Do Defendants Pay What Juries Award? Post-Verdict Haircuts in Texas Medical Malpractice Cases, 1988-2003

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Abstract

Legal scholars, legislators, policy advocates, and the news media frequently use jury verdicts to draw conclusions about the performance of the tort system. However actual payouts can differ greatly from verdicts. We report evidence on post-verdict payouts from the most comprehensive longitudinal study of matched jury verdicts and payouts. Using data on all insured medical malpractice claims in Texas from 1988-2003 in which the plaintiff received at least $25,000 (in 1988 dollars) following a jury trial, we find that most jury awards received “haircuts.” 75% of plaintiffs received a payout less than the adjusted verdict (jury verdict plus pre-judgment and post-judgment interest), 20% received the adjusted verdict (within ± 2%), and 5% received more than the adjusted verdict.

Overall, plaintiffs received a mean (median) per-case haircut of 29% (19%), and an aggregate haircut of 56%, relative to the adjusted verdict. The larger the verdict, the more likely and larger the haircut. For cases with a positive adjusted verdict under $100,000, 47% of plaintiffs received a haircut, with a mean (median) per-case haircut of 8% (2%). For cases with an adjusted verdict larger than $2.5 million, 98% of plaintiffs received a haircut with a mean (median) per-case haircut of 56% (61%). Insurance policy limits are the most important factor explaining haircuts. Caps on damages in death cases and caps on punitive damages are also important, but a significant percentage of the above-cap damages were likely uncollectible, since defendants often paid substantially less than the post-cap adjusted allowed verdict. Remittitur accounts for a small percentage of the haircuts. Punitive damage awards have only a small effect on payouts. Out-of-pocket payments by physicians are rare, never large, and usually unrelated to punitive damage awards.

Most cases settle, presumably in the shadow of the outcome if the case were to be tried. That outcome is not the jury award, but the actual post-verdict payout. Because defendants rarely pay what juries award, jury verdicts alone do not provide a reliable basis for claims about the performance of the tort system.

† We owe special thanks to Fang Zhang and Myungho Paik for their work in analyzing the database, and to Vicky Knox, Ken McDaniel, Clare Pramuk, and Brian Ryder at the Texas Department of Insurance for patiently answering our many questions. For comments and suggestions, we thank an anonymous referee, participants at the RAND/JELS conference on medical malpractice, and workshop and seminar participants at Berkeley, Georgetown, Northwestern, and Vanderbilt University Schools of Law, and the Institute for Government and Public Affairs at the University of Illinois. Funding for this study was provided by the Center on Lawyers, Civil Justice, and the Media at the University of Texas School of Law, and the Jon David and Elizabeth Epstein Program in Health Law and Policy at the University of Illinois College of Law.
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I. Introduction

Juries and jury verdicts occupy center stage in the political debate over tort reform and in academic analyses of the tort system. In the political arena, critics claim that juries are out of control and out of their depth, periodically dispensing unjustified blockbuster verdicts, especially against defendants with deep pockets. These critics argue that this “lawsuit lottery” encourages defendants to settle even non-meritorious cases, and imposes a sizeable “tort tax” on the economy. Conversely, defenders argue that juries generally “get it right,” and that blockbuster verdicts are rare and often reduced by judicial oversight. Both sides support or oppose reforms based on their differing views on how juries behave. In like fashion, legal scholars assume that most cases are resolved in the shadow of what a jury would award, and an extensive literature models litigation and settlement decisions in the shadow of trial outcomes.

Thus, jury verdicts are used as the principal end-point in both the political debate over tort reform and academic analyses of litigation and settlement dynamics. As one set of scholars explained, “jury trial verdicts form the basis of what we think we know about tort litigation.”

However, using jury verdicts as the relevant end-point can be misleading if post-verdict payouts differ significantly from jury awards. Downward departures can result from judicial oversight (remittitur, jnov, and appellate reversal), statutory damages caps, and settlement dynamics (which are influenced by limits on collectibility). Upward departures can result from pre-judgment and post-judgment interest, and settlement dynamics. Whatever the sources of these adjustments, policy makers should factor them into their assessments of the performance of the tort system, and academics should consider them in analyzing litigation and settlement behavior. In particular, we would expect cases to settle in the shadow of what the plaintiff can expect to collect if the case is tried. However, the relevant shadow is cast not by the expected jury award, but by the expected post-verdict payout.

Past studies of post-verdict adjustments and payouts are limited. Most focus on judicial review of the verdict, and provide limited information on actual payments by defendants and their insurers. Most past studies also cover a limited time period and use data that is subject to sample selection bias, typically hand-gathered from jury verdict reporters, court dockets, and surveys.

We employ a unique dataset of all closed insured Texas medical malpractice claims from 1988-2003 with payout over $25,000 to study jury verdicts and the frequency, size, and reasons for differences between jury awards and payouts. We find that post-verdict payouts fall

1 Brian Ostrom, Roger Hanson & Henry Daley, So the Verdict is In – What Happens Next? The Continuing Story of Tort Awards in the State Courts, 16 Justice System J. 97, 98 (1992-1994).
2 See Section II infra for a summary of previous studies.
3 This paper is one of a series based on the Texas database. Other papers include Bernard Black, Charles Silver, David A. Hyman & William M. Sage, Stability, Not Crisis: Medical Malpractice Claim Outcomes In Texas,
substantially short of both “adjusted verdicts” (jury awards plus pre-judgment and post-judgment interest), and “adjusted allowed verdicts” (adjusted verdicts less the effects of damage caps and remittitur). Stated differently, although jury verdicts and payouts are correlated, most jury verdicts receive a substantial “haircut” when they are paid by the defendant. In particular, we find that (amounts in 1988 dollars):

- Of 306 jury trials with plaintiff verdicts, 228 cases (75%) had payment < adjusted verdict, 62 cases (20%) had payment roughly equal (± 2%) to the adjusted verdict, and 16 cases (5%) had payment > adjusted verdict. Across all 306 cases, plaintiffs with total adjusted verdicts of $482 million received payouts of only $212 million, for an aggregate haircut of 56%. The mean (median) per-case haircut was 29% (19%).

- The larger the adjusted verdict, the more likely and larger the haircut. In cases with adjusted verdicts of less than $100,000, 47% of plaintiffs (25/53) received a payout < adjusted verdict, with a mean (median) per-case haircut of 8% (2%). In contrast, in cases with adjusted verdicts over $2.5 million, 98% of plaintiffs (44/45) received a payout < adjusted verdict, with a mean (median) per-case haircut of 56% (61%). Haircuts are present in cases involving all types of defendants, including physicians, hospitals, and nursing homes.

- Judicial oversight (remittitur, jnov, and appellate reversal) directly affected 5% of the plaintiff verdict cases (19 of 306 cases -- 15 remittitur, 3 jnov, 1 appellate reversal of a plaintiff verdict), and can explain roughly 3% of the aggregate haircut. Statutory caps on damages in death cases affected 40% of death cases (26/66) and can explain roughly 14% of the aggregate haircut. Statutory caps on punitive damages affect 23% of cases with punitive damage awards (5/22) and can explain roughly 16% of the aggregate haircut. Thus, 67% of the aggregate haircut is attributable to factors other than statutory damage caps and the direct effects of judicial oversight.

- These estimates overstate the impact of judicial oversight and damage caps in explaining haircuts. Of the 42 cases in which remittitur or damage caps applied, defendants paid less than 90% of the adjusted allowed verdict in 25 cases. In these cases, much of the portion of the adjusted verdict which was “disallowed” by remittitur and damage caps was likely not collectible in any event.

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4 Unless otherwise indicated, all dollar amounts are in 1988 dollars; computed using the Consumer Price Index for All Urban Consumers (annual average) as a price index. Source: www.bls.gov/cpi/. To convert to 2006 dollars, multiply by 1.71.

5 “Adjusted verdict,” “haircut” and selected other terms used in this paper are defined in the glossary in Appendix C. We treat payout as equal to adjusted verdict if it is within ± 2% of the adjusted verdict in determining the number of “equal verdict” (zero haircut) cases. However, we compute haircut on a case-by-case basis, so some "equal verdict" cases will have small positive haircuts (2% or less).

6 Cases involving jnov or appellate reversal following a plaintiff verdict will drop out of our sample unless later settled for $25,000 or more.

7 The total of 43 includes 4 cases in which both remittitur and a death cap affected the adjusted allowed verdict.
• Cases often settle at or below policy limits even when the adjusted allowed verdict exceeds these limits. In the 214 “single-payer” cases for which we have data on policy limits, we estimate that policy limits explain at least 73% of the aggregate haircut ($71 million/$97 million).

• Adjusted allowed verdicts that are within policy limits still have a substantial likelihood of receiving a haircut. Haircuts in below-limits cases are usually smaller than haircuts in above-limits cases, but still account for approximately 9% of the aggregate haircut in single payer cases.

• There is a trend toward larger haircuts over time.

• Out of pocket payments by physicians are rare, usually small, and usually unrelated to punitive damage awards. There are 9 cases in which physicians make out of pocket payments, generally because an award exceeds policy limits, plus 3 cases in which physicians pay small deductibles.

• In 59 cases, plaintiffs recovered more than the adjusted verdict; of these 43 involved a defense verdict, and 16 involved a plaintiff verdict. In the defense verdict cases, plaintiffs recovered a mean (median) of $206,000 ($137,000). In the plaintiff verdict cases, plaintiffs recovered a mean (median) of $69,000 ($27,000) in excess of the adjusted verdict. Many of the defense verdict cases appear to reflect high-low agreements entered into prior to trial, while others appear to reflect post-verdict settlements, presumably reflecting the risk of appellate reversal. ⁸

A principal conclusion from our research is that studying jury verdicts, without also studying post-verdict haircuts gives a misleading picture of the overall performance of the tort system. So does studying damage caps and judicial oversight without attending to policy limits and other sources of haircuts. The tort reform debate has thus been based on incomplete information. Proposed reforms should take into account the gap between payouts and verdicts, which is especially important when verdicts are large. The academic literature on how jury verdicts affect claiming and settlement decisions also needs to take post-verdict payouts into account.

Part II describes previous studies of post-verdict adjustments and payouts and summarizes the limitations of these studies. Part III describes the Texas medical malpractice closed claim data we employed in our study. Part IV outlines our basic findings on jury outcomes. Part V discusses our results on the differences between payouts and adjusted verdicts. Part VI discusses some implications of our research. Part VII concludes.

II. Past Research on Post-Verdict Adjustments and Payouts

The empirical literature on post-verdict adjustments payouts, includes a number of articles and reports, and one monograph. ⁹ News reports on the subject have also appeared, but

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⁸ In a typical “high-low” agreement, the parties agree that, whatever the jury decides, the plaintiff will receive at least the “low” amount, but no more than the “high” amount. The existence of a high-low agreement is usually not shared with the trial judge or the jury.

⁹ Some additional research discusses the dynamics of the post-verdict period, but does not quantify post-verdict discounts. See Ostrom et al. (1992-94), supra note 1; Neil Vidmar, Medical Negligence, the Litigation Process and Jury Verdicts in Medical Malpractice Cases: Implications for Indiana ( Dec. 2002), available at http://www.atla.org/pressroom/sreports/vidmarreportdec2.aspx#N_118.
they tend to concentrate on individual high-profile cases.\textsuperscript{10} Table 1 summarizes the existing empirical literature, with larger studies (over 100 payouts) listed first, followed by smaller studies, and finally the present study.

**Table 1: Summary of Past Research on Post-Verdict Adjustments and Payouts**

<table>
<thead>
<tr>
<th>Author</th>
<th>Period</th>
<th>Jurisdiction</th>
<th>Size of Cases</th>
<th>Case Type</th>
<th>No. of Verdicts (source)</th>
<th>Known post-verdict adjustments (source)</th>
<th>Actual Payouts Known? (source)</th>
<th>Adjust for Inflation?</th>
<th>Analyze Haircut Sources?</th>
<th>Haircut (Mean or Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vidmar et al.\textsuperscript{11}</td>
<td>1985-1997</td>
<td>NY, FL, CA</td>
<td>All</td>
<td>med mal</td>
<td>805 (JVR)</td>
<td>215 (JVR)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>7 - 38%</td>
</tr>
<tr>
<td>Broder\textsuperscript{12}</td>
<td>1984-1985</td>
<td>All</td>
<td>&gt; $1 million</td>
<td>Various</td>
<td>472 (JVR)</td>
<td>198 (Surveys)</td>
<td>Yes (surveys)</td>
<td>No</td>
<td>No</td>
<td>31-57%</td>
</tr>
<tr>
<td>Shanley and Peterson\textsuperscript{13}</td>
<td>1982-1984</td>
<td>IL, CA</td>
<td>All</td>
<td>various</td>
<td>747 (JVR)</td>
<td>456 (Surveys)</td>
<td>Yes (surveys)</td>
<td>No</td>
<td>No</td>
<td>7 - 43%</td>
</tr>
<tr>
<td>Vidmar et al.\textsuperscript{14}</td>
<td>1990-2003</td>
<td>FL</td>
<td>&gt; $1 million</td>
<td>med mal</td>
<td>50 (Hand collected)</td>
<td>54 (FL database)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>33%</td>
</tr>
<tr>
<td>Viscusi\textsuperscript{15}</td>
<td>1985-2002</td>
<td>All</td>
<td>&gt; $100 million punitives</td>
<td>various</td>
<td>64 (JVR)</td>
<td>10 (JVR)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>76%</td>
</tr>
<tr>
<td>Merritt and Barry\textsuperscript{16}</td>
<td>1985-1996</td>
<td>OH</td>
<td>All</td>
<td>med mal and product liability</td>
<td>43 (JVR)</td>
<td>5 (JVR)</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>25%</td>
</tr>
</tbody>
</table>


These studies suggest that plaintiffs often collect less than the jury awards, particularly for large verdicts. Unfortunately, these studies have numerous limitations, including spotty information on actual payments, reliance on surveys or Jury Verdict Reporters (which are incomplete and subject to sample selection bias), restricted samples (whether in number of cases, size of sampled verdicts, or number of years), failure to adjust for inflation and interest, and failure to analyze the various sources of haircuts. A majority are based on reported post-verdict adjustments by courts, not actual payouts. Appendix A provides more detailed information on each study. The present study is the most comprehensive longitudinal analysis of post-verdict payouts. This is also the only study to quantify the comparative impact of judicial oversight, damage caps, and insurance policy limits on payouts.

### III. Data Source and Methodology

#### A. Data Source

The Texas Closed Claims Database (TCCD) is a publicly-accessible database of closed claims, which we describe in detail in an earlier article. We summarize relevant parts of that discussion here. The TCCD contains individual reports of all insured medical malpractice claims involving payouts of more than $10,000 in nominal dollars closed between 1988 and 2003. A “claim” is an incident causing bodily injury and resulting in a request to an insurer by a policyholder for coverage. An insurer must file a report with the Texas Department of Insurance (“TDI”) in the year a claim “closes” – i.e., when the insurer “has made all indemnity and expense payments on the claim.” When total known payments to a claimant by all defendants equal $25,000 (nominal) or more, the primary carrier for each defendant must complete a “Long Form” that includes extensive description of the claim’s characteristics and history. When total payments are $10,001-24,999 (nominal), each primary carrier must complete a somewhat less extensive “Short Form,” that omits various data, including the cause of injury.


18 Neil Vidmar, Juries and Jury Verdicts in Medical Malpractice Cases: Implications for Tort Reform in Pennsylvania (Jan. 2002). The information was obtained from the PA CAT Fund, a state-run excess insurer.

19 This abbreviation refers to a series of commercial reporters which hand-collect jury verdicts; for some verdicts, the verdict report also provides information on post-verdict adjustments. However, these reporters rarely include information on actual payments.

20 Black et al. (2005), supra note 3.


22 The TDI Closed Claim Reporting Guide (containing reporting instructions), the long and short forms, summary “Closed Claim Annual Reports”, and the core data on which we rely are available at
payments are $10,000 (nominal) or less, the primary carrier files an aggregate annual report that does not provide any case-specific information. We use information on the cause of injury in order to determine whether a claim involves medical malpractice. Thus, we rely only on Long Form claim reports.

We convert all payouts to 1988 dollars using the Consumer Price Index for All Urban Consumers (CPI) and study jury verdict cases with payout of at least $25,000 in 1988 dollars (roughly $43,000 in 2006 dollars). In 1990, TDI implemented a procedure to check each report for internal consistency and reconcile individual reports with insurer-level aggregate annual reports. TDI has acknowledged potential problems with reporting completeness and consistency in 1988 and 1989. We have no reason to believe these problems bias the sample of jury verdict cases that we study.

Medical malpractice cases often involve multiple defendants and multiple insurers. Beginning in 1991, TDI sought to identify multiple reports relating to the same incident (“duplicate reports”), but its approach is imperfect. In particular, TDI does not identify reports filed in different years but relating to the same incident as duplicates. To identify duplicate reports for 1988-1990, to correct for TDI’s under-identification of duplicate reports, and to correct other reporting errors, we reviewed each report involving a jury verdict and made a small number of adjustments to particular reports.

When two reports relating to the same claim were filed in different years by insurers for different defendants, we designated the last-closed claim report as the primary report.

Identifying claims involving medical malpractice is more complicated than one might expect. The TCCD offers several plausible ways of identifying medical malpractice claims, based on the type of insurance, the defendant, and the cause of harm. In a previous article, we generally relied on a broad definition of “medical malpractice claims” which included all non-duplicate “large” claims (claims with payouts exceeding $25,000 in 1988 dollars) that were paid under medical professional liability insurance or were against a health care provider (physician, hospital, or nursing home) or involved injuries caused by complications or misadventures of http://www.tdi.state.tx.us. In some cases, the online data is incomplete and was completed through information provided to us directly by TDI.

23 The reporting thresholds are not inflation-adjusted. Thus, some claims that are individually reported on the Long Form in later years would have been reported on the Short Form in earlier years. To address this “bracket creep,” we exclude from the sample eight jury verdict cases with real payouts by all defendants between $25,000 nominal and $25,000 real.

24 In robustness checks, we obtain similar results if we exclude 1988-1989 from our sample period, except as specifically noted below.

25 In identifying duplicate reports, we sometimes exercised judgment when claim reports were similar but not identical. The exact procedure we used to identify duplicates is available upon request. Insurers also make some reporting errors that TDI does not catch. In a few cases when both the error and the needed correction were apparent, we corrected the underlying data. For example, one report apparently combined pre- and post-judgment interest, and reported both as pre-judgment interest. The reported pre-judgment interest amount was absurdly high as pre-judgment interest alone, but matched closely the amount that should have been paid as both pre- and post-judgment interest based on the statutory rate for each. In another report, the claim was classified as involving a physician, when other information indicated it was against a nursing home; the physician ran the nursing home. One report had a policy limit of $10,300 but the primary carrier paid $975,000 (in nominal dollars); we concluded that the reported limit was an error and treated the policy limit as missing. A list of the adjustments we made to the data is available upon request.
medical or surgical care, and did not involve dentists or oral surgeons.\textsuperscript{26} We called the resulting dataset BRD cases, but verified in robustness checks that we obtained similar results with narrower definitions.

For this study, we were reviewed each report involving a jury verdict, and concluded that some BRD cases were not medical malpractice cases.\textsuperscript{27} We therefore constructed a more restricted dataset of verdicts, which we call BRD\textsubscript{minus}. To be included in BRD\textsubscript{minus}, a case had to satisfy two of the three criteria outlined in the previous paragraph (paid under medical professional liability insurance; against a health care provider; involved injuries caused by complications or misadventures of medical or surgical care), or satisfy one of the criteria with other information indicating that it was a medical malpractice case.\textsuperscript{28} The BRD\textsubscript{minus} dataset includes 361 cases tried to verdict, of which 349 (roughly 22 per year) were tried to a jury, and 12 (0.75 per year) were tried to a judge.

During the period we study, Texas law contained two caps on damages in medical malpractice cases — a cap on the sum of damages plus pre-judgment interest in wrongful death cases ("death cap"),\textsuperscript{29} and a cap on punitive damages ("punitive cap"). The death cap was approximately $975,000 in 1988 dollars; it was indexed for inflation but otherwise did not change during our sample period.\textsuperscript{30} A total of 66 jury verdicts involved wrongful death claims; of these, 26 involved adjusted verdicts that exceeded the death cap.

Texas law caps punitive damages and provides that these damages are available "only if the claimant proves by clear and convincing evidence that the harm with respect to which the claimant seeks recovery of exemplary damages results from: (1) fraud; (2) malice; or (3) gross negligence." The punitive cap was modified by the Texas legislature in 1995. For cases filed before September 1, 1995, the cap was the greater of (i) $200,000 or (ii) \((4 \times \text{compensatory damages})\). For cases filed after September 1, 1995, the cap was the greater of (i) $200,000 or (ii) \([(2 \times \text{economic damages}) + (\text{the lesser of non-economic damages or } $750,000)]\). Punitive damages were awarded in 22 jury verdict cases; of these, 6 awards exceeded the cap.

\section*{B. Dataset Limitations}

TDI requires insurers to report economic, non-economic, and punitive damages and prejudgment interest based on what TDI calls the "court verdict."\textsuperscript{32} In Texas jury cases, the jury

\begin{itemize}
\item \textsuperscript{26} Black et al. (2005), supra note 3. A number of other types of health-care providers (for example, nurses and free-standing medical clinics, are not separately listed in the reporting form, so we cannot study them.
\item \textsuperscript{27} For example, the BRD dataset includes cases in which physicians or hospitals were defendants because the physician, or someone working for the hospital, was involved in an automobile accident.
\item \textsuperscript{28} For example, cases against nursing homes involving falls that were paid by a “mono-line general liability” or "other professional liability" policies satisfied only one of the three criteria (health care provider as defendant) but we treated them as medical malpractice cases. For the full dataset, not limited to jury verdicts, it is not feasible to examine each case, so we define the BRD\textsubscript{minus} dataset using the two-out-of-three rule.
\item \textsuperscript{29} The damages cap on wrongful death applies to all medical malpractice cases in which the plaintiff died. Rose v. Doctors Hosp., 801 S.W.2d 841 (Tx. 1990).
\item \textsuperscript{31} Tex. Civ. Prac. & Rem. Code Ann. § 41.003 (standard for awarding punitive damages);id. § 41.008 (West 1997) (post-1995 cap);id. § 41.007 (West 1991) (repealed 1995) (prior cap).
\item \textsuperscript{32} TDI Closed Claim Reporting Guide (2004), Long Form and Short Form, Question 11b1.
\end{itemize}
completes a verdict form in which it determines economic, non-economic, and punitive damages. The judge either accepts these figures or reduces them (through remittitur, applying a damages cap, or perhaps both), and then adds pre-judgment interest to arrive at a “judgment,” which typically indicates the amount of pre-judgment interest and the total judgment amount, but does not contain a breakdown of economic, non-economic, and punitive damages. Thus, as a practical matter, insurers had to look at the jury verdict to determine the amount of economic, non-economic, and punitive damages, and at the court judgment to determine pre-judgment interest and any remittitur. Roughly 35% of the jury verdict reports omit pre-judgment interest. One likely reason for the omission is that the insurer reported information only from the jury verdict form. 33 TDI does not ask insurers to report post-judgment interest.

We estimated pre-judgment interest for the cases where it was not reported and computed post-judgment interest for all cases, relying on the statutory rules for pre- and post-judgment interest. We can only estimate pre-judgment interest, because the applicable rules in some cases require information (e.g., the date and amount of a pre-trial settlement offer by the defense) that we do not have. We believe our estimates are reasonable on average, but they may be somewhat high or low in any individual case. Appendix B provides details on our calculations. We then compute an “adjusted verdict” for each case, which equals the sum of damages (as reported by the insurer) + pre-judgment interest (reported or estimated) + computed post-judgment interest. The adjusted verdict is the amount to which a plaintiff is legally entitled, before taking into account remittitur and statutory caps. In robustness checks, we verify that cases with and without reported pre-judgment interest otherwise appear similar, and obtain similar results (i) for the sub-sample of 202 jury verdicts with reported amounts for pre-judgment interest, and (ii) for the full sample of 306 cases, if we assume pre-judgment interest = 0 for the 104 cases where it is not reported.

An important limitation of the TCCD is that insurers complete Long Forms only if the plaintiff receives at least $25,000. Thus, we have limited data on trials which result in defense verdicts, jnov cases, and cases where a plaintiff verdict is reversed on appeal. Most of these cases will drop out of our dataset. A (likely non-representative) minority of these cases, in which the plaintiff nonetheless recovers at least $25,000, will remain in the dataset.

The TCCD includes policy limits only for the "primary defendant" whose insurer files a report, and includes limits only for the primary policy, not any excess policy. Thus, we have a clean measure of policy limits only for “single-payer” cases in which only one defendant paid damages (even if more than one was sued), and there was no payment by an excess carrier. We report regressions with policy limits as an independent variable only for single-payer cases.

The TCCD includes only “insured” claims. This includes claims paid by captive insurers and risk-pooling and risk-retention groups. It does not include claims against “pure” self-insured providers (which don’t rely on captives or risk-pooling). Most physicians carry malpractice insurance, but many hospitals do not. Thus, our dataset likely captures a large fraction of trials in which physicians make payments, but a smaller and unknown fraction in which the payers are hospitals and other providers. We have no reason to believe that the fraction of “missing” trials changes over time as a percentage of the total.

33 We address other possible reasons in Part V infra.
The TCCD reports whether a case was appealed, but does not specify whether the appeal was heard or the outcome. Many cases are likely appealed but then settled before the appeal is heard. Due to these data limitations, we do not analyze the effect of appeal on post-verdict outcomes.

C. Summary Information on Our Dataset

Table 2 provides summary statistics on our dataset.

Table 2. Summary Statistics on Claims, Trials, and Jury Verdicts

<table>
<thead>
<tr>
<th></th>
<th>Jury</th>
<th>Judge</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Nonduplicate $BRD_{minus}$ claims</td>
<td>13,269</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trials initiated but not completed (with payout of $25,000 or more) (% of Claims)</td>
<td>316 (2.28%)</td>
<td>13 (0.10%)</td>
<td>329 (2.38%)</td>
</tr>
<tr>
<td>Completed trials with payout of $25,000 or more (% of $BRD_{minus}$ claims)</td>
<td>349 (2.63%)</td>
<td>12 (0.09%)</td>
<td>361 (2.72%)</td>
</tr>
<tr>
<td>Completed trials with plaintiff verdicts</td>
<td>306</td>
<td>9</td>
<td>315</td>
</tr>
<tr>
<td>Plaintiff verdict cases per year</td>
<td>19.1</td>
<td>0.6</td>
<td>19.7</td>
</tr>
<tr>
<td>Mean (median) damages award</td>
<td>$1,247 ($319)</td>
<td>$1,922 ($1,010)</td>
<td>$1,267 ($320)</td>
</tr>
<tr>
<td>Mean (median) adjusted verdict</td>
<td>$1,576 ($433)</td>
<td>$2,618 ($1,296)</td>
<td>$1,606 ($445)</td>
</tr>
<tr>
<td>Mean (median) payout</td>
<td>$692 ($259)</td>
<td>$658 ($258)</td>
<td>$691 ($259)</td>
</tr>
</tbody>
</table>

Plaintiff Jury Verdict Cases with:

- Single paying defendant, single insurer ("single payer" cases) | 215 |
- "Multi-payer" cases (two or more paying insurers or defendants) | 91 |

Total claims, claims in which trial was begun, completed trials, and completed trials with plaintiff verdicts, included in the $BRD_{minus}$ dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Completed trials include 46 cases with defense verdicts. Damages = economic + noneconomic + punitive damages. Adjusted verdict = damages + pre- and post-judgment interest. Mean (median) amounts are for completed trials with plaintiff verdicts, in $ thousands of 1988 dollars. [Source: Resolution stage.xls, paper chart worksheet, Table 5, (based on trials-gross freqs table 1; trials-judge & jury freqs table 1; verdict size Table 2)]

As Table 2 reflects, during 1988-2003, approximately 5% of closed paid claims in our dataset went to trial, of which almost half settled during trial. The actual fraction of cases which settle during trial is lower than this, since most medical malpractice trials end in defense verdicts, and most defense verdicts drop out of our dataset.\(^{34}\) Almost all trials involve juries. Because bench trials are too infrequent for us to perform meaningful statistical analysis on them, and the tort reform debate centers on juries, we concentrate on the 306 jury trials that result in plaintiff verdicts.\(^{35}\) As Table 2 indicates, 215 of these cases were single-payer cases, and 91 were multi-payer cases. Of the 91 multi-payer cases, 80 involved two or more paying defendants, while 11 involved a single paying defendant with payment by an excess insurer.

---

\(^{34}\) See, e.g., Thomas M. Cohen, Medical Malpractice Trials and Verdicts in Large Counties, 2001 (Bureau of Justice Statistics 2004) (plaintiffs won in 26% of medical malpractice jury trials).

\(^{35}\) The payouts in our small sample of judge trials are consistent with other research which suggests that juries are not more generous than judges, in medical malpractice cases. See, e.g., Cohen (2004), supra note 34; Theodore Eisenberg, Paula L. Hannaford, Michael Heise, Neil LaFountain, G. Thomas Munsterman, Brian Ostrom & Martin T. Wells, Juries, Judges, and Punitive Damages: Empirical Analyses Using the Civil Justice Survey of State Courts 1992, 1996, and 2001 Data, 3 J. Empirical Legal Stud. 263 (2006).
D. Implicit Model and Statistical Methodology

Below, we present various ordinary least squares (OLS) regression analyses of time trends, and the factors that are correlated with verdicts, payouts and haircuts. Our implicit model of the claims generating process is that people have some number \( Y \) of medical encounters per year, of which a fraction \( f \) lead to a malpractice claim, of which a further fraction \( g \) lead to a complete trial. A fraction \( h \) of completed trials produce a plaintiff verdict, of which a fraction \( i \) are included in our dataset (a case will be included if it involves an insured defendant and a payout over $25,000). The remaining fraction \((1-h)\) of completed trials produce defense verdicts, of which a fraction \( k \) are included in our dataset (a case will be included if it involves an insured defendant and, despite the defense verdict, a payout > $25,000). We expect the fraction of plaintiff verdicts included in our dataset to be close to one. The fraction of included defense verdicts will be substantially smaller.

The number and nature of medical encounters can vary across time. The fractions of these encounters that lead to claims, trials, plaintiff verdicts, the fraction of verdicts included in our dataset, damages and payout can vary across time and with the nature of the encounter, the characteristics of the plaintiff and defendant, and the defendant's insurance coverage. With these assumptions, the plaintiff [defense] verdicts in our dataset per year result from independent draws from a pool of encounters, each of which produces a plaintiff [defense] verdict included in the dataset with probability \((f*g*h*i)\) \(\times\) \(((f*g*(1-h)*k)\). We observe \(Y*f*g*h*i\) plaintiff verdicts \(\text{and } Y*f*g*(1-h)*k\) defense verdicts in our dataset, and the jury verdict and payout amount in each, but have no information about the component parts of these numbers, nor about verdicts or expected damages in the cases that drop out of our dataset.

For regressions involving adjusted verdicts, payouts, and haircuts, we assume that, apart from a possible time trend, each defendant's choice of coverage limits is independent of other defendants' choices, each jury verdict is independent of other verdicts, and each haircut is independent of other haircuts. These assumptions will not be strictly true, for several reasons. These include: (i) lawyers may adjust their trial tactics and which cases they choose to take to trial, based on prior success or failure; (ii) physicians may choose policy limits based on what other physicians do; and (iii) knowledge that a death cap exists may affect trial tactics in all death cases. Any cross-sectional dependence should be partly captured, however, by our year control variable.

Regressions with adjusted verdict or payout as dependent variable violate the usual normality assumption of OLS, because these variables have a strong positive skew. We address this skew in our regressions as follows. We remove two outlier multi-payer verdicts and, in regressions limited to single-payer cases, one outlier single-payer verdict.\textsuperscript{36} We then generally take the natural log of adjusted verdict, payout, and policy limits. The logged amounts come respectably close to being normally distributed.\textsuperscript{37} Even so, residuals for the regressions reported below are often not normally distributed. We partly address non-normality of the residuals by

\textsuperscript{36} We conducted robustness checks including these outliers but reducing their weight using the \texttt{rreg} (robust regression) command in Stata. Except as discussed below, the results were similar to those we report.

\textsuperscript{37} The most troublesome variable is adjusted verdict. For \(\ln(\text{adjusted verdict})\), skewness (kurtosis) = 0.18 (2.43) for all cases and 0.24 (2.46) for single-payer cases. A Shapiro-Wilk test rejects normality of \(\ln(\text{adjusted verdict})\) at \(p = .02 (.04)\) for all (single-payer) cases, but cannot reject normality of either \(\ln(\text{payout})\) or \(\ln(\text{policy limits})\) at \(p = .05\).
using robust standard errors in all regressions. Except as noted below, raw dollar results are similar to the ln(dollar) results we report.

For regressions with year as an independent variable, we make no claim that year causally explains anything. Instead year is a proxy for changes in the world which have a time trend. For regressions that analyze the relationship among different components of damages, we report association but make no claim as to causation.

We define "haircut" as a nonnegative fraction of the adjusted verdict:

\[ \text{haircut} = \max\{0, 1 - \frac{\text{payout}}{\text{adjusted verdict}}\} \]

In analyses of the factors that explain haircut size, we generally limit the sample to 290 jury verdicts with payout < adjusted verdict (positive haircut) or payout = adjusted verdict (zero haircut). In counting the number of cases with positive haircut, zero haircut, or a verdict bonus (payout > adjusted verdict), we treat cases with payout within ± 2% of the adjusted verdict as zero-haircut cases. In regressions involving haircut as dependent or independent variable, we compute the exact haircut for each case using equation (1). We obtain similar results in robustness checks using the full sample of 306 plaintiff verdict cases, both with this definition of haircut and with a revised definition that permits negative haircuts (haircut = 1 - (payout/adjusted verdict)).

We define the "aggregate haircut" for a group of cases as the dollar or fractional reduction in total payout for these cases, relative to the total adjusted verdict:

\[
\text{aggregate fractional haircut} = 1 - \frac{\sum_{\text{cases } i} \text{payout}_i}{\sum_{i} \text{adjusted verdict}_i} \\
\text{aggregate dollar haircut} = \left( \sum_{\text{cases } i} \text{adjusted verdict}_i - \sum_{i} \text{payout}_i \right)
\]

IV. Basic Findings on Jury Outcomes

A. Time Trends

Figure 1 indicates that although there is some year-to-year volatility, there are no obvious time trends in the percentage of paid claims resolved by a jury trial, and the percentage of claim dollars that are paid as the result of such a trial. Figure 1 includes cases in which payment followed a defense verdict, but would be similar if we exclude these cases.
Regression analysis confirms that there was no apparent time trend in the probability of a paid claim being resolved by a jury trial, or in payouts after a plaintiff verdict as a percentage of all payouts during each year.

As in our earlier study, there was considerable year-to-year fluctuation in mean and median verdicts, but no apparent time trends. Figure 2 shows mean (top line) and median (bottom line) adjusted verdicts for all plaintiff verdict cases, as well as mean adjusted verdict excluding the ten largest cases (middle line). The large difference between mean and median adjusted verdicts is consistent with other studies of medical malpractice outcomes. The median is more stable than the mean, but also varies substantially. Excluding the ten largest cases substantially dampens year-by-year fluctuation in the mean adjusted verdict and significantly narrows the spread between the mean and median.

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38 See Black et al. (2005), supra note 3; Cohen (2004), supra note 34.
Figure 2  Mean and Median Adjusted Verdicts Over Time (1988 $)

Annual mean (all cases), mean (excluding 10 largest cases) and median adjusted plaintiff jury verdicts for the BRD\textsubscript{minus} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Amounts in thousands of 1988 dollars. The excluded cases have adjusted verdicts of $8.3 million (1988$) more. [Source: verdict analysis, adjusted verdict tables –excludes 0/1 verdicts, (Figure 2A)]

Table 3 reports the results of a regression analysis of time trends in per-case ln(adjusted verdict) and ln(payout). In all regressions, year is coded as (year-1988). This does not affect the coefficient on year, but allows the constant term to be economically meaningful. We obtain similar results using a non-parametric test for trend.\textsuperscript{39}

Table 3:  Time Trends in Jury Verdicts and Payouts

<table>
<thead>
<tr>
<th>Regression</th>
<th>(1)</th>
<th>(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample</td>
<td>Plaintiff jury verdicts (per case)</td>
<td>Ln(adjusted verdict)</td>
</tr>
<tr>
<td>Dependent variable</td>
<td></td>
<td>0.030</td>
</tr>
<tr>
<td>Year</td>
<td></td>
<td>(1.78) *</td>
</tr>
<tr>
<td>Constant</td>
<td>12.79</td>
<td>12.47</td>
</tr>
<tr>
<td></td>
<td>(77.03)</td>
<td>(84.77)</td>
</tr>
<tr>
<td>Number of obs.</td>
<td>304</td>
<td>304</td>
</tr>
<tr>
<td>adjusted R$^2$</td>
<td>0.0099</td>
<td>0.0023</td>
</tr>
</tbody>
</table>

Regression of number of completed jury trials (as % of all claims), payouts in completed jury trials (as % of all payouts), and per-case ln(adjusted verdict) and ln(payout) for trials with plaintiff verdicts in the BRD\textsubscript{minus} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Regressions (3-4) exclude two outlier cases with large, apparently uncollectible punitive damage awards. Amounts in thousands of 1988 dollars. t-statistics, based on robust standard errors, are in parentheses. * indicates significance at the 10% level (suppressed for constant term). [Source Resolution Stage.xls, (1) Verdict Size, Regression Table 3.6, regression 1; (2) Verdict Size, Regression Table 3.4, regression 1]

\textsuperscript{39} See Jack Cuzick, \textit{A Wilcoxon-Type Test for Trend}, 4 Statistics in Medicine 87 (1985), implemented in Stata as nptrend. This test is barely significant for regression (1) ($z = 1.97$).
Assessing whether jury awards have changed over time is hard, because verdicts are highly variable, highly skewed, and limited in number. Performing a log transformation reduces but does not eliminate the skewness. A regression of \( \ln(\text{adjusted verdict}) \) on year (regression (1)) produces a point estimate of 3.1% per year, which is economically meaningful and marginally significant. However, this result is not robust. The point estimate drops to 2.5% per year (insignificant) for the \( NAR \) dataset, and drops to 1.7% per year (insignificant) if we also control for the rate of medical care cost increase.\(^{40}\) The coefficient on year is also insignificant in all specifications with verdict (rather than \( \ln(\text{verdict}) \) as the dependent variable.

A similar regression with \( \ln(\text{payout}) \) as the dependent variable (regression (2)), produces an insignificant point estimate of 1.3% per year; this coefficient remains insignificant in robustness checks with alternate specifications. The lower coefficient on year for \( \ln(\text{payout}) \), compared to \( \ln(\text{adjusted verdict}) \), is consistent with the evidence we report below on growing haircuts over time.

Taking these results as a whole, there is weak evidence of a possible upward time trend in jury awards, but we do not find evidence that jury awards are rapidly escalating. There is no evidence of a time trend in payouts after a jury verdict, or in the number of jury verdicts.\(^{41}\)

**B. Defendants**

Table 4 provides summary statistics on the defendants who made payments in our \( \text{BRD}_{\text{minus}} \) dataset. Roughly 70% of jury verdicts in our dataset involve a single paying defendant, most often a physician.\(^{42}\) Table 4 also documents a surprising fact: approximately 12% of the payments in the \( \text{BRD}_{\text{minus}} \) dataset are in cases with a defense verdict. We discuss these cases briefly below.

---

\(^{40}\) We define the rate of medical care cost increase as the trailing 3-year geometric average rate of real increase in the medical care services cost index. Source: [http://www.bls.gov/cpi/home.htm](http://www.bls.gov/cpi/home.htm).

\(^{41}\) These findings are consistent with those reported in our earlier article, which covered 1988-2002. See Black et al. (2005), supra note 3.

\(^{42}\) Researchers have speculated that the need for physicians to report settlements to the National Practitioner Data Bank could make them reluctant to settle. See Teresa M. Waters, David M. Studdert, Troyen A. Brennan, Eric J. Thomas, Orit Almagor, Martha Mancewicz & Peter P. Budetti, *Impact of the National Practitioner Data Bank on Resolution of Malpractice Claims*, 40 Inquiry 283 (2003). We find no evidence that cases against physicians are more likely to be tried than other cases. If physicians are more likely than other defendants to insist on trial, and if plaintiff success rates are similar against different types of defendants (which we cannot test with our data), the fraction of plaintiff verdicts in “physician-only” cases (in which the only defendants are one or more physicians) should exceed the fraction in the full \( \text{BRD}_{\text{minus}} \) dataset, which includes settled cases. In fact, these fractions are similar, at \([106/306 = 35\%]\) for completed trials and \([4,479/13,269 = 34\%]\) for all cases.
Table 4: Defendant Configuration in Jury Verdict Cases

<table>
<thead>
<tr>
<th>Sample: verdict cases with payouts</th>
<th>Plaintiff Verdict</th>
<th>Defense Verdict (With Payout)</th>
<th>Total Cases with Payout</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single payer cases:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One physician</td>
<td>100</td>
<td>17</td>
<td>117</td>
</tr>
<tr>
<td>One hospital</td>
<td>18</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>One nursing home</td>
<td>14</td>
<td>0</td>
<td>14</td>
</tr>
<tr>
<td>Other single defendant</td>
<td>79</td>
<td>9</td>
<td>88</td>
</tr>
<tr>
<td><strong>Subtotal single payer cases</strong></td>
<td>215</td>
<td>27</td>
<td>242</td>
</tr>
<tr>
<td><strong>Multipayer cases:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two or more physicians</td>
<td>6</td>
<td>3</td>
<td>9</td>
</tr>
<tr>
<td>Physician and hospital</td>
<td>50</td>
<td>6</td>
<td>56</td>
</tr>
<tr>
<td>Other multi-payer (includes single defendant with payment by two insurers)</td>
<td>39</td>
<td>7</td>
<td>46</td>
</tr>
<tr>
<td><strong>Subtotal multipayer cases</strong></td>
<td>91</td>
<td>16</td>
<td>107</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>306</td>
<td>43</td>
<td>349</td>
</tr>
</tbody>
</table>

Completed jury trials involving different types of defendants for the BRD_{min} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. “Two or more physician” cases have only physicians as defendants. Physician and hospital cases have one or more physicians and one or more hospitals as defendants. [Source: Verdict Analysis, Paper Charts, Table 1D]

C. Damage Awards and Outlier Verdicts

Juries award compensatory damages (economic and non-economic) and punitive damages. Table 5 summarizes the mean, median, and frequency of different types of damages for our sample.

Table 5: Breakdown of Damage Awards (1988 $ thousands)

<table>
<thead>
<tr>
<th>Sample: plaintiff verdict cases with payout &gt; $25,000</th>
<th>Economic Damages</th>
<th>Non-Economic Damages</th>
<th>Punitive Damages</th>
<th>Total Damages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>$133,878</td>
<td>$178,214</td>
<td>$69,618</td>
<td>$381,710</td>
</tr>
<tr>
<td>Mean</td>
<td>$438</td>
<td>$582</td>
<td>$228</td>
<td>$1,247</td>
</tr>
<tr>
<td>Mean (excluding two outliers)</td>
<td>$439</td>
<td>$555</td>
<td>$40</td>
<td>$1,033</td>
</tr>
<tr>
<td>Median</td>
<td>$52</td>
<td>$185</td>
<td>$0</td>
<td>$318</td>
</tr>
<tr>
<td>No. of Cases (% of all cases)</td>
<td>254 (83.0%)</td>
<td>255 (83.3%)</td>
<td>22 (7.2%)</td>
<td>306 (100%)</td>
</tr>
</tbody>
</table>

Total, mean, and median economic, non-economic, punitive, and overall damage awards, for plaintiff jury verdict cases in the BRD_{min} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. The third row excludes two outlier cases with large, apparently uncollectible punitive damages awards. Amounts in thousands of 1988 dollars. [Source: Verdict Analysis, Paper Charts, Table 10, Outliers are extseq=16300606 (16M) and 32300902 (41M)].

The mean awards, especially for punitive damages, are significantly influenced by two large multi-defendant cases, with punitive damages (adjusted verdicts) totaling $41 million ($46 million) and $16 million ($28 million) respectively. Both punitive awards were apparently uncollectible, since the plaintiffs did not collect even the awarded compensatory damages. In table 5, we present mean damage awards both including and excluding these two outlier cases. In our regression analyses, we generally exclude these two cases, which might otherwise skew...
our results. In regressions limited to single-payer cases, we exclude a third outlier for the same reason. This case had an adjusted verdict of $13.4 million, but settled for the defendant physician's policy limits of $181,000. We include these outliers in other analyses, including the frequency and aggregate dollar size of haircuts, and the impact of statutory caps.

In separate regressions (not shown) we find no significant time trend in the mean or median award of economic, noneconomic, or punitive damages. This is consistent with the lack of a significant time trend in overall adjusted verdicts.

As Table 5 reflects, on average, non-economic damages significantly exceed economic damages. Prior research suggests that punitive damages are awarded in about 5% of medical malpractice cases, similar to the percentage in all tort trials, but does not distinguish between types of defendants.\footnote{See Cohen (2004), supra note 34; (punitive damages awarded in 15/311 = 4.8% of medical malpractice trials, versus 202/3,758 = 5.4% of other tort trials in 2001 survey).} We find that punitive damage awards are reasonably common against nursing homes. In single-payer cases, punitive damages are awarded in 28% (5/18) cases against nursing homes; 4% (7/162) of cases against physicians; and 6% of other single-payer cases (2/35); they are also awarded in 9% of the multi-payer cases (8/91). Punitive damages were substantially more likely in single-payer cases against nursing homes than in single-payer cases against other defendants ($t$-test for difference in proportions =3.94, p < .001).

Table 6 reports regression evidence on the extent to which different types of damages are associated with each other. We do not control for year in the punitive damages regressions due to the small number of these cases but obtain similar results in robustness checks that include this control.

### Table 6: Association Between Different Types of Damages

<table>
<thead>
<tr>
<th>Regression</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependent variable</td>
<td>Ln (Non-econ. damages)</td>
<td>Ln (Punitive Damages)</td>
<td>Ln (Economic Damages)</td>
<td>Ln (Non-economic Damages)</td>
<td>Ln (Compensatory Damages)</td>
</tr>
<tr>
<td>Year</td>
<td>0.01</td>
<td>-0.63</td>
<td>0.43</td>
<td>(9.88)***</td>
<td>0.84</td>
</tr>
<tr>
<td>ln (Economic Damages)</td>
<td>0.43</td>
<td>0.43</td>
<td>0.11</td>
<td>(3.12)***</td>
<td>0.88</td>
</tr>
<tr>
<td>ln (Non-economic Damages)</td>
<td>(9.88)***</td>
<td>(3.12)***</td>
<td>(0.61)</td>
<td>0.78</td>
<td>(3.20)***</td>
</tr>
<tr>
<td>ln (Compensatory Damages)</td>
<td>0.84</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>7.49</td>
<td>2.26</td>
<td>7.77</td>
<td>1.80</td>
<td>1.92</td>
</tr>
<tr>
<td></td>
<td>(14.67)</td>
<td>(0.73)</td>
<td>(4.72)</td>
<td>(0.79)</td>
<td>(0.90)</td>
</tr>
<tr>
<td>Number of cases</td>
<td>203</td>
<td>20</td>
<td>18</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>0.304</td>
<td>0.498</td>
<td>0.2204</td>
<td>0.6741</td>
<td>0.6873</td>
</tr>
</tbody>
</table>

Regression of ln(non-economic damages) and ln(punitive damages) for plaintiff jury verdict cases in the BRD$_{minus}$ dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Regression 1 includes all cases with both economic and noneconomic damages. Regressions (2-5) are limited to cases with punitive damages, excluding two outlier cases with large, apparently uncollectible punitive damage awards. Regression (3) is further limited to cases with both punitive and economic damages; regression (4) to cases with both punitive and noneconomic damages, and regression (5) to cases with economic, noneconomic, and
Preliminary Draft
Tables and Figures Subject to Change
Please Do not Circulate or Quote

punitive damages. Amounts in thousands of 1988 dollars. *-statistics, based on robust standard errors, are in parentheses. **, *** indicates significance at the 10%, 5%, 1% level respectively (suppressed for constant term). Significant results, at 5% level or better, are in **boldface**. [Source: Verdict Analysis, Paper Charts, (1) Regression Table 9; reg. 3, (2) Regression Table 9.1; reg. 7A, (3) Regression Table 9.1; reg. 5 (4) Regression Table 9; reg. 6, (5) Regression Table 9.1; reg. 7]

Consistent with prior research on jury verdicts, we find in regression (1) an association between economic and non-economic damages. The Pearson correlation coefficient between the two is 0.44. Also consistent with prior work, we find an association between punitive damages and compensatory (economic + non-economic) damages. In most cases with punitive awards, the size of the compensatory award explains the punitive award reasonably well, as indicated by the 0.67 adjusted R² in regression (4). These results suggest that the amounts of punitive awards in medical malpractice cases are reasonably predictable.

A surprise emerges in regression (5), where we assess whether the association between punitive and compensatory damages is stronger for economic or non-economic damages. While the sample size is small (13 cases with awards of all three types of damages), when both types of compensatory damages are included separately, non-economic damages are strongly associated with punitive damages while economic damages are not.

V. Post Verdict Payouts and Haircuts

A. Summary Statistics

We turn in this part to an examination of the differences between adjusted verdicts and actual payouts, and the factors that explain these differences. At a high level of generality, there are two ways of studying this question: we can examine what defendants pay (payouts), or the difference between what they should pay based on the jury award (adjusted verdict) and what they actually pay (haircut). The two approaches are complementary; we present both because they convey a more complete picture of post-verdict outcomes.

Post-verdict payouts differ systematically from adjusted verdicts. Table 7 presents data on damages (economic + non-economic + punitive), adjusted verdict (damages plus reported or imputed pre-judgment and post-judgment interest), and payout. Defendants of all types typically do not pay what the jury awards, in both single-payer and multi-payer cases.

---


45 The standard errors for both variables will be increased by the collinearity between them, but inflation of standard errors will not explain why non-economic damages remain significant in regression (5), while economic damages do not. The variance inflation factor of 2.07 is well within acceptable bounds.
Table 7: Damages, Verdicts and Payouts By Type of Defendant (1988$)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single-payer cases</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>One Physician</td>
<td>100</td>
<td>$422</td>
<td>$546</td>
<td>$306</td>
<td>$247</td>
<td>$180</td>
<td></td>
</tr>
<tr>
<td>One Hospital</td>
<td>18</td>
<td>$612</td>
<td>$851</td>
<td>$553</td>
<td>$314</td>
<td>$293</td>
<td></td>
</tr>
<tr>
<td>One Nursing Home</td>
<td>14</td>
<td>$539</td>
<td>$608</td>
<td>$341</td>
<td>$225</td>
<td>$209</td>
<td></td>
</tr>
<tr>
<td>Other single payer</td>
<td>79</td>
<td>$965</td>
<td>$1,292</td>
<td>$502</td>
<td>$449</td>
<td>$238</td>
<td></td>
</tr>
<tr>
<td><strong>Multi-payer cases</strong></td>
<td>91</td>
<td>$2,640</td>
<td>$3,251</td>
<td>$1,342</td>
<td>$1,175</td>
<td>$633</td>
<td></td>
</tr>
<tr>
<td>Two or more physicians</td>
<td>6</td>
<td>$1,065</td>
<td>$1,371</td>
<td>$687</td>
<td>$1,496</td>
<td>$734</td>
<td></td>
</tr>
<tr>
<td>Physician and hospital</td>
<td>50</td>
<td>$1,826</td>
<td>$2,220</td>
<td>$1,461</td>
<td>$1,136</td>
<td>$633</td>
<td></td>
</tr>
<tr>
<td>Other multi-payer (excludes 2 outliers)</td>
<td>37</td>
<td>$2,144</td>
<td>$2,875</td>
<td>$1,204</td>
<td>$1,000</td>
<td>$633</td>
<td></td>
</tr>
<tr>
<td><strong>Total (excludes 2 outliers)</strong></td>
<td>304</td>
<td>$1,033</td>
<td>$1,336</td>
<td>$680</td>
<td>$412</td>
<td>$259</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>306</td>
<td>$1,247</td>
<td>$1,576</td>
<td>$692</td>
<td>$433</td>
<td>$259</td>
<td></td>
</tr>
</tbody>
</table>

Mean damages, and mean and median adjusted verdicts and payouts, for plaintiff jury verdict cases in the BRD minus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars; selected rows exclude two outlier multi-payer cases with large, apparently uncollectible punitive damage awards. Amounts in thousands of 1988 dollars. [Source: Verdict Analysis, Paper Charts, Table 7C]

Table 8 provides additional summary data by type of defendant, including the percentage of cases with positive haircuts, mean and median per case haircuts, and aggregate dollar and fractional haircuts. The per-case mean and median haircuts weight each case equally. The percentages are smaller than for aggregate fractional haircuts because larger cases generally receive larger percentage haircuts.

Table 8: Summary Statistics on Haircut Frequency and Percentages

<table>
<thead>
<tr>
<th>Sample: plaintiff verdict cases with payout &gt; $25,000</th>
<th>No. of Cases</th>
<th>Positive Haircut (%)</th>
<th>Mean Per-Case Haircut</th>
<th>Median Per-Case Haircut</th>
<th>Aggregate Dollar Haircut/Adjusted Verdict</th>
<th>Aggregate Fractional Haircut</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Single-payer cases</strong></td>
<td>215</td>
<td>72%</td>
<td>26.2%</td>
<td>16.6%</td>
<td>96M/186M</td>
<td>52.0%</td>
</tr>
<tr>
<td>One Physician</td>
<td>100</td>
<td>69%</td>
<td>21.9%</td>
<td>12.7%</td>
<td>24M/55M</td>
<td>43.8%</td>
</tr>
<tr>
<td>One Hospital</td>
<td>18</td>
<td>61%</td>
<td>18.6%</td>
<td>12.0%</td>
<td>5M/15M</td>
<td>35.1%</td>
</tr>
<tr>
<td>One Nursing Home</td>
<td>14</td>
<td>79%</td>
<td>19.2%</td>
<td>11.8%</td>
<td>4M/9M</td>
<td>43.9%</td>
</tr>
<tr>
<td>Other single payer</td>
<td>83</td>
<td>76%</td>
<td>34.3%</td>
<td>22.9%</td>
<td>64M/108M</td>
<td>59.1%</td>
</tr>
<tr>
<td><strong>Multi-payer cases</strong></td>
<td>91</td>
<td>81%</td>
<td>35.4%</td>
<td>34.7%</td>
<td>174M/296M</td>
<td>58.7%</td>
</tr>
<tr>
<td>Two or more physicians</td>
<td>6</td>
<td>100%</td>
<td>44.4%</td>
<td>47.4%</td>
<td>4M/8M</td>
<td>49.9%</td>
</tr>
<tr>
<td>Physician and hospital</td>
<td>46</td>
<td>70%</td>
<td>28.2%</td>
<td>22.4%</td>
<td>36M/105M</td>
<td>34.7%</td>
</tr>
<tr>
<td>Other multi-payer (excludes 2 outliers)</td>
<td>37</td>
<td>92%</td>
<td>39.9%</td>
<td>41.3%</td>
<td>61M/105M</td>
<td>58.1%</td>
</tr>
<tr>
<td><strong>Total (excludes two outliers)</strong></td>
<td>304</td>
<td>74%</td>
<td>28.5%</td>
<td>18.8%</td>
<td>199M/406M</td>
<td>49.1%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>306</td>
<td>75%</td>
<td>29.0%</td>
<td>19.1%</td>
<td>270M/482M</td>
<td>56.1%</td>
</tr>
</tbody>
</table>

Number of cases, fraction with positive haircut, mean (median) per case haircut, aggregate dollar haircut, and aggregate fractional haircut for plaintiff jury verdict cases in the BRD minus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars; selected rows exclude two outlier multi-payer cases with large, apparently uncollectible punitive damage awards. Aggregate amounts in millions of 1988 dollars. [Source: Verdict Analysis, Paper Charts, Table 8B]
Overall, 228 of the 306 plaintiff jury verdicts (75%) had positive haircuts, 62 cases (20%) had payout equal to adjusted verdict (within ± 2%), and 16 cases (5%) had payout > adjusted verdict (verdict bonus). Many haircuts are substantial. Adjusted jury verdicts totaled $482 million, while haircuts totaled $270 million, for an aggregate dollar haircut of 56%. Excluding the two outliers, the aggregate dollar haircut totaled $199 million, or 49% of adjusted verdicts of $406 million.\footnote{The aggregate dollar haircut and aggregate fractional haircut amounts reported in Table 8 include the 16 verdict bonus cases, for which the aggregate bonus was $1.1 million. For the 288 cases with zero or positive haircuts (excluding two outliers), the aggregate payout was $200 million and the aggregate adjusted verdict was $401 million for an aggregate percentage haircut of 50\%.}

As Table 8 reflects, percentage haircuts were similar in single-payer cases with physicians as defendants and in single-payer cases with defendants who potentially have deeper pockets (hospitals and nursing homes). In a regression using ln(payout) in single-payer cases as the dependent variable and ln(adjusted verdict), ln(policy limits), a physician dummy, and a constant term as independent variables, the physician dummy was negative but insignificant (coefficient = -0.019, t = -0.21).\footnote{Haircuts were larger in multi-payer cases -- but so were adjusted verdicts, and as we show below, larger adjusted verdicts are associated with larger haircuts. In a regression with ln(payout) as dependent variable on year, ln(adjusted verdict), a multi-payer dummy variable, and a constant term as independent variables, the multi-payer dummy is positive and significant (coefficient = 0.203, t = 2.30).}

**B. Post-Verdict Payouts: Explanatory Factors**

Most jury verdicts receive a haircut before they are paid, while a few receive a bonus. We consider in this section the factors that explain the size of post-verdict payouts. In later sections, we examine the factors which explain haircuts.

Figure 3 provides a starting point for the analysis of payouts, by providing a scatter plot of ln (adjusted verdict) versus ln (payout). Figure 3 includes a 45-degree line indicating payout = adjusted verdict, plus a regression line for ln (payout) versus ln (adjusted verdict). For small verdicts, payout and adjusted verdict are similar, and close to the 45-degree line. However, as adjusted verdict increases, so does the expected haircut. As adjusted verdict increases from $100,000 to $1 million to $10 million, the expected payout (haircut) goes from $96,000 (4%) to $575,000 (42%) to $3.4 million (66%).
Figure 3: Scatterplot of Adjusted Verdicts Versus Payouts

Ln(payout) versus ln(adjusted verdict), plus a dotted 45-degree line at which payout = adjusted verdict, and a solid fitted line from a regression of ln(payout) versus ln(adjusted verdict), year, and constant term, for cases with plaintiff jury verdicts in the BRD_{min} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars, excluding two outlier cases with large, apparently uncollectible punitive damage awards. The regression line assumes a mean value for year. [Source: Resolution Stage.xls, Payouts and Discounts, Figure 3 for Regression 13.1 in Regression table 4a.2]

Table 9 provides selected regressions with ln(payout) as the dependent variable. Regression (1) provides the fitted line shown in Figure 3. A 1% increase in ln(adjusted verdict) is associated with only a 0.76% increase in ln(payout). Thus, the larger the adjusted verdict, the larger the expected gap between adjusted verdict and payout.\footnote{In a separate regression (not shown) we find no evidence of non-linearity in the relationship between ln(payout) and ln(adjusted verdict).} Regressions (2-3) divide the sample into multi-payer cases and single payer cases. Dividing the sample lets us investigate the role played by policy limits in limiting payouts, because we have policy limits data only for single-payer cases.

Regressions (4-5) add ln(policy limits) as a separate independent variable, and divide the sample into "below-limits cases" (adjusted verdict \( \leq \) limits) and "above-limits cases" (adjusted verdict > limits). We exclude one case with missing data on policy limits. Controlling for ln(adjusted verdict), the marginal effect of ln(policy limits) on ln(payout) is positive but insignificant in below-limits cases. For above-limits cases, in contrast, ln(policy limits) has an economically and statistically strong marginal effect on ln(payout). This is consistent with
policy limits acting as an important constraint on payouts. These regressions offer a first look at the relationship between policy limits and payouts. We investigate in more detail below the connection between policy limits and both haircuts and payouts.

Table 9: Regression: Basic Factors That Explain Payout

<table>
<thead>
<tr>
<th>Sample: plaintiff verdict cases with payout &gt; $25,000</th>
<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>All Cases</td>
<td>Multi-payer cases</td>
<td>Single payer cases</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>All</td>
<td>Below limits</td>
<td>Above limits</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent variable</td>
<td>Ln (payout)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Year</td>
<td>-0.010</td>
<td>-0.027</td>
<td>-0.008</td>
<td>-0.013</td>
<td>-0.004</td>
</tr>
<tr>
<td></td>
<td>(-1.44)</td>
<td>(-2.14)**</td>
<td>(-1.02)</td>
<td>(-1.88)*</td>
<td>(-0.27)</td>
</tr>
<tr>
<td>Ln (adj. verdict)</td>
<td>0.757</td>
<td>0.810</td>
<td>0.731</td>
<td>0.832</td>
<td>0.263</td>
</tr>
<tr>
<td></td>
<td>(26.29)*****</td>
<td>(21.38)*****</td>
<td>(22.05)*****</td>
<td>(13.83)*****</td>
<td>(2.86)*****</td>
</tr>
<tr>
<td>Ln (policy limits)</td>
<td>0.059</td>
<td>0.712</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(1.02)</td>
<td>(6.36)*****</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>2.79</td>
<td>2.31</td>
<td>3.06</td>
<td>1.144</td>
<td>0.242</td>
</tr>
<tr>
<td></td>
<td>(8.23)</td>
<td>(4.35)</td>
<td>(7.85)</td>
<td>(2.50)**</td>
<td>(0.31)</td>
</tr>
<tr>
<td>Number of cases</td>
<td>304</td>
<td>89</td>
<td>213</td>
<td>137</td>
<td>76</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.791</td>
<td>0.793</td>
<td>0.780</td>
<td>0.845</td>
<td>0.769</td>
</tr>
</tbody>
</table>

Regression of ln(payout) in pro-plaintiff jury verdict cases against independent variables as shown, for plaintiff jury verdict cases in the BRD minus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Regressions (1-2) exclude two outlier multi-payer cases with large, apparently uncollectible punitive damage awards. Regressions (3-5) exclude one single-payer outlier with adjusted verdict of $13.4 million, which settled for the defendant physician's policy limits of $181,000, and one case with missing policy limits. t-statistics, based on robust standard errors, are in parentheses. *, **, *** indicates significance at the 10%, 5%, 1% level respectively (suppressed for constant term). Significant results at 5% level or better are in boldface. [Source: Resolution Stage, Payout and discounts, Regression 4A.2, (1) reg. 13.1, (2) Regression 4A.7, reg. 19.3 (3) Regression 4A.7, reg. 19.4, Regression 4A.7, reg. 19.6C, (5) Regression 4A.7, reg. 19.6B, multipayer outliers are extseq=16300606 and extseq=32300902; Single payer outlier is extseq=7200012, extseq=16100846 has missing policy limits]

Individual case outcomes are consistent with the importance of policy limits. Moreover, physician policy limits are sometimes quite low. We offer two examples, but there are many more.

- Case 7200012 (injury 1980; trial 1989). Brain damage to 55 year-old. Adjusted verdict = $13.4 million; settled for the defendant-physician's policy limits of $181,000 ($200,000 nominal). We exclude this case in our single-payer regressions because it might otherwise skew our results.

---

49 We study policy limits and the relationship between limits and payouts, in both tried and settled cases against physicians, in Zeiler et al. (2007). There too, we find a strong relationship between limits and payouts.

50 In robustness checks using robust regressions, in regression (4), the coefficient on ln (adjusted verdict) increases to 0.955 (t = 89.71), and in regression (5), ln (adjusted verdict) lost significance, while the coefficient on ln(policy limits) increased to 0.918 (t = 16.18). These findings are understandable given our data and the nature of robust regression, which downweights outliers. In below-limits cases, plaintiffs commonly recover most of the adjusted verdict; the cases in which they suffer a substantial haircut are all, to some degree, outliers. This can be seen in the scatterplot in Figure 5 below. In above-limits cases, plaintiffs commonly recover no more than the policy limits; cases where they recover substantially more than limits are all, to some degree, outliers. Our judgment was that robust regression is not a good approach for our dataset.
• Case 18800505 (injury 1989; trial 1993). Injury to a 44 year-old. Adjusted verdict of $1.2 million; settled for the defendant-physician’s policy limits of $80,000 ($100,000 nominal).

C. Haircuts and Verdict Size

We turn in this section from payout to haircut as the variable of principal interest. Table 10 provides details on the relationship among verdict size, probability of haircut, and expected haircut size. It is evident that the larger the adjusted verdict, the more likely and larger the haircut.

Table 10. Probability and Size of Haircut by Size of Adjusted Verdict

<table>
<thead>
<tr>
<th>Adjusted Verdict Range</th>
<th>Cases in Range</th>
<th>Positive Haircut (%)</th>
<th>Zero Haircut (%)</th>
<th>Mean Haircut</th>
<th>Median Haircut</th>
<th>Aggregate Fractional Haircut</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25-100k</td>
<td>53</td>
<td>47%</td>
<td>47%</td>
<td>8%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>$100 -250k</td>
<td>55</td>
<td>60%</td>
<td>29%</td>
<td>16%</td>
<td>9%</td>
<td>12%</td>
</tr>
<tr>
<td>$250 – 500k</td>
<td>59</td>
<td>71%</td>
<td>20%</td>
<td>23%</td>
<td>14%</td>
<td>24%</td>
</tr>
<tr>
<td>$500k - $1M</td>
<td>41</td>
<td>85%</td>
<td>12%</td>
<td>31%</td>
<td>20%</td>
<td>32%</td>
</tr>
<tr>
<td>$1 - $2.5M</td>
<td>53</td>
<td>92%</td>
<td>6%</td>
<td>45%</td>
<td>42%</td>
<td>46%</td>
</tr>
<tr>
<td>&gt; $2.5M (excludes 2 outliers)</td>
<td>43</td>
<td>98%</td>
<td>2%</td>
<td>56%</td>
<td>61%</td>
<td>56%</td>
</tr>
<tr>
<td>Total (excludes 2 outliers)</td>
<td>304</td>
<td>74%</td>
<td>20%</td>
<td>29%</td>
<td>19%</td>
<td>49%</td>
</tr>
<tr>
<td>Total</td>
<td>306</td>
<td>75%</td>
<td>20%</td>
<td>29%</td>
<td>19%</td>
<td>56%</td>
</tr>
</tbody>
</table>

Number of cases, percentage with positive and zero haircut, and mean, median, and aggregate fractional haircut for different ranges of adjusted verdicts, for plaintiff jury verdict cases in the BRD dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Amounts in 1988 dollars. [Source: Verdict Analysis, Adjusted Haircuts, Table 3C]

There is a wide distribution of haircuts, with different patterns for smaller and larger adjusted verdicts. As the top left quadrant of Figure 4 shows, in small cases, with adjusted verdict < $100,000, roughly 60% of plaintiffs receive 91-100% of the adjusted verdict. Conversely, as the lower right quadrant of Figure 4 shows, in the largest cases, with adjusted verdict over $2.5 million, payment of 91-100% of the adjusted verdict is uncommon, and many plaintiffs receive a small fraction of the adjusted verdict. Indeed, in these large cases, a majority of plaintiffs (27/45) receive no more than half of the adjusted verdict.
D. The Effects of Judicial Oversight and Damage Caps on Haircuts

We now turn to quantifying in more detail the factors that cause haircuts. Haircuts can result from judicial oversight, statutory caps on damages, policy limits, and other settlement-related factors. Below, we examine as many of these factors as our dataset allows, and quantify their relative importance.

1. Judicial Oversight

Judges exercise ex-post oversight over jury decisions in a variety of ways, including granting motions for directed verdict or for judgment notwithstanding the verdict (jnov), granting remittitur, and appellate reversal. Legal scholars have emphasized the importance of this oversight in constraining jury discretion, especially the potential for reduction or appellate reversal of very large verdicts. Our dataset allows us to quantify the effect of remittitur and say a little bit about jnov and appellate reversal.

a. Remittitur

Remittitur is an infrequent source of haircuts. Judges reduce the jury verdict through remittitur in 4.9% (15 of 306) of the cases in our sample. One of these remittiturs was apparently
reversed on appeal. There is no evidence that judges use remittitur to reduce punitive damage awards. However, Texas has a statutory cap on punitive damages; judges might act differently in states without such a cap.

As Table 11 reflects, remittitur is concentrated in cases in which economic damages are a small proportion of total damages. The mean (median) ratio of economic to total compensatory damages is only 17.3% (4.2%) in remittitur cases, compared to 39.6% (29.3%) in non-remittitur cases. The difference in means is statistically significant both in raw dollars ($t=2.30$) and in ln (dollars) ($t=3.17$).

**Table 11. Distribution of Damages in Remittitur and Non-remittitur Cases**

<table>
<thead>
<tr>
<th></th>
<th>Economic Damages</th>
<th>Non-econ. Damages</th>
<th>Punitive Damages</th>
<th>Total Damages</th>
<th>Economic Damages /Compensatory Damages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remittitur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>$105</td>
<td>$928</td>
<td>$0</td>
<td>$1,033</td>
<td>17.3%</td>
</tr>
<tr>
<td>Median</td>
<td>$12</td>
<td>$411</td>
<td>$0</td>
<td>$423</td>
<td>4.2%</td>
</tr>
<tr>
<td>Non-remittitur</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>$455</td>
<td>$565</td>
<td>$239</td>
<td>$1,258</td>
<td>39.6%</td>
</tr>
<tr>
<td>Median</td>
<td>$53</td>
<td>$174</td>
<td>$0</td>
<td>$227</td>
<td>29.3%</td>
</tr>
</tbody>
</table>

Damages in remittitur (15) and non-remittitur (291) cases in the BRD minus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Mean punitive award in non-remittitur cases would drop to 42 if we exclude two outlier cases with large, apparently uncollectible awards. Amounts in thousands of 1988 dollars. [Source: Verdict Analysis, Remittitur, Table 6A]

Remittitur had a moderate impact on damages in the cases where it was imposed. The mean (median) dollar remittitur was $361,000 ($150,000). The mean (median) per case percentage remittitur was 25% (20%) of pre-remittitur damages, and the aggregate dollar remittitur was 33% of pre-remittitur damages.

In the end, remittitur, including its effect on pre-judgment and post-judgment interest, reduced the adjusted allowed verdicts in the remittitur cases by $9.0 million, which is 3.3% of the aggregate dollar haircut of $270 million. The reduction is only $5.5 million (2.0% of the aggregate dollar haircut) if we exclude the reversed remittitur. However, this amount may overestimate the real-world importance of remittitur. In 6 of the 14 remittitur cases (excluding the reversed remittitur), with total remittitur of $3.7 million, the plaintiff collected less than 90% of the adjusted allowed verdict. This suggests that the remitted amounts in these cases may not have been collectible in any case.

Remittitur can also affect cases where it is not directly applied. For example, pending or potential remittitur motions could affect the terms of post-verdict settlement. However, our...
results indicate that the direct effects of remittitur can explain only a small share of the aggregate dollar haircut.

b. JNOV and Appellate Reversal

We have three jnov cases following a plaintiff jury verdict and one appellate reversal of a plaintiff verdict in our dataset. There may have been other such cases that were not reported to the TCCD because defendants paid less than $25,000 (nominal). In the three jnov cases that followed a plaintiff verdict, the total adjusted verdicts were $3 million and defendants paid $1.5 million of this amount, for an aggregate haircut of 50%. In the appellate reversal case, the jury awarded $1.1 million; the judge reduced the award to $364,000 through remittitur, the defense successfully appealed, and the case settled after the appeal for $100,000. Thus, jnov and appellate reversal are together responsible for $2.5 million (roughly 1%) of the aggregate haircut.

Even if appellate reversal is infrequent, the risk of reversal could affect the terms of post-verdict settlement. Defendants' ability to delay payment through appeal, while imposing legal costs on plaintiffs, could also contribute to post-verdict haircuts, even if the risk of appellate reversal is small.

c. Summary of Judicial Oversight

To summarize, the direct effect of judicial oversight can explain only 3-4% of the aggregate dollar haircut (depending on whether we count the reversed remittitur). Although judicial oversight of tort verdicts has received considerable attention from legal scholars and policy advocates, it can not explain the haircuts even in the cases it directly affects, let alone the larger pattern of haircuts across other cases.

2. Punitive Damages Cap

As noted previously, Texas had statutory caps on punitive damages and damages in death cases during the period covered by our study. No case was affected by both caps, so we analyze them separately.

Punitive damages totaling $69.6 million were awarded in 22 cases in our dataset. Two large multi-defendant cases accounted for $57.6 million of this amount. Texas changed the formula for the punitives cap for cases filed after September 1, 1995. The pre-1995 cap applied to 16 cases, and the post-1995 cap applied to 6 cases. The post-1995 cap is less generous than the pre-1995 cap (see Section III.A for the cap formulas).

The punitives cap reduced allowed damages in 5 of the 22 cases, by a total of $43.0 million (62% of the awarded punitive damages). Including the effect on post-judgment interest (pre-judgment interest is not awarded on punitive damages), the punitives cap reduced the adjusted allowed verdicts in these cases by $43.6 million. Thus, the cap can explain roughly

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54 The dataset also includes: (i) 16 cases with a directed verdict for the plaintiff (perhaps because the defendant contested only damages, not liability); 11 cases with a directed verdict for the defense, which later settle for at least $25,000; (ii) 12 cases appealed by the defense, where the plaintiff won the appeal; (iv) one case where the plaintiff apparently appealed a remittitur and won; (v) one other case where the plaintiff appealed and won, although a plaintiff jury verdict is recorded (perhaps the trial was after the appeal); and (vi) several miscellaneous appealed cases, in which the outcome is recorded as "other."

55 Two of these cases involved punitive damages. The adjusted verdicts (payouts) in these three cases were: $2.3 million ($1.3 million); $523,000 ($96,000); and $156,000 ($109,000).
16% of the aggregate dollar haircut. One large multi-defendant case accounted for almost all of the reduction in adjusted allowed verdicts ($41.2 million). In four of the five cases to which the punitives cap applied, the defendants paid less than 90% of the post-cap adjusted allowed verdict, which suggests that much of the portion of the punitive award affected by the cap may not have been collectible in any case. For example, the largest award in our dataset had punitive (total) damages of $41 million ($46 million) for a 98 year-old plaintiff who sued a nursing home and its physician-medical director. The punitives cap reduced the allowed punitive damages (adjusted allowed verdict) award to $515,000 ($4.0 million); the plaintiff settled for $550,000. Although the original “blockbuster” verdict received press coverage, the final settlement did not.

3. Death Cap

Throughout our sample period, Texas capped the sum of compensatory damages and pre-judgment interest in wrongful death cases at $975,000 in 1988 dollars; the cap was adjusted for inflation. Our dataset includes 66 wrongful death cases. We can only estimate the impact of this cap because it does not apply to medical expenses and the TCCD does not break out these expenses. We assumed that none of the economic damages in wrongful death cases were for medical expenses; this will overestimate the cap’s effect. There may also be some cases in which plaintiffs do not prove damages they otherwise could have proven, but could not collect given the cap; we would underestimate the cap's effect in these cases.

The death cap reduced allowed damages in 26 of the 66 wrongful death cases, and eliminated approximately $32 million (45%) of the damages plus pre-judgment interest awarded. 

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56 This case had a complex history. The plaintiff was raped by a co-resident. In 1999, the jury awarded compensatory (punitive) damages of $1 million ($10 million) against the medical director and $4 million ($50 million) against the nursing home (all dollar values in this footnote are nominal). In 2000, the medical director's insurer filed a closed claim report, indicating that it paid $500,000 and another insurer paid $300,000 for another defendant. The report indicated neither a remittitur nor an appeal. However, according to Healthcare Centers of Texas, Inc. v. Rigby, 97 S.W. 3d 610 (2002), the trial judge remitted the total verdict to $11 million, the nursing home appealed the punitive damages award, and the appellate court held that punitive damages were unavailable because the injury was due to criminal action by a third party. We contacted plaintiffs’ counsel, who told us that the medical director had settled the claim against him after verdict, but before judgment – which is why the 2000 report did not reflect a remittitur or an appeal. The $300,000 payment was made by the medical director, who then successfully sued his insurer to obtain reimbursement. The case against the nursing home was resolved for an additional $1 million plus interest after the Texas Supreme Court declined to review the case. The nursing home’s insurer did not file a closed claim report. These facts complicate the coding of the post-verdict adjustments that occurred in this case. For example, should the trial court’s remittitur count as a form of judicial oversight – or did the judge simply apply the punitives cap, and the Court of Appeals then loosely called this a remittitur? How should we treat the appellate disallowance of punitive damages? How should we handle the unreported $1 million plus interest that was paid in 2003? We decided to code the case as initially reported. We note that this case does not affect our regressions (it is excluded as an outlier), nor our analysis of policy limits (which relies on single payer cases).

57 See Jo Ann Zuniga, $65 million awarded in rape at nursing home, Houston Chronicle, Dec. 15, 1999, at A37. The verdict was $65 million in nominal dollars, which is $46 million in 1988 dollars.

58 During much of our sample period, it was unclear whether the cap applied to compensatory damages, or to the sum of compensatory damages plus pre-judgment interest. The courts eventually ruled that it covered the sum of the two; we treated this rule as having been in effect during the entire period. This will overestimate the cap's effect. Columbia Hosp Corp. of Houston v. Moore, 92 S.W.3d 470, 474 (Tex. 2002).
In those cases. Including its effects on post-judgment interest, the death cap reduced the aggregate adjusted allowed verdict by $38.3 million. Thus, this cap can explain roughly 14% of the aggregate dollar haircut.

In 14 of the 26 cases in which the cap applied (representing $25 million of the reduction in adjusted allowed verdict), the payout was less than 90% of the adjusted allowed verdict, suggesting that some of the above-cap adjusted verdict would likely not have been collected in any case. In the remaining 12 cases, the reduction in the adjusted allowed verdict due to the cap was roughly $13 million. For these cases, a causal inference that the cap contributed to the haircut on a dollar-for-dollar basis is more appropriate.

To summarize, the punitives and death caps, taken together, reduce the aggregate adjusted verdict by $82 million (roughly 30% of the aggregate haircut). However, in many of the cases to which these caps apply, it appears that other factors would have prevented plaintiffs from collecting much of the above-cap adjusted verdict. This implies that these caps had substantially less real world impact on payouts than one might infer by assessing their direct effect on adjusted allowed verdicts.

E. The Impact of Policy Limits

Prior research indicates that plaintiffs in medical malpractice cases rarely pursue the personal assets of individual defendants, and will generally settle for the policy limits, instead of pursuing “blood money.” In this section, we attempt to quantify the influence of policy limits on observed haircuts and actual payouts. We limit our analysis to single-payer cases; the only cases for which we have full information about policy limits. We exclude one case with missing data on policy limits. Table 12 compares mean and median adjusted verdicts and policy limits for the remaining sample of 214 cases.

Table 12: Adjusted Verdicts and Policy Limits in Single-Payer Cases (1988$)

<table>
<thead>
<tr>
<th>Defendants</th>
<th>No. of Cases</th>
<th>Adjusted Verdict</th>
<th>Policy limits</th>
<th>Adjusted Verdict</th>
<th>Policy limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Physician</td>
<td>162</td>
<td>$884</td>
<td>$814</td>
<td>$351</td>
<td>$658</td>
</tr>
<tr>
<td>One Hospital</td>
<td>23</td>
<td>$931</td>
<td>$1,373</td>
<td>$348</td>
<td>$726</td>
</tr>
<tr>
<td>One Nursing Home</td>
<td>18</td>
<td>$507</td>
<td>$1,188</td>
<td>$225</td>
<td>$798</td>
</tr>
<tr>
<td>Other single payer</td>
<td>11</td>
<td>$1,072</td>
<td>$3,341</td>
<td>$154</td>
<td>$776</td>
</tr>
<tr>
<td>All single-payer cases</td>
<td>214</td>
<td>$867</td>
<td>$1,036</td>
<td>$306</td>
<td>$668</td>
</tr>
</tbody>
</table>

Mean and median adjusted verdicts and defendant policy limits for single-payer, plaintiff jury verdict cases in the BRDminus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars, excluding one case with missing data on policy limits. Amounts in thousands of 1988 dollars. [Source: Verdict Analysis, Paper Charts, Table 7C, excludes missing limits case, extseq=16100846]

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59 Tom Baker, Blood Money, New Money, and the Moral Economy of Tort Law in Action, 35 L. & Soc. Rev. 275 (2001); see also Zeiler et al. (2007), supra note 3. This finding is not unique to personal injury cases. In securities class action cases, it is also common for cases to be resolved within policy limits, and quite rare for outside directors to pay out-of-pocket either after trial or to settle lawsuits. See Bernard Black, Brian Cheffins & Michael Klausner, Outside Director Liability, 58 Stan. L. Rev. 1055 (2006).
Median limits exceed median adjusted verdicts for all types of defendants. Mean limits are greater than mean adjusted verdicts for hospitals, nursing homes, and other single payers, but are less than mean adjusted verdicts for physicians. There are many cases in which adjusted verdicts exceed policy limits. Overall, 137 single-payer cases are below-limits (adjusted verdict ≤ limits), and 77 are above-limits (adjusted verdict > limits). Of the above-limits single-payer cases, 65 involve physicians.

We expect to find larger haircuts for above-limits adjusted verdicts because of difficulties with collectibility. Figure 5 displays the relationship between policy limits and haircuts for the 205 single-payer cases with zero or positive haircuts (excluding one single-payer outlier discussed above). We break the observations into “below-limits” and above-limits cases, and provide separate best-fit lines for each group, from a regression of per case haircut against ln(adjusted verdict/limits), year, and a constant term.

**Figure 5: How Do Policy Limits Affect Haircuts?**

![Figure 5: How Do Policy Limits Affect Haircuts?](image)

Per case haircut versus ln(adjusted verdict/policy limits) for subsamples with adjusted verdict ≤ limits and adjusted verdict > limits, plus best fit lines from regression of haircut versus ln(adjusted verdict/policy limits), year, and constant term, for single-payer plaintiff jury verdicts in the BRD_{min} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars, excluding one outlier case with a large, apparently uncollectible award. The regression lines assume a mean value for year. [Source: Verdict Analysis, Paper Charts, Figure 13-2; excludes outlier extseq=7200012 and missing limits case extseq=16100846]

Figure 5 shows a gradual increase in expected percentage haircut as the adjusted verdict approaches the policy limits, and a much steeper increase once the adjusted verdict exceeds the
policy limits. The estimated slope in above-limits cases is more than 6 times the slope in below-limits cases. Plaintiffs simply have a hard time collecting amounts that exceed policy limits.\(^{60}\)

Figure 6 provides a different perspective on the collectibility of adjusted verdicts in above-limits cases, focusing on payouts instead of haircuts. We provide separate histograms showing the fractions of below-limits and above-limits single payer cases with different ranges of payout/limits. As Figure 6 reflects, 31\% (24/77) of above-limits single payer cases had payouts between 95-105\% of policy limits. Conversely (and unsurprisingly), payouts in below-limits single payer cases are virtually always resolved with payouts well below the policy limits.

**Figure 6: How do Limits Affect Payouts?**

\(^{60}\) The slope coefficients and t-statistics in Figure 5 should be interpreted with caution because haircut is a percentage variable, bounded at 0 and 100), with numerous observations at 0. Simple logistic \(\ln(y/(1-y))\) and other standard transformations cannot address a bounded variable which stacks up at 0. If more precise estimates of slope or significance were important, one would need to develop a more sophisticated model of haircuts, which would explicitly account for the large number of zero-haircut and small-haircut cases.

\(^{61}\) The ratio would exceed one only in the unlikely (and, in our sample, non-existent) case where a plaintiff received a verdict bonus that resulted in an above-limits payment.
Percentage of below-limits cases (hollow bars) and below-limits cases (solid bars) within the indicated payout/limit ranges, for single-payer plaintiff jury verdicts in the BRD\textsubscript{minus} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Last solid bar includes all above-limits cases with payout/limit > 205\%. \textbf{[Source: Verdict Analysis, Paper Charts, Figure 14, exclude outlier extseq=7200012 and missing limits case extseq=16100846]}

Thus, a majority of above-limits cases (41/77, or 53\%) settle at or below policy limits, with the limits effectively capping recovery. However, the remaining 47\% (36/77) settle above-limits. We discuss below who makes these above-limits payments.

Table 13 presents a regression analysis of the relationship between policy limits and haircuts and payouts in single-payer cases. We separately analyze below-limits and above-limits cases. Regressions (1-2) are below-limits regressions measuring payouts in dollars and \text{ln}(dollars), respectively. The 0.694 coefficient on adjusted verdict in regression (1) implies that an extra dollar in adjusted verdict is associated with an additional 69.4 cents in payout.\textsuperscript{62} In Regression (2), a 1\% increase in the adjusted verdict is associated with a 0.85\% increase in the payout.

In Regressions (3-5), we turn to above-limits cases. Regression (3) indicates that plaintiffs in above-limits cases collect 91 cents on the dollar for a marginal adjusted verdict dollar within policy limits, but only 16 cents on the dollar for a marginal adjusted verdict dollar above limits. Regression (4) tells a similar story. Regression (5) drops adjusted verdict as an independent variable in order to ask: If all one knows is that a payout of at least $25,000

\textsuperscript{62} The variable min(adjusted verdict, limits) reduces to “adjusted verdict” in this regression because only below-limits cases are included.
occurred, the year it occurred, and the verdict was above limits, how much of the payout can one explain? Quite a lot, is the answer. About 79% of the variation in ln(payouts) in above-limits cases is explained by ln(policy limits) (i.e., adjusted $R^2 = 0.794$). Adding ln(adjusted verdict - limits) as an additional independent variable, in regression (3), only increases adjusted $R^2$ to 0.86.

Regression (6) includes all single-payer cases, and indicates that a marginal adjusted verdict dollar within limits is associated, on average, with 82 cents in additional payment, but a marginal adjusted verdict dollar above-limits is associated with only 18 cents in additional payment. We caution that these are “averages.” In many below-limits cases, plaintiffs recover most or all of the adjusted verdict, while in a minority of cases, they suffer a significant haircut. In many above-limits cases, plaintiffs recover nothing above limits, while in a minority of cases, they recover a significant amount.

### Table 13 Impact of Policy Limits on Haircuts and Payouts

<table>
<thead>
<tr>
<th>dependent variable</th>
<th>payout</th>
<th>ln(payout)</th>
<th>payout</th>
<th>ln(payout)</th>
<th>payout</th>
<th>payout</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
<td>(5)</td>
<td>(6)</td>
</tr>
<tr>
<td>Sample</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>below limits</td>
<td>-5.14</td>
<td>-0.014</td>
<td>-8.925</td>
<td>-0.002</td>
<td>-15.771</td>
<td>-4.526</td>
</tr>
<tr>
<td>above limits</td>
<td>(-2.16)**</td>
<td>(-2.15)**</td>
<td>(-0.94)</td>
<td>(-0.12)</td>
<td>(-1.19)</td>
<td>(-1.28)</td>
</tr>
<tr>
<td>min(adjusted verdict, limit)</td>
<td>0.694</td>
<td>(10.49)***</td>
<td>0.857</td>
<td>(19.37)***</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln(adjusted verdict)</td>
<td>0.917</td>
<td>0.945</td>
<td>0.917</td>
<td>0.945</td>
<td>(36.65)***</td>
<td>(21.56)***</td>
</tr>
<tr>
<td>Policy limits</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ln(policy limits)</td>
<td>0.837</td>
<td>(11.39)***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>max(0, adjusted verdict - limit)</td>
<td>0.16</td>
<td>0.184</td>
<td>0.16</td>
<td>0.184</td>
<td>(2.72)***</td>
<td>(3.49)***</td>
</tr>
<tr>
<td>Ln(adjusted verdict - limits)</td>
<td>0.141</td>
<td>(3.643)***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>65.98</td>
<td>1.66</td>
<td>81.79</td>
<td>0.43</td>
<td>309.52</td>
<td>41.16</td>
</tr>
<tr>
<td></td>
<td>(2.59)</td>
<td>(3.02)</td>
<td>(0.90)</td>
<td>(0.50)</td>
<td>(0.90)</td>
<td>(1.47)</td>
</tr>
<tr>
<td>Number of cases</td>
<td>137</td>
<td>137</td>
<td>76</td>
<td>76</td>
<td>76</td>
<td>213</td>
</tr>
<tr>
<td>adjusted $R^2$</td>
<td>0.921</td>
<td>0.842</td>
<td>0.858</td>
<td>0.772</td>
<td>0.794</td>
<td>0.874</td>
</tr>
</tbody>
</table>

Regressions of haircut, payout, or ln(payout) versus indicated independent variables, for single-payer, plaintiff jury verdicts in the BRD\textsubscript{min} dataset of nonduplicate medical malpractice claims with payout over $25,000 in 1988 dollars), excluding one outlier case with a large, apparently uncollectible award. Amounts are in thousands of 1988 dollars. $t$-statistics, based on robust standard errors, are in parentheses. *, **, *** indicates significance at the 10%, 5%, and 1% level, respectively (suppressed for constant term). **Boldface** indicates significance at the 5% level or better. [Source: Resolution Stage, Policy Limits, (1) reg.17, overall Regression 1B (single payer) , (2) reg. 23, overall Regression 1C (single payer) (3) reg. 19, overall Regression 1B (single payer): (4) reg. 25 overall

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\[63\] In robustness checks using robust regression, in regression (1), the coefficient on min (adjusted verdict, limit) increased to 0.936 ($t = 116.89$), consistent with robust regression downweighting below-limits cases with significant haircuts. In regression (3), the coefficient on max (0, adjusted verdict-limit) declined to 0.01 (insignificant), consistent with robust regression downweighting cases in which plaintiffs recover above limits.
Figures 5 and 6 and Table 13 make it apparent that policy limits have a powerful effect on payouts in above-limits cases. We attempt next to estimate the extent to which policy limits explain the aggregate dollar haircut in single-payer cases. We construct two estimates, a “caps-first” and a “limits-first” estimate, as follows. Nine single-payer cases are affected by the death cap, the punitives cap, or remittitur. To construct the caps first estimate, we assume that the difference between adjusted verdict and adjusted allowed verdict in these 9 cases is explained first by remittitur and second by a damages cap. We then estimate how much of the remaining haircut can be explained by policy limits. For cases with payout ≤ limits, we assume that the difference between adjusted allowed verdict and limits is explained by the policy limits. For cases with payout > policy limits, we assume that the difference between adjusted allowed verdict and payout is explained by policy limits. Thus, for example, if adjusted allowed verdict = $2 million, limits = $1 million, and payout = $800,000, we treat the haircut from $2 million to $1 million as explained by policy limits, and the haircut below $1 million as having other causes. If payout were instead $1.2 million, we would treat the haircut from $2 million to $1.2 million as explained by policy limits.

This “caps-first” estimate is likely to be conservative because: (i) it ignores any effect of negotiation against the background of policy limits in explaining below-limits haircuts; (ii) in some cases, available limits may be less than reported limits because the reported limits were eroded by prior payout or the policy includes a "defense-within-limit" provision in which the policy limits cover both payout and defense costs; and (iii) it ascribes haircuts in cases affected by caps or remittitur to the cap or remittitur, when policy limits might have been a separately binding constraint. Thus, for example, if adjusted verdict = $5 million, adjusted allowed verdict = $2 million, limits = $1 million, and payout = $800,000, the caps-first approach treats the haircut from $5 million to $2 million as explained by a damages cap even though the plaintiff might have collected no more than the policy limits in any case.

To allow for the possibility that limits are a separate constraint on payout in cases also affected by caps or remittitur, we also construct a “limits-first” estimate. In this approach, we assume, for the 6 cases affected by remittitur or caps which have adjusted allowed verdict > limits but payout ≤ limits, that the difference between adjusted verdict and limits is explained by the limits rather than the remittitur or cap. The “limits-first” estimate is the same as the “caps-first” estimate for the remaining 208 cases. Table 14 presents the results of this analysis.

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64 For two single-payer cases with both remittitur and a binding death cap, we assume in calculating the adjusted allowed verdict that the remittitur applies first and the death cap second.
Table 14 Factors Explaining Haircuts: Caps-First and Limits-First

<table>
<thead>
<tr>
<th>Aggregate Dollar Haircuts in Single Payer Cases (n=214)</th>
<th>“Caps-first”</th>
<th>“Limits-first”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Policy Limits</td>
<td>$70.7M</td>
<td>$84.7M</td>
</tr>
<tr>
<td>Death Caps</td>
<td>$9.4M</td>
<td>$1.2M</td>
</tr>
<tr>
<td>Punitive Caps</td>
<td>$1.6M</td>
<td>$0.08M</td>
</tr>
<tr>
<td>Judicial Oversight</td>
<td>$3.8M</td>
<td>$0.2M</td>
</tr>
<tr>
<td>Other Factors Above Limits</td>
<td>$3.4M</td>
<td>$2.7M</td>
</tr>
<tr>
<td>Other Factors Below Limits</td>
<td>$8.3M</td>
<td>$8.3M</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$97.2M</strong></td>
<td><strong>$97.2M</strong></td>
</tr>
</tbody>
</table>

Dollar amount and proportion of aggregate dollar haircut explainable by the indicated factors, using the "caps-first" approach discussed in text (which ascribes haircuts to judicial oversight, caps, policy limits, and other factors, in that order) and the limits-first approach (which ascribes haircuts to policy limits, judicial oversight, caps, and other factors, in that order), for single-payer, plaintiff jury verdicts in the BRD\_minus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Dollar amounts are in millions of 1988 dollars. [Source: Verdict Analysis, Policy Limits 2, Table 2C.]

As Table 14 indicates, our caps-first estimate is that policy limits can explain approximately $71 million (73%) of the aggregate dollar haircut of $97 million in single-payer cases. Caps and judicial oversight explain an additional $15 million (15%) of this aggregate haircut; the remainder has other causes. Our limits-first estimate indicates that policy limits explain approximately $85 million (87%) of the aggregate dollar haircut million in single-payer cases, while caps and judicial oversight now explain only $1.5 million (1.5%) of the aggregate haircut in these cases.

Even under the caps-first approach, policy limits play a dominant role in explaining dollar haircuts, while statutory caps explain a moderate fraction, and the direct impact of judicial oversight explains a small fraction of the aggregate dollar haircut. In the limits-first approach, statutory cap and judicial oversight fade into insignificance, because they apply mostly in cases where the adjusted verdicts exceed policy limits and the plaintiff collected less than the policy limits.

This analysis is limited to single-payer cases, for which we can determine policy limits. Multi-payer cases account for 30% of the cases in our sample but 61% of adjusted verdicts ($296 million of $482 million) and 64% of haircuts ($174 million of $271 million). Multi-payer cases are more likely to be affected by remittitur or caps, which affect 33/91 (36%) of multi-payer cases, compared to only 9/215 (4%) of the single-payer cases. The single-payer results accordingly underestimate the portion of the aggregate dollar haircut that would be explained by caps in multi-payer cases, especially under the caps-first approach.

F. Other Settlement Factors Affecting Haircuts

We have explored the effect on haircuts of the factors we can quantify -- caps, the direct effect of judicial oversight, and policy limits. As Table 14 indicates, a significant portion of the aggregate dollar haircut in single payer cases remains unexplained, with most of this amount coming from below-limits cases. These haircuts could have a variety of explanations. Some

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65 The amounts and percentages due to caps and remittitur are different from those discussed above, because we earlier considered the full sample, and are here considering only single-payer cases.
plaintiffs may be willing to accept a haircut in order to receive faster payment or avoid the cost and risk of an appeal. For example, the plaintiff might waive pre-judgment interest, post-judgment interest, or both, presumably because the extra effort and delay needed to collect interest is judged not to be worthwhile.

Some below-limits haircuts could be explained by high-low agreements. As we discuss below, it appears that a fair number of the defense verdict cases in our sample result from high-low agreements, where the defense pays the "low." It is also likely that some positive haircut cases involve high-low agreements where the verdict exceeds the “high.”

Defendants may sometimes bargain for a modestly below-limits payment in cases where limits are an effective cap, by threatening to appeal, or otherwise holding out. The plaintiff may prefer a below-limits payment today to an at-limits payment sometime in the future. Such a negotiation dynamic could help to explain the pattern we observe in Figure 5, where haircuts in below-limits cases increase as the adjusted verdict approaches the policy limits. We do not have sufficient data to allocate haircut dollars among these various explanations.

G. Insurer Payments Above-Limits and Defendant Out-of-Pocket Payments

Table 15 quantifies the incidence and magnitude of insurer payments above-limits and defendant out-of-pocket payments in single-payer cases (excluding deductibles). Panel A reports summary statistics on number of cases; Panel B reports on dollars paid. As Panel A reflects, there were insurer payments above-limits, defendant out-of-pocket payments, or both in 35 single payer cases, of which 34 were above-limits cases, and 29 were physician only cases. All defendants (physicians) paid out-of-pocket in a total of 7 (5) single payer cases, as well as 5 (4) additional out-of-pocket payments by all defendants (physicians) in multi-payer cases.

Table 15. Insurer Above-Limits, and Defendant Out-of-Pocket Payments

Panel A: Number of Single-Payer Cases

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Adjusted Verdict</th>
<th>No. of Cases</th>
<th>Insurer Pays Above Limits</th>
<th>Defendant Pays Out-of-Pocket</th>
<th>Insurer Pays Above Limits and Defendant Pays Out of Pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td>Above Limits</td>
<td>77</td>
<td>43</td>
<td>28</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Below Limits</td>
<td>137</td>
<td>136</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Physician Only</td>
<td>Above Limits</td>
<td>65</td>
<td>37</td>
<td>24</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Below Limits</td>
<td>97</td>
<td>96</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

66 In three cases, defendants made small payments due to policy deductibles, totaling $79,000.

67 The one below-limits case with an out-of-pocket payment involved a punitive damage award against a physician, which the insurer did not cover. The insurer paid the compensatory damages plus pre-judgment interest on these damages.

68 In two additional cases, physicians with excess insurance policies made out-of-pocket payments totaling $74,000. Two other cases involving a physician and hospital led to two physician and one hospital out-of-pocket payment totaling $776,000.
Panel B: Dollars Paid in Single-Payer Cases

<table>
<thead>
<tr>
<th>Case Type</th>
<th>Insurer Pays Over-Limits</th>
<th>Defendant Pays Out-of-Pocket</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of cases</td>
<td>Amount</td>
</tr>
<tr>
<td>All</td>
<td>Total</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td>Mean (median)</td>
<td></td>
</tr>
<tr>
<td>Physician Only</td>
<td>Total</td>
<td>25</td>
</tr>
<tr>
<td></td>
<td>Mean (median)</td>
<td></td>
</tr>
</tbody>
</table>

Insurer above-limits payments and defendant out-of-pocket payments (excluding payment of deductibles), for single-payer, plaintiff jury verdicts in the BRD_{min} dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Amounts in thousands of 1988 dollars. [Source: Verdict Analysis, Paper Charts, Table 15A and 15B]

As Panel B of Table 15 shows, insurer payments above limits payments in all (physician only) single-payer cases totaled $11.7 ($7) million, while all defendant (physician) out-of-pocket payments in 7 (5) cases totaled $1.6 million ($467,000). Thus, insurers are responsible for 88% (96%) of the sum of above-limits and out-of-pocket payments in all single-payer (physician-only single payer) cases.

Figure 7 shows how much of the above-limits portion of the adjusted verdict in the 77 (65) above-limits single-payer (physician single payer) cases was ultimately paid and who paid it. Of the above-limits amounts, 87% (91%) go unpaid; 12% (9%) are paid by insurers, and only about 1% (a fraction of 1%) are paid by all defendants (physicians) out-of-pocket. Even above-limits, insurers are the primary payers.
Figure 7. Sources of Above-Limits Payouts

Sources of payouts for portion of adjusted verdict that is above-limits, for all above-limits, single-payer (physician single-payer), plaintiff jury verdicts in the BRD$_{minus}$ dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Amounts in millions of 1988 dollars. [Source: Verdict Analysis, Paper Charts, Figure 16AB; exclude missing limits case, extseq=16100846]

H. Time Trends in Haircuts

Table 16 provides a regression analysis assessing a possible time trend in haircuts, using per-case haircut as the dependent variable.$^{69}$

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$^{69}$ The Cuzick nonparametric test for trend produces results similar to regression (1) ($z = 3.64$).
Regressions of percentage haircuts for plaintiff jury verdict cases with payout ≤ adjusted verdict (within ±2%), for the BRD-minus dataset of nonduplicate medical malpractice claims closed from 1988-2003 with payout > $25,000 in 1988 dollars. Haircut = max {0, (1 - payout/adjusted verdict).  Regression (1) excludes two outlier multidefendant cases with large, apparently uncollectible punitive damage awards. Regressions (3-4) are limited to single-payer cases and exclude one additional single-payer outlier. Regression (5) excludes one case with missing policy limit (extseq=16100846). Amounts in thousands of 1988 dollars. $t$-statistics, based on robust standard errors, are in parentheses. *, **, *** indicates significance at the 10%, 5%, 1% level respectively (suppressed for constant term). Significant results at 5% level or better are in boldface. Source: Resolution Stage, Payouts and Discounts, Regression Table 4B5, (1) reg. 2.1A, (2) reg. 2.4, (3) reg. reg. 3.7, (4) reg. 2.7, (5) reg. 2.7a, multipayer outliers are extseq=16300606 and 32300902; single payer outlier =7200012

Regression (1) provides evidence that the per-case haircut significantly increased over the time period of our study. As we report in Table 3, there is a possible moderate, albeit statistically insignificant, trend toward moderately higher adjusted verdicts, which are associated with higher haircuts. Regression (2) therefore controls for ln(adjusted verdict); the coefficient on year drops but the trend toward larger haircuts over time remains significant. This trend is present in both single-payer and multi-payer cases (regressions (3-4).

One possible reason for increasing haircuts could be a time trend toward lower policy limits in defendants' insurance coverage purchased. Such a trend exists for physicians for the full dataset of all closed claims (both tried and settled). In regression (5), we therefore add ln(policy limits) as a control variable. The coefficient on year declines slightly to about 0.5% per year and loses significance.

The regressions in Table 16 also show, in a different way than presented above, that larger verdicts produce larger haircuts, and larger policy limits produce smaller haircuts.

### I. Verdict Bonuses

Payment exceeded 102% of the adjusted verdict in 16 of the 306 plaintiff verdict cases (5%). The verdicts in bonus cases are usually relatively small and the bonuses are usually modest, relative to the adjusted verdict. The mean (median) adjusted verdict in the 16 bonus

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70 See Zeiler et al. (2007), supra note 3.
cases was $290,000 ($182,000) compared to an overall sample mean (median) of $1,576,000 ($433,000). The mean (median) bonus was $70,000 ($27,000).

There are also 35 cases in our dataset with jury verdicts for the defense, plus 8 cases in which the judge directed a defense verdict, with a mean (median) payout of $206,000 ($137,000). Many of the settlements occur very rapidly after defense verdicts, sometimes on the same day as the verdict. Overall, about half (22/43) of payouts after defense verdicts occur within 30 days of the verdict, compared to 29% (90/306) of payouts after plaintiff verdicts [(t-test for difference in proportions = 2.89**)]. Many of these settlements appear to reflect high-low agreements, but we cannot be sure, because TDI does not ask insurers whether a settlement resulted from a high-low agreement.

Other verdict bonus cases after defense verdicts, especially those where the plaintiff appeals and the case is settled some years after trial, likely reflect settlement in the shadow of a risk of appellate reversal. Some, especially those with smaller payouts, could reflect a defense conclusion that it will be cheaper to settle than to defend the appeal. Payment did not exceed policy limits in any of the verdict bonus cases.71

VI. Discussion

Plaintiffs who win medical malpractice trials in our sample routinely receive less than the adjusted verdict. Haircuts are common in cases involving all types of defendants. The size of the haircut increases with the size of the adjusted verdict and increases sharply when the adjusted verdict is above policy limits.

A. The Sources of Post-Verdict Haircuts

Legal scholars have emphasized the importance of judicial oversight in controlling jury decision-making. We find, in contrast, that direct judicial oversight (remittitur, jnov, and appellate reversal) is far less important than is widely believed. Other factors, especially policy limits, have a far greater direct impact on payouts than judicial oversight. To be sure, the threat of appellate reversal could account for some of the observed haircuts, and we could lose some jnov and appellate reversal cases from our dataset entirely if they lead to a payout of under $25,000.

The same is true, though less dramatically, for the statutory damages caps Texas had in place during this period (punitives cap and death cap). We do not directly study other caps, such as the cap on non-economic damages that Texas adopted in the fall of 2003, too recently for cases affected by this cap to be included in our dataset. Still, caps of any sort should reduce recoveries only to the extent that the above-cap amounts were otherwise likely to be collected. Our results suggest that limits on collectibility -- of which policy limits and limited plaintiff ability to collect above limits are the most important -- significantly mute the real-world impact of statutory caps.

B. The Central Role of Policy Limits

It is clear that policy limits effectively cap recovery in many cases, but less clear why. One study indicates that plaintiffs’ attorneys have a strong norm of not pursuing personal assets,

71 Of the 20 bonus cases with policy limits ≥ adjusted verdict and payout > adjusted verdict, in only one case was the payout at or near the policy limits. In this case, the payout was 100% of the policy limits. The next highest proportion of limits paid was 77%.
but it is unclear where this norm came from, or why it is durable.\textsuperscript{72} Press reports suggest that many physicians employ asset-protection strategies, which could both encourage physicians to purchase policies with low limits and also discourage plaintiffs from seeking to collect above limits.

Whatever the reason(s), plaintiffs lawyers consider collecting from physicians to be sufficiently hard so that most do not try. We interviewed a number of medical malpractice plaintiff and defense lawyers in Texas. All of the plaintiffs' lawyers agreed that they would not pursue a case against a physician if the policy limits were insufficient to justify bringing the claim. Absent unusual circumstances, they treated policy limits as a hard cap on recovery. The prospect of an out-of-pocket payment was remote enough so that none routinely even investigated defendant physicians' wealth.

Policy limits thus serve as a form of defendant self-help -- a kind of home-made cap, which is usually (though not always) effective in limiting recovery. The availability of home-made caps, often with relatively low limits, makes statutory caps much less important in explaining payouts.

Of course, there are also haircuts in below-limits cases. Below-limits haircuts are responsible for a sizeable amount of haircut dollars, and reflect the impact of factors other than policy limits on the settlement dynamics.

Policy limits may also provide a focal point for negotiating a high-low agreement. Since policy limits often cap recovery, they provide an obvious upper bound for the “high” in a high-low agreement. Plaintiffs might well agree on a “high” somewhat below policy limits in exchange for an assured “low,” however the case comes out.

C. Above Limits and Out-of-Pocket Payments

Physicians are reported to be greatly concerned about the risk of personal exposure and bankruptcy if they suffer an adverse jury verdict that exceeds their policy limits. Media coverage often focuses on physicians who quit or limit their practice due to fear of liability. If physicians were highly concerned about these risks, we would expect them to buy policies with limits that are a significant multiple of likely damages. In fact, as Table 12 indicates, the ratio of mean (median) policy limits to mean (median) adjusted verdict for physicians in single-payer cases in our dataset was only 0.9 (1.9). About one-sixth (28/162) of physicians who faced adverse jury verdicts had policy limits of $200,000 nominal ($117,000 in 1988 dollars) or less -- well below the mean and median adjusted verdict.

If we look beyond tried cases to all physician-only cases in the BRD dataset, the proportion of physicians with nominal limits of $200,000 or less rises to 32%\textsuperscript{73}. Apparently, physicians with low-limit policies face less risk of a trial, perhaps because plaintiffs aren't willing to invest the resources needed to bring a case to trial.

Physicians who buy low-limits policies are gambling that even if they are hit with an above-limits verdict, they will not suffer material financial hardship. The risk of an out-of-pocket payout following an above-limits verdict results from the compound probability of: (i) a

\textsuperscript{72} Baker (2001), supra note 59.

\textsuperscript{73} See Zeiler et al. (2007), supra note 3.
A malpractice case is filed; (ii) the case goes to trial; (iii) the jury finds for the plaintiff; (iv) the verdict is above-limits; and (v) the physician thereafter makes an out-of-pocket payment. There were only nine instances in 16 years in which physicians made any out-of-pocket payment after a jury verdict. Even if the first four factors are present, physicians still face limited risk -- they paid out-of-pocket in only 6% (4/65) of the above-limits single payer physician-only cases, with a mean (median) payment of $83,000 ($85,000). The risk of an out-of-pocket payment without a trial is also quite small. Thus, the low-limits gamble may well be rational.

When payments are made above-limits, the principal payers are insurers, not defendants. This finding, which also applies to settled cases, deserves further study -- how do legal rules and pre-trial negotiation dynamics contribute to this practice? Why do insurers sometimes pay above limits, and how much? One possible explanation is settlement in the shadow of the defendant's "Stowers" claim against an insurer who negligently refuses to settle a claim within policy limits. Some above-limits payments by insurers may represent insurers “buying off” their Stowers exposure in cases they take to trial after refusing a within-limits settlement offer. Plaintiffs' counsel advised us that they often make an at-limits Stowers offer before trial, precisely to set up this dynamic. However, unless Stowers or another reason for insurers to pay above limits applies, most of the above-limits portion of an adjusted verdict is money that will never be paid.

The frequency with which physicians buy low-limits policies, and the de facto effectiveness of these home-made caps, suggest that regulation of policy limits should perhaps become a subject of discussion. In other areas where defendants have limited personal wealth, including auto accidents and home construction, states often mandate minimum insurance levels. Similarly, if physicians want the benefit of caps on non-economic damages, perhaps an appropriate tradeoff would be to require them to carry enough insurance so that plaintiffs can, to high probability recover their economic losses. Alternatively, physicians could be required to disclose to their patients how much medical malpractice insurance they are carrying. Currently, a number of states regulate how much medical malpractice insurance a physician must purchase.

D. Bargaining in the Shadow of the Expected Payout

Like other civil claims, most medical malpractice claims are resolved without a trial. It is commonly believed that parties “bargain in the shadow of the law,” with both sides negotiating in light of the expected trial outcome. The conventional wisdom -- and a standard assumption in the literature modeling tort outcomes -- is that the present value of a settlement should reflect the present value of the expected outcome at trial. Tort reformers accordingly assert that extremely large verdicts, even if infrequent, increase the “bargaining floor” for future claims.

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74 See Zeiler et al. (2007), supra note 3.
75 See G.A. Stowers Furniture Co. v. Amer. Indem. Co., 15 S.W.2d 544, 547 (Tx. 1929).
76 Most above-limits payments in settled cases are also made by insurers. See Zeiler et al. (2007), supra note 3. The reasons for insurers to pay above-limits in these cases are unclear. Some payments could involve Stowers risk as well, if the insurer had rejected an earlier within-limits settlement offer.
We find, however, that the visible signals of case value (i.e., jury verdicts) routinely exceed the amounts ultimately paid to resolve cases. Insurers and plaintiffs’ lawyers are repeat players and surely understand this dynamic. They should base pre-trial settlements on expected post-trial payouts, rather than expected verdicts. Blockbuster verdicts should affect settlements only to the extent that these verdicts are collectible -- which they often are not, at least for our dataset. Some institutional defendants may fear an outlier award because it is potentially collectible against them. But the remote risk of a "blockbuster" verdict should not significantly affect the behavior of physicians or their insurers.

Our findings on settlement payouts and trial rates are consistent with the view that expected payouts, not expected verdicts, drive settlements. If plaintiffs were hypothetically to demand higher settlements in response to a large verdict or two, defendants could either agree (leading to higher average settlements), or refuse (leading to more trials). We found no evidence of either effect in our data. Over the sixteen year period we studied, there were no time trends in mean and median payment per claim or trial rates, even though there were several very large verdicts and substantial variation in mean per-year verdict.

E. Statutory Caps

There has been great controversy over awards of non-economic damages in medical malpractice cases, and many states have adopted caps on non-economic damages. Texas adopted a cap of $250,000 (not adjusted for inflation) on non-economic damages in 2003, near the end of our sample period. Similar caps have been proposed at the federal level. There has also been controversy over large punitive damage awards in tort cases, including medical malpractice cases. As noted above, Texas capped these damages throughout the period we study.

We take no position in this paper on the merits of such caps, but note that caps of any sort will reduce recoveries only to the extent that the above-cap amounts were otherwise collectible. The de facto caps created by policy limits will thus mute the real-world impact of statutory caps. For our dataset, statutory caps can explain a moderate fraction of the observed aggregate dollar haircut using a caps-first approach, but a much-smaller fraction using a limits-first approach. The effectiveness of policy limits in capping recoveries could help to explain the mixed findings.


79 See, e.g., Ted Frank, http://www.pointoflaw.com/columns/archives/001060.php (“First, the ratchet of increasing jury verdicts creates settlement leverage for malpractice plaintiffs by increasing the range of plausible results. There’s a lottery-ticket effect: even a small chance of winning tens of millions of dollars has significant value.”) See also Department of Health & Human Services, Addressing the New Health Care Crisis: Reforming the Medical Liability System to Improve the Quality of Care, March 3, 2003, available at http://aspe.hhs.gov/daltcp/reports/mediab.htm (“Even though few cases end with mega jury awards, they encourage lawyers in the hope that they can win this litigation lottery, and they influence every settlement that is entered into.”).


81 Tex. Civ. Prac. & Rem. Code § 74.301 (200x) (effective Sept. 1, 2003). Because there is a significant time lag from filing to jury verdict, this cap does not affect our sample.
in several recent studies on the effect of caps on overall malpractice payouts and malpractice insurance premiums.\textsuperscript{82}

Moreover, at least in Texas, physician policy limits in all cases with large paid claims remained roughly flat in nominal terms, and thus declined in real terms, for policy years from 1988-1999. This implies that policy limits became an increasingly strict constraint on recoveries as our sample period progressed. Indeed, as homemade caps become stricter, statutory caps become less important. Consider, for example, the Texas death cap. In 1988, 43\% of physicians who made payouts had policies of more than $1,000,000, while the inflation-adjusted death cap was $975,000. Above-limits payouts aside, the death cap had bite only for these physicians. By 1999, the real death cap was the same, but the percentage of physicians with policies of more than $1,000,000 (in 1988 dollars) had declined to 15\%.

\textbf{G. Future Research}

Our findings have implications for a number of issues, including the practical effect of statutory caps on non-economic damages given the separate constraint of policy limits, how plaintiffs select cases for trial, and how lawyers advertise case outcomes. We are addressing these and other issues in future articles.

\textbf{H. Representativeness}

We have information on only one state, and study only medical malpractice cases. Although hospitals are involved in a substantial number of malpractice claims, some are self-insured, while our dataset is limited to insured claims. Moreover, outcomes in cases against insured hospitals could differ from those in cases against self-insured hospitals. These limitations raise obvious questions about the representativeness of our findings. Although our findings are broadly consistent with those in the literature, further research will be necessary to determine whether our findings are representative of other areas of civil litigation, other types of defendants, and other states.

\textbf{VI. Conclusion}

This article relies on a database of insured, Texas medical malpractice claims, closed from 1988-2003. It provides the most comprehensive longitudinal study of the relationship between jury verdicts and post-verdict payouts in medical malpractice cases (or indeed, any form of tort litigation), and the factors that affect actual payouts. Texas is a useful setting for assessing jury verdicts and post-verdict payouts. It is the second largest state by population, is often thought to be a pro-plaintiff state, and enacted only modest tort reforms during the period we study. Texas was also declared to be in a “malpractice crisis” by the American Medical Association in 2002, and four counties in Texas were designated “judicial hellholes” by the American Tort Reform Association in the same year.\textsuperscript{83} If there was a short list of states where one might expect to find runaway juries, soaring verdicts, and physician out-of-pocket payments, Texas would be on it.


We find instead stable, perhaps gradually increasing verdict amounts, rare and modest out-of-pocket payments, and a large gap between adjusted verdicts and payouts. The larger the adjusted verdict, the more probable and larger the haircut. Haircuts also appear to be increasing in size over time. Payments above policy limits were uncommon and came primarily from insurers. Out-of-pocket payments by defendants were rare, even in the worst-case outcome of an adverse verdict above policy limits. There were a few enormous verdicts, but these were generally settled for much smaller sums. The substantial gap between verdicts and payouts, especially for the largest verdicts, means that much of the debate over tort reform has been based on a misleading factual foundation.

Only a small fraction of the gap between verdicts and payouts is attributable to the direct effects of judicial oversight (whether from remittitur, jnov or appellate reversal). A moderate fraction is explainable by statutory damages caps, but much of the above-cap amounts would likely not have been collectible in any case. Instead, it appears that a combination of insurance policy limits and the rarity of above-limits payments by defendant-providers explain the bulk of the gap. In addition, other factors that we cannot directly quantify, including risk-aversion, reluctance to collect from personal assets, the parties’ desire to bring the case to a close, and the use of high-low agreements probably explain some of the gap. Even where the adjusted verdict is well within the policy limits, there are haircuts, albeit much smaller than the haircuts that are typical for above-limits cases.

Although tort reform advocates focus on statutory caps, and legal scholars focus on judicial oversight, most of the action in post-verdict payouts lies elsewhere. To paraphrase Willie Sutton, policy and legal analysts have been studying a bank without much money in it, while ignoring the much richer bank next door. At least in single-payer cases, policy limits are where the haircut dollars are. The parties surely bargain in the shadow of the jury, but in most cases, the terms of the bargain are shaped by the shadow of coverage.
Appendix A: Prior Research on Post-Verdict Adjustments and Payouts

This appendix provides additional details on the prior research on post-verdict adjustments and payouts that is summarized in Table 1. Most studies start with a set of verdicts, and obtain partial information on post-verdict adjustments by courts. One study starts with data on payouts and looks for matching data on verdicts. None of the studies takes into account post-judgment interest or policy limits. Only one study adjusts for inflation.

Larger Studies

We consider first the three studies with sample sizes over 100. These studies all rely on commercial verdict reporters to obtain jury verdicts, and on verdict reporters or surveys of lawyers as their source of data on post-verdict adjustments and payouts. Commercial reporters are biased toward including larger verdicts, because they rely on reports by plaintiffs' lawyers for many of their cases and these lawyers tend to report their more important (i.e. successful) cases. Commercial reporters could also be biased in the cases for which they contain data on post-verdict adjustments. Plaintiffs' lawyers may be more likely to report cases where they collect larger awards. Post-verdict adjustments are also more likely to be reported if they occur soon after the verdict. As the descriptions that follow make clear, information on post-verdict adjustments due to remittitur or statutory caps is much more accessible than information on actual payouts.

Vidmar, Gross and Rose (1999) studied jury awards and post-verdict adjustments in medical malpractice cases in New York (1985-1997), Florida (1987-1996) and California (1991-1997). They did not have information on actual payouts. This is the only prior study which adjusts for inflation. The mean (median) per-case haircut was 38% (27%) of the verdict in New York, 8% (7%) in Florida, and 10% (11%) in California. In New York, the larger the verdict, the more likely it was to be trimmed, and the larger the haircut; “some of the largest awards ultimately resulted in settlements between 5 and 10 percent of the original jury award.” The authors treated a verdict reduction due to comparative negligence as a decrease in the jury verdict, but it was not possible to determine how large an impact this had on their findings.

The other two larger studies are somewhat dated. Broder (1986) studied jury awards of $1 million or more that occurred anywhere in the United States during 1984-1985. She surveyed attorneys involved in the cases for information on actual payouts. It is unclear how many of the cases in her sample involved medical malpractice. Medical malpractice verdicts received an aggregate dollar haircut of 31% and a mean per-case haircut of 27%. Across all cases, the aggregate dollar haircut was 57% and the mean per-case haircut was 30%. The study is limited by its focus on large verdicts, and its minimal evaluation of the factors that explain these haircuts.

Shanley and Peterson (1983) studied jury verdicts from Illinois and California from 1982-1984, and surveyed the involved attorneys to obtain information about payouts. They obtained verdicts using a database maintained by the Institute for Civil Justice, which was based on information gathered from JVR. They found that payout was less than the verdict in about 25%
of plaintiff verdict cases, with larger reductions in cases involving larger verdicts. For all cases, they found an aggregate dollar haircut of 29%, with mean per-case haircuts ranging from 7% for verdicts under $100,000 to 43% in cases with verdicts over $10,000,000. The haircut varied depending on the type of case, with medical malpractice cases having slightly higher haircuts (without controlling for size) than their sample as a whole. In the cases that were resolved with a haircut, more than half the time, (62%), the parties settled for less than the verdict; with court-ordered reductions (23%), difficulties collecting the judgment (13%), and unspecified factors (2%) accounting for the balance. In 2% of plaintiff verdict cases, payments exceeded verdicts.

Smaller Studies

The remaining studies have small sample sizes (50 or less), which limits what one can learn from them. The most recent study, by Vidmar et al. (2006), is on Florida medical malpractice cases in which more than $1 million (nominal) was awarded between 1990 and 2003. Vidmar relies on a Florida closed claim database which includes data on payouts but not verdicts. The authors hand-collected 50 matching verdicts by searching court dockets. The authors did not adjust for inflation, or calculate pre- and post-judgment interest. They found that the mean per-claim haircut was 33% of the verdict, with larger verdicts generally receiving larger haircuts. The authors do not study factors other than verdict size that might affect haircuts; their assessment of the effect of size is weakened because their sample is limited to larger verdicts; and they offer no regressions or other statistical tests of their results.

Viscusi (2004) studies cases with “blockbuster” punitive damage awards of at least $100 million from 1985-2003. These cases were identified using various computer databases and media reports. Most of the cases involved jury trials and large corporate defendants. Viscusi was only able to determine post-verdict adjustments and/or actual payouts for 10 of the 64 cases in his dataset; 2 of these were medical malpractice cases – one involving a nursing home, and the other involving a lawsuit against a physician and a drug company. As Viscusi notes, “nondisclosure of the settlement amount appears to be the norm for such settlements. . . .” Limitations of the study include its focus on extremely large punitive damage verdicts, and the small number of cases for which payout information was available.

Merritt & Barry (1999) study a small sample of medical malpractice and products liability cases over a twelve-year period in a single county in Ohio. The authors identified verdicts using verdict summaries prepared for the Columbus Bar Association and three commercial verdict reporters. They analyzed verdicts and post-verdict adjustments based on these sources and limited searches of court files. The authors did not adjust for inflation, or calculate pre- and post-judgment interest. They found that verdicts were reduced in 10 of 35 medical malpractice cases (28%), including four of the five highest awards. In four of the ten cases with haircuts, settlement was after an appeal was filed, but before the appeal was heard. The mean per-case haircut was approximately 25%. They also study nine product liability cases; none had a haircut relative to the verdict. The limitations of this study include its small sample, its focus on a single county, and the potential sample selection bias due to their data sources.

Professor Vidmar has also prepared unpublished reports on medical malpractice cases in Illinois (2005) and Pennsylvania (2002) that contained information on post-verdict adjustments. The Illinois study, covered jury verdicts in Cook and DuPage counties from 2001 reported in JVR, and found an aggregate dollar haircut of 42%. The 2002 report on Pennsylvania studied 22 cases involving jury verdicts of >$5 million. The author was unable to “accurately estimate the
total amounts received by plaintiffs,” but estimated that the mean per-case haircut was 78% for $5-10M verdicts, and 83% for verdicts over $10 million. In Illinois, Vidmar had post-verdict adjustment data for only a fraction of cases (12/45), and the sample in Pennsylvania involved only very large verdicts.
Appendix B: Imputation Rules for Pre- and Post-Judgment Interest

We impute interest for the cases in which it was not reported following the rules set forth below. The Texas rules for computing pre-judgment interest are complex, changed several times, and were recodified several times, over the period we study. Further details, including citations, are available from the authors on request. The post-judgment interest rules, fortunately, are simpler.  

Availability of Pre-judgment Interest. Pre-judgment interest was generally not available for judgments prior to a Texas Supreme Court decision (Cavnar) issued on June 5, 1985. Cavnar changed the longstanding common law rule prohibiting pre-judgment interest. For jury verdicts before June 5, 1985, we assumed that the plaintiffs did not preserve their right to this interest, and set imputed pre-judgment interest = 0.

Pre-judgment interest for specific types of damages. Pre-judgment interest was not available on punitive damages for the entire relevant period. It was available for future damages for judgments from Sept. 2, 1987 (when the Texas legislature first codified the pre-judgment interest rules) through August 1, 2003. We have no data on which portion of damages is future damages, so we assume this portion is zero.

Availability of Post-judgment Interest. Available during the entire relevant period, on the court judgment (including pre-judgment interest) plus court costs. We have no data on court costs, so we assume they are zero.

Date of court judgment: The interest rate rules, when they change, generally change based on the date of the court judgment. Pre-judgment interest is awarded through the date of court judgment; post-judgment interest accrues thereafter. We have data on the date of the jury verdict but not the date of court judgment; we assume the two are the same.

Interest rate: The interest rate on pre-judgment interest was 10% per year for judgments from June 5, 1985 through August 1, 2003. A 2003 legislative change reduced the rate to 5% for judgments after August 1, 2003. The post-judgment interest rate was 10% through August 1, 2003, and 5% thereafter.

Compounding: Pre-judgment interest was compounded daily for judgments from June 5, 1985 through Sept. 2, 1987. After that date, pre-judgment interest was simple. Post-judgment interest was compounded annually during the whole period.

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86 We expect that few readers will read this Appendix, and even fewer will read the footnotes. If you have gotten this far, then for more than any sensible person would want to know about the Texas rules, see John G. Barber & Will T. Montford, 1987 Texas Tort Reform: The Quest for a Fairer and More Predictable Texas Civil Justice System, 25 Houston L. Rev. 59, 102-103 (1988) (article by the legislative authors of the 1987 statutory amendments); Anne Johnson, The 2003 Legislative Amendments to Prejudgment and Postjudgment Interest Law in Texas, 46 S. Tx. L. Rev. 1191 (2005) (article on the 2003 amendments to these rules); Robert H. Pemberton, A Guide to Recent Changes and New Challenges in Texas Prejudgment Interest Law, 30 Tx. Tech L. Rev. 71 (1999) (discussing judicial interpretations of the rules); McDonald & Carlson, Texas Civil Practice § 27.31 ([year]).


88 From Sept 2, 1987 on, the rate is actually a floating rate with a minimum and a maximum, but it was at the 10% minimum for the entire period from Sept. 2, 1987 through Aug. 1, 2003, and at the reduced 5% minimum from Aug. 1, 2003 through Dec. 31, 2003.
Period for which pre-judgment interest is available. Pre-judgment interest is generally computed from 180 days after the earlier of when the suit was filed or 180 days after written notice of the claim was received. We lack information on when plaintiffs provided written notice to defendants, so use the date a lawsuit was filed as the starting date. This could result in understatement of pre-judgment interest in some cases.

Tolling of pre-judgment interest period. For judgments after September 2, 1987, the period for computing pre-judgment interest is tolled (or the amount on which it is available is reduced) by a defense settlement offer, depending on how the offer relates to the subsequent verdict. There is also judicial power to toll the pre-judgment interest period for plaintiff-caused delay. We do not have data on settlement offers or discretionary tolling, so we assume that neither exists. This could result in overstatement of pre-judgment interest in some cases.

Court decisions on contested issues. Some interpretation issues were resolved by court decision. For example, the courts decided only in 2002 that under the 1987 statutory amendments, the death cap applied to the sum of (compensatory damages + pre-judgment interest), rather than to compensatory damages alone.\footnote{Columbia Hosp Corp. of Houston v. Moore, 92 S.W.3d 470, 474 (Tex. 2002).} We assume that these interpretations were in effect for the entire period the statute was effective. The understandings of the parties or the trial judge may differ in some cases.
Appendix C: Glossary of Selected Terms

Above-limits cases: Single-payer cases with adjusted verdict > policy limits.

Adjusted allowed verdict: Adjusted verdict less any reduction due to remittitur, jnov, and statutory caps on damages.

Adjusted verdict: Jury verdict plus pre-judgment interest (as reported or, when not reported, as estimated), plus post-judgment interest (computed based on statutory rate), See Appendix B for the rules we used to estimate pre-judgment interest.

Aggregate dollar haircut: Defined for a set of cases, indexed by i, as:
\[
\text{aggregate dollar haircut} = (\sum_{cases \ i} \text{adjusted verdict}_i - \sum_{cases \ i} \text{payout}_i)
\]

Aggregate fractional haircut: Defined for a set of cases, indexed by i, as:
\[
\text{aggregate fractional haircut} = 1 - \frac{\sum_{cases \ i} \text{payout}_i}{\sum_{cases \ i} \text{adjusted verdict}_i}
\]

Below-limits cases: Single-payer cases with adjusted verdict ≤ policy limits.

Haircut: Defined for all 306 plaintiff jury verdict cases in the BRD minus dataset, as a nonnegative fraction of the adjusted verdict:
\[
\text{haircut} = \max\{0, 1 - \frac{\text{payout}}{\text{adjusted verdict}}\}
\]

Thus, haircut is defined to be nonnegative; it equals 0 for cases with payout > adjusted verdict.

Mean (median) per-case haircut. Defined for a sample of cases as the mean (median) of the haircuts for the individual cases in the sample.

Multi-defendant case: A case in which two or more defendants were sued by the plaintiff.

Multi-payer case A case in which payments were made by two or more defendants, or by both a primary and excess insurance carrier for a single paying defendant.

Post-cap, post-limits haircut: The haircut in single-payer cases that remains after accounting for the effect of death and punitive caps, remittitur, other judicial oversight, and policy limits, defined as:
\[
\text{post-cap, post-limits haircut} = \max\{0, 1 - \frac{\text{payout}}{\min(\text{limits, adjusted allowed verdict})}\}
\]

Primary report: When there are two or more claim reports relating to the same injury, we treat the last report as the primary report, and earlier reports as "duplicate" reports. Except when assessing out-of-pocket payments by defendants, we include only primary reports in our dataset.

Single defendant case: A case in which only one defendant was sued by the plaintiff.
**Single-payer case**  A case in which payment was made by only one insurer, on behalf of only one defendant. We treat a case with payments on behalf of a single defendant by both a primary and excess insurance carrier as a multi-payer case.

**Year:** Coded in regressions as (Year-1988).
References


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