,000 residents than it actually did. These are significant shortfalls. The shortfall is larger in robustness checks in which we allow physician supply to respond to Texas GSP with a one- or two-year lag.\(^{14}\)

We are not suggesting that HB 4 caused this slowdown; we see no reason why it would have driven doctors away. It is possible that but for HB 4, physician supply trends during 2003-2007 would have been worse. We observe only that in the post-reform period, there have been, as yet, no exceptional increases in the number of DPC physicians.

These figures are statewide aggregates. They do not show supply trends in particular geographic areas or practice specialties, which may differ. Tort reformers have

\(^{14}\) A model with a 2-year lag (real Texas GSP in Year \(i\) matched with DPC physicians in Year \(i+2\)) generates a shortfall in 2007 of almost 2300 physicians and 12 physicians per 100,000 residents. Compare Cooper, Getzen & Laud (2003), supra note 7, at 677 (“a growing body of literature demonstra[tes] that levels of health care spending could be predicted from GDP or national income with a high degree of accuracy, particularly if temporal lags were also considered”) (citing studies).
argued that there have been substantial gains in the number of physicians practicing certain specialties. For example, in an op-ed published in 2006, two prominent advocates of limits on med mal lawsuits wrote of an “amazing turnaround” across Texas and identified several medical specialties whose ranks, they asserted, had swelled significantly.\footnote{Howard Marcus and Bruce Malone, \textit{2003 Reforms Helping Doctors Do Their Work}, Austin American-Statesman, Apr. 10, 2006, available at http://www.tortreform.com/node/220 (“This amazing turnaround is occurring across Texas, with a statewide gain of 93 orthopedic surgeons, 81 obstetricians and 32 neurosurgeons. We’ve also seen substantial increases in hard-to-recruit children’s doctors such as pediatric cancer physicians, pediatric endocrinologists, child neurologists and doctors who specialize in newborns and premature infants.”)\footnote{Unlike TDI, which allows researchers to download its closed claim data without charge from its website, TMB publicly posts only limited data and requires researchers to pay large amounts for more detailed data. Policy research on physician supply would be greatly advanced if TMB followed TDI’s model of free access to its data, or at least free access for non-commercial use.}}

When claiming that Texas has more specialists, the reform advocates rely on TMB’s annual reports on physician demographics. This approach has several problems. One large concern arises because the TMB public reports include all licensed physicians, not only DPC physicians. Because TMB counts non-DPC physicians, its specialist counts may overstate any increases in specialists who see patients. Over 2003-2007, TMB reported 3.7% annual growth in total licensed physicians, and 4% annual growth in physicians reporting specialties. Yet TDSHS’s count of DPC physicians grew much more slowly—at 1.9% per year. Although TDSHS does not report the number of \textit{DPC physician-specialists}, it is likely, that for many specialties, this number also grew more slowly than the total number of physicians with that specialty.

One reason why TMB’s number of physicians reporting specialties grew faster than the total number of licensed physicians (4.0% per year vs. 3.7% per year) appears to be a change in physicians’ reporting practices. In 2001, TMB put its annual registration process on-line, making it easier for physicians to designate a specialty. As Table 2 indicates, the number of physicians who did not designate a specialty fell from roughly 2.1% (the average level over 1997-2002) to only 0.5% in 2007. Put differently, improved reporting may have created a spurious increase of over 800 specialists, independent of any change in the underlying physician population.\footnote{Howard Marcus and Bruce Malone, \textit{2003 Reforms Helping Doctors Do Their Work}, Austin American-Statesman, Apr. 10, 2006, available at http://www.tortreform.com/node/220 (“This amazing turnaround is occurring across Texas, with a statewide gain of 93 orthopedic surgeons, 81 obstetricians and 32 neurosurgeons. We’ve also seen substantial increases in hard-to-recruit children’s doctors such as pediatric cancer physicians, pediatric endocrinologists, child neurologists and doctors who specialize in newborns and premature infants.”)\footnote{Unlike TDI, which allows researchers to download its closed claim data without charge from its website, TMB publicly posts only limited data and requires researchers to pay large amounts for more detailed data. Policy research on physician supply would be greatly advanced if TMB followed TDI’s model of free access to its data, or at least free access for non-commercial use.}}
### Table 2: Licensed Texas Physicians and Identified Practice Specialties, 1997-2008

<table>
<thead>
<tr>
<th>Year</th>
<th>Physicians with Identified Specialties</th>
<th>Physicians with Specialty Unspecified</th>
<th>Total Licensed Physicians</th>
<th>% with Specialty Unspecified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>47,314</td>
<td>823</td>
<td>46,491</td>
<td>1.74%</td>
</tr>
<tr>
<td>1998</td>
<td>47,415</td>
<td>970</td>
<td>48,385</td>
<td>2.00%</td>
</tr>
<tr>
<td>1999</td>
<td>47,630</td>
<td>1,063</td>
<td>48,693</td>
<td>2.18%</td>
</tr>
<tr>
<td>2000</td>
<td>48,567</td>
<td>1,139</td>
<td>49,706</td>
<td>2.29%</td>
</tr>
<tr>
<td>2001</td>
<td>48,943</td>
<td>1,051</td>
<td>49,994</td>
<td>2.10%</td>
</tr>
<tr>
<td>2002</td>
<td>48,827</td>
<td>1,151</td>
<td>49,978</td>
<td>2.30%</td>
</tr>
<tr>
<td>2003</td>
<td>49,570</td>
<td>978</td>
<td>50,548</td>
<td>1.93%</td>
</tr>
<tr>
<td>2004</td>
<td>52,596</td>
<td>543</td>
<td>53,139</td>
<td>1.02%</td>
</tr>
<tr>
<td>2005</td>
<td>53,732</td>
<td>360</td>
<td>54,092</td>
<td>0.67%</td>
</tr>
<tr>
<td>2006</td>
<td>55,808</td>
<td>347</td>
<td>56,155</td>
<td>0.62%</td>
</tr>
<tr>
<td>2007</td>
<td>58,054</td>
<td>289</td>
<td>58,343</td>
<td>0.50%</td>
</tr>
<tr>
<td>2008</td>
<td>59,099</td>
<td>286</td>
<td>59,385</td>
<td>0.48%</td>
</tr>
</tbody>
</table>


A fuller analysis of the supply of physicians with reported specialties would also control for growth that would have occurred without tort reform. It would consider factors similar to those we discussed above for DPC physicians in general, such as the growth of Texas’ economy and population. Without controlling for other factors, one cannot isolate the impact of tort reform on the number of licensed physician-specialists.\(^\text{17}\)

Even taking TMB’s reported numbers at face value, however, the annual growth rates in the three high-malpractice-risk specialties on which the reformers focus are in line with the growth of Texas’ population. From 2003 to 2007, Texas’ population grew about 2% per year. Over the same period, the number of self-declared orthopedic surgeons rose from 1790 to 1942, also an annual increase of 2.0%, while the numbers of ob-gyns and neurosurgeons both rose at annual rates of 1.6%.

TMB’s numbers also imply, however, that these three specialties grew during 2003-2007, after having been roughly flat during 1999-2003. Assuming there was a similar trend in specialists who see patients, and that the trend is not explained by other factors, a drop in malpractice insurance premiums could (partly or fully) account for this trend. Lower malpractice insurance premia, in turn, could have been (partly or fully) a result of tort reform. At the same time, one would want to estimate how malpractice insurance rates might have changed without tort reform. The spike in premiums during

\(^\text{17}\) When studying the number of specialists, one would also want to control for national trends in physician specialties, and one might want to count only physicians for whom the specialty is their primary practice area.
the 1990s hard market far outpaced the rise in insurers’ costs, as shown by our prior research. The literature on insurance markets, and cycles in these markets, also suggests that hard markets are, in part, short-term reactions to factors other than liability costs. Because insurance prices may have fallen after 2003 even without tort reform (though presumably not as much), the ranks of Texas specialists may have grown without reform as well. Finally, it is also possible that some specialties grew more quickly from 2003-2007 because they grew more slowly from 1999-2003, and would have done so even without tort reform. Slow growth in the prior period may have created new openings and driven up salaries, thereby attracting new entrants.

A final complication in evaluating patient access to specialists involves the quality of care. For primary care physicians, more might be better than fewer. This is not so clear for specialists. Research on health care outcomes provides compelling evidence that the best physicians, for a particular procedure, are usually those with high volume practices. Experience counts. If the growth since 2003 in, say, orthopedic surgeons involves general surgeons doing a few back operations too, that might be bad for health care quality, not good. The same would be true for rural general practitioners deciding they can deliver a few babies a year, now that lawsuit risk has dropped. We lack the data to assess whether trends like these might partly explain growth in self-reported specialty.

In sum, the most likely conclusion, based on the evidence available to date, is that tort reform had limited impact on the number of DPC physicians, including DPC specialists. This should not be surprising. Academic studies of the relationship between tort reforms and physician supply report mixed results. Some find modest growth in supply; others find no effect. A recent study found that tort reforms and insurance premiums had no statistically significant impact on the supply of ob-gyns.

Two other conclusions are also worth noting. First, the drivers of growth in Texas’ physician supply may have changed. Given the performance of Texas’ economy

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20 For a recent review of the literature, see Y. Tony Yang, David M. Studdert, S. V. Subramanian & Michelle M. Mello, *A Longitudinal Analysis of the Impact of Liability Pressure on the Supply of Obstetrician-Gynecologists*, 5 Journal of Empirical Legal Studies 21–53 (2008) at 30 (concluding that existing research “has not convincingly established what role, if any, liability pressure plays in determining the size of the physician workforce, particularly within individual physician specialties”).

21 Id.
from 2003 to 2007, the state should have more DPC physicians than it does. Second, liability reform probably has little untapped potential to improve health care access going forward. HB 4 gave Texas one of the most pro-provider liability regimes in the U.S.\textsuperscript{22} Presumably, doctors already take this into account when deciding where to locate. Policy makers who want to increase Texans’ access to health care should not see tort reform as a principal lever.

III. The Impact of Tort Reform on Insurer Payouts

HB 4 took effect in September 2003. Because most malpractice cases last for years and TDI data is currently only available through 2005, there are as yet too few closed post-cap cases to permit robust statistical analysis. It will be several more years before one can directly study the impact of HB 4 on medical malpractice cases.

We were able, however, to use cases filed before HB 4 took effect to simulate how the cap on non-economic damages ("non-econ cap") would have affected payouts in those cases. To do this, we made the strong simplifying assumption that the cap would not have altered the cases that were brought or the manner in which they were pursued or defended. In effect, we asked how the non-econ cap would have affected payments on malpractice claims if everything else remained unchanged. All of our results are reported in 1988$. To convert to 2008$, multiply by 1.85. We do not study other aspects of the 2003 reforms, such as the expert report requirements.

Our principal conclusions are:

- In tried cases, most of the savings from a non-econ cap come from a small percentage of the cases with large paid non-economic damages. Even before the cap was adopted, many of the largest awards of non-economic damages were not paid, primarily because damages exceeded the available insurance.

- The non-econ cap reduced the mean predicted payout in tried cases by 27%, and mean predicted payout in settled cases by at least 18%, though likely less than 27%.

- The non-econ cap had a disparate impact across plaintiff demographic groups. Patients who are deceased, unemployed, or (likely) elderly suffered larger percentage reductions in payments than patients who are living, employed, or non-elderly.

Figure 3 shows, for different ranges of non-economic damage awards in tried cases, the number of cases and the percentage of total non-economic damages in each range. Almost half (48\%) of the verdicts fall in the first two ranges, with non-econ damages that are either zero or below the one-defendant cap level. The bulk of non-economic damages are awarded in the largest cases, which are a small fraction of total

\textsuperscript{22} See Thornley, supra note 4 ("The Pacific Research Institute's 'U.S. Tort Liability Index: 2006 Report,' an analysis of the tort systems of all 50 states, found that Texas has the best overall tort climate.").
cases. Cases with over $1M in awarded non-economic damages are only 17% of cases, but generate 72% of total non-economic damage awards. Not surprisingly, a non-econ cap will have most of its impact on the cases with large non-economic damages awarded.

**Figure 3. Distribution of awarded non-economic damages (percentages)**

Percent of cases with non-economic damage awards in indicated ranges, and percent of total non-econ awards represented by all cases in each range, for completed jury trials with plaintiff verdicts, included in TDI dataset of nonduplicate medical malpractice claims closed from 1988-2004 with payout > $25,000 in 1988 dollars. Amounts in 1988 dollars. Cap is assumed to be $160,707 in all years (this equals $250,000 in 2003 dollars).

If defendants paid what juries award, damage caps would have the same effect on payouts as on jury awards. However, defendants often pay less than the full amount awarded by the jury (plus interest) -- and the larger the verdict, the more likely and larger the unpaid portion or “haircut.”

To determine how the non-econ cap affects payout, we first allocate the lump-sum payout to economic, non-economic, and punitive damages, and interest, in that order. As shown in Table 3, Panel A, with no non-econ cap, plaintiffs in tried cases collected, on average, 77% of economic damages, 50% of non-economic damages, 29% of punitive damages, 16% of interest, and 49% of the overall allowed verdict (verdict amount, reduced to reflect Texas's other damages caps, plus pre- and post-judgment interest on the allowed award).

Panel B of Table 3 shows predicted payouts after applying the Texas non-econ cap to tried cases. Payout drops by 27%. In dollar terms, payout declines $60M, from $227M to $167M. Although large, this amount is far less than the $157M impact of the non-econ cap on adjusted verdicts. Stated differently, the non-econ cap would take away

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23 Hyman, Black, Zeiler, Silver and Sage, *Jury Verdicts* (2007), supra note 1. The percentages in the last column of Table 3 differ from those reported in this prior study because (i) Table 3 includes one more year of data; (ii) it is computed after winsorizing two outlier punitive damage awards; and (iii) the first panel is computed after applying other caps.
$97M in awarded damages which weren’t being paid to begin with. Thus, its impact, while substantial, is more modest than its proponents might have expected.

Table 3: Effect of Non-econ Cap on Payouts

<table>
<thead>
<tr>
<th></th>
<th>economic damages</th>
<th>non-economic damages</th>
<th>punitive damages</th>
<th>interest</th>
<th>total (before payout bonus)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Actual payout (after other caps)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$112,451</td>
<td>$92,267</td>
<td>$5,957</td>
<td>$16,706</td>
<td>$227,382</td>
</tr>
<tr>
<td>Mean (median)</td>
<td>$345 ($50)</td>
<td>$283 ($102)</td>
<td>$18 ($0)</td>
<td>$51 ($0)</td>
<td>$697 ($259)</td>
</tr>
<tr>
<td>% of adjusted verdict paid</td>
<td>77%</td>
<td>50%</td>
<td>29%</td>
<td>16%</td>
<td>49%</td>
</tr>
<tr>
<td><strong>Panel B: Predicted payout (after all caps)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Same as above</td>
<td>$35,117</td>
<td>Same as above</td>
<td>$13,569</td>
<td>$167,095</td>
</tr>
<tr>
<td>Mean (median)</td>
<td>Same as above</td>
<td>$108 ($100)</td>
<td>$42 ($0)</td>
<td>$513 ($200)</td>
<td></td>
</tr>
<tr>
<td>% of adjusted verdict paid</td>
<td>77%</td>
<td>19%</td>
<td>29%</td>
<td>13%</td>
<td>36%</td>
</tr>
<tr>
<td>Decline due to non-econ cap (%)</td>
<td>--</td>
<td>62%</td>
<td>--</td>
<td>19%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Actual payout (after other caps) and predicted payout (after all caps) for completed jury trials with plaintiff verdicts, included in the TDI dataset of nonduplicate medical malpractice claims closed from 1988-2004 with payout > $25,000 in 1988 dollars. Mean and median for each type of damages are for cases with non-zero awards of this type. Two outlier punitive awards are winsorized at level of next highest punitive award ($2.7M). Amounts in thousands of 1988 dollars.

D. How Does The Non-Econ Cap Affect Different Plaintiff Groups?

Critics have argued that non-econ caps discriminate against women, the young, the old, and the deceased. They claim that awards to such plaintiffs are likely to have a relatively large non-economic component – and hence will be disproportionately affected by a non-econ cap.

We cannot test whether the Texas non-econ cap differentially affects women because our dataset does not indicate patients’ sex, but we can test whether age and employment status affect its impact. As Table 4 reflects, the impact varies quite a bit, depending on the demographic group and the type of harm (death versus other harms). Payout reductions are significantly larger for death cases than for non-death cases, and for unemployed non-baby plaintiffs than for employed plaintiffs. For elderly plaintiffs versus adult non-elderly plaintiffs, the point estimates for payout reductions are quite different, but the differences in per-case means are not statistically significant.

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24 Payout bonus is the amounts paid by defendants, in a few cases, which exceed the adjusted verdict. Because we are uncertain of how the non-econ cap would affect the payout bonus, we exclude $9.3M in payout bonuses from our analysis.

Table 4: Effect of Non-Econ Cap: Death, Employment, and Age

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Age</th>
<th>No. of cases</th>
<th>Aggregate Payout Reduction</th>
<th>Per-Claim Payout Reduction</th>
<th>t-stat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Death</td>
<td>All</td>
<td>80</td>
<td>34%</td>
<td>23%</td>
<td>3.80***</td>
</tr>
<tr>
<td>Non-Death</td>
<td>All</td>
<td>246</td>
<td>25%</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Unemployed</td>
<td>Non-baby</td>
<td>141</td>
<td>37%</td>
<td>19%</td>
<td>2.76***</td>
</tr>
<tr>
<td>Employed</td>
<td>All</td>
<td>158</td>
<td>17%</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>All</td>
<td>Elderly</td>
<td>48</td>
<td>38%</td>
<td>19%</td>
<td>1.45</td>
</tr>
<tr>
<td></td>
<td>Adult non-elderly</td>
<td>223</td>
<td>22%</td>
<td>14%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Children</td>
<td>29</td>
<td>37%</td>
<td>21%</td>
<td>1.76</td>
</tr>
<tr>
<td></td>
<td>Baby</td>
<td>26</td>
<td>22%</td>
<td>10%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>326</td>
<td>27%</td>
<td>15%</td>
<td></td>
</tr>
</tbody>
</table>

Percentage reduction in aggregate payouts, and means of per-case percentage reduction in payout, attributable to non-econ cap for 326 completed jury trials with plaintiff verdicts, included in the TDI dataset of nonduplicate medical malpractice claims closed from 1988-2004 with payout > $25,000 in 1988 dollars. Baby is age 1 month or less. Children is age 2 months to 18 years. Adult non-elderly is age 19-64. Elderly is age 65+. Two outlier punitive awards are winsorized at level of next highest punitive award ($2.7M). t-statistic is for test of differences in means. *, **, *** indicates significance at the 10%, 5%, and 1% level. Significant differences, at 5% level or better, are in **boldface**.

We turn next to how the non-econ cap affects payouts in settled cases. Settled cases make up the overwhelming majority of cases (97.5%) and dollars (95%) in our dataset. For these cases, we do not have a jury award that we can use to assess the amount of economic, non-economic and punitive damages and interest included in the payout. We therefore use jury verdict allocations among these categories in tried cases to predict payout allocation in settled cases, and then simulate the effect of the non-econ cap on these cases. We describe our allocation procedure in more detail in an earlier article.26

Table 5 shows the allocation of payout in settled cases before and after the non-econ cap. The non-econ cap reduces payouts in 18% of settled cases, compared to 47% of tried cases. The mean per-case percentage reduction in payout is 5%, compared to 15% in tried cases. Overall, the non-econ cap reduces payout in settled cases by 18%, compared to 27% in tried cases.

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26 Id.
Table 5: Effect of Non-econ Cap on Payouts in Settled Cases

<table>
<thead>
<tr>
<th></th>
<th>economic damages</th>
<th>non-economic damages</th>
<th>punitive damages</th>
<th>interest</th>
<th>total payout</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A: Actual payout (after other caps; before non-econ cap)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>$2,012,921</td>
<td>$1,876,273</td>
<td>$116,471</td>
<td>$331,175</td>
<td>$4,336,840</td>
</tr>
<tr>
<td>Mean (median)</td>
<td>$145 ($47)</td>
<td>$135 ($57)</td>
<td>$8 ($3)</td>
<td>$24 ($10)</td>
<td>$313 ($132)</td>
</tr>
<tr>
<td><strong>Panel B: Predicted payout (after all caps)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Same as above</td>
<td>$1,156,851</td>
<td>Same as above</td>
<td>$268,999</td>
<td>$3,555,242</td>
</tr>
<tr>
<td>Mean (median)</td>
<td>$83 ($57)</td>
<td>$19 ($8)</td>
<td>$257 ($130)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decline due to non-econ cap (%)</td>
<td>--</td>
<td>38%</td>
<td>--</td>
<td>19%</td>
<td>18%</td>
</tr>
</tbody>
</table>

Estimated actual payout (after other caps), and predicted payout (after all caps) for economic, non-economic, and punitive damages and interest, for 13,857 settled cases included in the TDI dataset of nonduplicate medical malpractice claims closed from 1988-2004 with payout > $25,000 in 1988 dollars. Estimated actual payout is based on damages allocation in jury verdict cases. Amounts in thousands of 1988 dollars.

This estimate can be seen as a lower bound on the cap’s actual effect. It assumes that the case was settled against a background assumption by both parties that plaintiff success at trial was certain, and the only disputed issue was damages. If we instead assume a 75% (50%) chance of plaintiff success at trial, the mean reduction due to the non-econ cap rises to 21% (25%). It seems likely that the actual effect will be in the range from 18-25% -- and thus somewhat lower than the 27% reduction we predict for tried cases.

To the extent that the policy goal behind HB 4 was to produce lower payouts in malpractice cases, our simulation offers evidence that it succeeded, and by how much. We cannot assess whether the non-econ cap will also reduce the number of claims which are brought, but some reduction is likely, simply because the payoff is less, and the cost of bringing suit is likely higher due to the new expert witness rules. Over the long term, the combination of lower payouts in the cases that are brought and fewer cases should reduce malpractice insurance premiums.

VII. Conclusion

Damage caps are the “most controversial aspect of malpractice reform.” The tort reform debate has featured extravagant claims about their merits and demerits. Our findings indicate that HB 4 does not appear to have had a large effect on the supply of DPC physicians. A delayed effect remains possible. There is also no dramatic upswing in specialists in high-lawsuit-risk areas, but some evidence of a modest upturn, relative to the immediate pre-reform period.

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We estimate that the non-econ cap will result in a significant reduction in payouts in both settled and tried cases. The non-econ cap will also have a disparate impact on different groups of plaintiffs, with larger effects on the unemployed and deceased, and likely on the elderly as well. Lower payouts, and likely fewer suits, imply lower malpractice premiums on average, over the course of an insurance cycle.

References


