Medical Malpractice Litigation and the Market for Plaintiff-Side Representation: Evidence from Illinois

David A. Hyman
University of Illinois College of Law and College of Medicine

Mohammad Rahmati
Sharif University of Technology Graduate School of Business and Economics

Bernard Black
Northwestern University School of Law

Charles Silver
University of Texas School of Law

January, 2016

This paper can be downloaded without charge from the
Social Science Research Network electronic library at:
http://ssrn.com/abstract=2465098

Medical Malpractice Litigation and the Market for Plaintiff-Side Representation: Evidence from Illinois

David A. Hyman, Mohammad Rahmati, Bernard Black & Charles Silver·

Abstract

How often do plaintiffs proceed pro se? How concentrated is the market for medical malpractice ("med mal") legal representation? Do successful plaintiffs' lawyers start off with better cases to begin with, do they add more value to the cases they handle, or some of both? How do top plaintiffs' lawyers market their services, and where did they go to school? How large are the "wages of risk" – i.e., the premium that compensates plaintiffs' lawyers for working on contingency? We address these questions using a dataset of every med mal case closed in Illinois during 2000-2010. We show that most plaintiffs have a lawyer. We quantify the market share, case mix, and amount recovered by the 1,317 law firms that handled med mal cases in our sample. We use these results to stratify firms into four discrete tiers. We find that the market for plaintiff-side med mal representation is both un-concentrated and highly stratified. At all firms, a small number of cases account for a heavily disproportionate share of total recoveries.

We use the extensive covariates in our data, coupled with sample trimming and inverse propensity weighting, to (imperfectly) address sample selection, and estimate the effect of having a lawyer, and of law firm tier, on outcomes. Controlling for observable claim characteristics, having a lawyer predicts large differences in both the probability of prevailing and the expected recovery. Lawyers from higher firm tiers have only modestly higher success rates, but substantially higher expected recoveries. However, the differences shrink and are statistically insignificant when we compare top-tier lawyers with the tier just below them. This suggests that there are substantial benefits to having a lawyer – and a lawyer from a higher tier -- but diminishing marginal returns at the top of the market. Assuming that there is some unobserved case selection, our findings provide an upper bound on the "value-added" by different tiers of plaintiffs' lawyers.

I. INTRODUCTION

Most of what we know about plaintiff-side representation in medical malpractice ("med mal") litigation is qualitative and impressionistic. We have no solid answers to even basic questions about market structure. How often do plaintiffs proceed pro se? Do a few firms dominate the market, or is it relatively un-concentrated? How large are the "wages of risk" – i.e., the premium that compensates plaintiffs' lawyers for working on contingency, rather than for an hourly fee? How much value do plaintiffs' lawyers add? To what extent are some plaintiffs' lawyers better than others at "winning" (obtaining a recovery at all), or obtaining a larger recovery in the cases they win? Or do more successful plaintiffs' lawyers (measured by number of wins and mean recoveries) start out with better cases? Where did the most successful plaintiffs' lawyers go to law school – and how do they market their services?

We analyze these issues using data on every Illinois med mal claim closed during 2000-2010. We quantify the market share, mean injury severity, and mean recovery per paid case of the 1,317 "law firms" that worked in this space. We use these results to divide the market for representation into four discrete firm "tiers," and show that the market for plaintiff-side representation is both un-concentrated and highly stratified. At all firms, a small number of cases account for a heavily disproportionate share of total recoveries. Most of the first-tier firms are located in a small area in downtown Chicago, and most top plaintiffs' lawyers went to non-elite city law schools. Top tier lawyers advertise to other lawyers, but not to the public.

Lawyers select their cases, likely on both factors observable in our data, and factors we do not observe. We use the extensive covariates in our dataset to limit – but almost surely not eliminate – the importance of selection in explaining outcomes. To the extent we succeed – and we present evidence below suggesting partial success -- we can make progress on assessing the value added by lawyers, and the differences between lawyers.

Having a lawyer has a large impact on both the likelihood of "winning" (receiving a recovery) and on the expected recovery. Lawyers in the higher tiers handle cases with more severe injuries, and thus should have higher expected recoveries. Conditional on observed covariates (including injury severity) higher tier firms achieve only modestly higher success rates than lower-tier firms, but earn substantially higher recoveries. However, we find evidence of declining marginal returns from skill and expertise at the top of the market. First-tier firms do only a bit (statistically insignificantly) better than second-tier firms.

In terms of the efficiency of the referral market among law firms, we find evidence that cases handled by lower-tier lawyers would be worth more if they were handled by higher-tier lawyers. Our evidence, taken as a whole, suggests that the market does a respectable (but not perfect) job of matching cases with lawyers that can maximize their value. Given the likelihood of remaining selection on unobservables, our estimates can be understood as likely upper bounds for the value added by higher tier lawyers.

Part II outlines our data, reviews the prior literature, and outlines our strategy for creating portfolios of cases for each firm. Part III presents results on the market for plaintiff-side representation. Part IV analyzes the impact of having a lawyer and of firm tier, on case outcomes. Part V analyzes whether our results are robust to alternative specifications of firm tiers. Part VI discusses our findings. Part VII concludes.

2

II.   Our Data and the Existing Literature

A. The Illinois Data

We know of no publicly available dataset that contains sufficient information to study the structure of the market for plaintiff-side representation, either for med mal or for other types of personal injury litigation. We rely on non-public data on paid med mal claims obtained from the Illinois Department of Insurance ("IDOI").[1] Since 1980, licensed insurance companies have been required to provide IDOI with reports on all closed malpractice claims, including those resolved without payment. The reports include information on plaintiff's name, address, age, gender, and date of injury; severity of injury on the 9-point scale developed by the National Association of Insurance Commissioners ("NAIC");[2] defendants' name, address, specialty, educational background, and board certification; plaintiffs' lawyer's name and address; insurer name; and details on claim resolution, including any payout on behalf of the "named insured/defendant" (presumably, the defendant insured by this insurer) and defense costs.

For 2000-2010, IDOI provided all fields reported on each claim by each insurer. For 1980-1999, IDOI was unable to locate the full claim reports, but provided the data file used to create IDOI's 2001 report.[3] Because that data file did not include information on the identity of the plaintiffs' lawyer handling the case, we limited our study to 2000-2010. Overall, we have about 28,000 closed claims, each against a single defendant, with total payout of $3.3 billion (all amounts in this study are in 2010 $). We combine claims by a single plaintiff against two or more defendants into a single "case"; our dataset includes around 18,000 cases.

B. Data Cleaning and Analytical Strategy

Insurers report either the name of an individual plaintiff's attorney or the name of the firm. The non-cleaned version of our data had more than 8,400 attorneys. We began with extensive data cleaning, including standardizing the spelling of the names of attorneys and law firms. We then identified all "Active Firms": firms that, over the eleven years covered by our data, appeared on at least ten claims (paid or unpaid) or appeared on claims with total payments of at least $1 million.[4] Some of these "firms" have only a single attorney, while others have a handful of partners; none are large. We identified 457 Active Firms.[5]

---

[1] Our data use agreement with IDOI requires that we submit all publications to IDOI for review, for the limited purpose of ensuring that we do not reveal the identities of claimants or defendants. We also cannot disclose the data to others. IDOI had no involvement in the topics we studied, our analysis, or our conclusions.

[2] The severity levels are as follows: emotional only (1), temporary insignificant (2), temporary minor (3), temporary major (4), permanent minor (5), permanent significant (6), permanent major (7), permanent grave (8), and death (9). When we refer to temporary injuries, we mean levels 1-4. When we refer to permanent injuries, we mean levels 5-8.

[3]   The   2001   IDOI   report   may   be   downloaded   at http://insurance2.illinois.gov/Reports/Pension/pension_biennial_report_2001.pdf.   The other publicly available reports are accessible at http://insurance2.illinois.gov/Reports/Report_Links.asp

[4] Misspellings and reporting variations (e.g., "last name-first name" versus "first name-last name" and names with middle initials versus names without them) inflated the apparent number of attorneys, prior to data cleaning. For some claims, only an attorney's last name was reported. We used zip codes to map such claims to specific Active Firms – meaning if there was only one lawyer with that last name whose office was in that zip code,

The IDOI is a claim-level database. If one plaintiff sues two or more defendants, this normally results in separate reports for each defendant. In an earlier paper, we explain how we "roll up" claims to "cases" (brought by the same plaintiff against one or more defendants). (Hyman, Rahmati, Black & Silver, 2015a). We conduct a similar roll up of claims to cases in this paper. This lets us allocate some claims for which plaintiff attorney information is missing. For example, if a case includes two claims, and an attorney is named in one of the claims, but no attorney is named on the other claim, we assume that the named attorney handled both claims.

Using Internet searches, we identified all lawyers that were associated with each Active Firm as of mid-July, 2013, and assigned all of the claims handled by the attorneys within each Active Firm to that firm.[6] When multiple Active Firms were listed on a single case, we allocated the case to the largest Active Firm as measured by total recovery in all cases.[7] We sub-divide the 457 Active Firms into three sub-groups: first-tier firms (top 5%); second-tier firms (middle 20%); and third-tier firms (bottom 75%), based on the total amount recovered over our eleven-year sample period. In terms of the amount recovered over this period, first-tier firms recovered $25M or more; second-tier firms recovered between $5M and $25M; and third-tier firms recovered less than $5M. We covert all recoveries and defense costs to 2010 dollars using the *Consumer Price Index for All Urban Consumers* (CPI).

For claims that were not handled by an Active Firm, we did not attempt to assign claims to individual firms, or to combine lawyers into firms. We refer to the lawyers and firms in this remaining group as fourth-tier firms. We estimate that there are 860 fourth-tier firms.[8] The division into four firm tiers results in each tier handling a roughly similar number of cases: 19%, 19%, 22%, and 23% of all cases, respectively; the remaining cases are pro-se (see Table 1).

---

we allocated the claims in question to him. Sometimes, we were unable to map such lawyers to specific firms because there was more than one lawyer with that last name whose office was in that zip code. In this situation we treated the individual lawyer as a discrete firm if the lawyer handled at least ten claims or obtained a total recovery of at least $1 million. If that rule did not resolve the issue, but a lawyer with the specified last name was listed as a "named partner" at an Active Firm in that zip code, we assigned the relevant claims to that firm. If this rule did not resolve the issue, we assigned the claim to the firm that had a lawyer with that last name and the largest total recovery. We used lawyer affiliation as of July, 2013 to allocate lawyers to firms. Thus, if lawyers moved firms or firms merged during our study period, our league tables and statistics reflect their final affiliation.

[5] Because our test for an "Active" Firm is double-barreled (either $\geq$ 10 claims, or > $1M in recovery), we examined how many firms satisfied the $1M threshold but did not have at least ten claims, and found 123 such firms.

[6] More specifically, we used the Internet to identify the names of all lawyers practicing at each of the Active Firms. We then used that information to create firm-tier portfolios, by assigning all claims handled by each of the named attorneys to the Active Firm at which they practiced.

[7] There are 403 claims where the attorney name is missing, but other claims in the same case were handled by an Active Firm; we assign thee claims to the named Active Firm. There are 122 cases in which different Active Firms handled different claims in a single case; we assign the case to the Active Firm with the largest total recovery.

[8] Table 1 indicates that there are 4,301 cases handled by Other Firms. These are actually "claims" against individual defendant; we are unable to roll-up these claims into "cases" (with the same plaintiff, perhaps against multiple defendants) without extraordinary effort, so we treat each claim as an individual case. Since our cut-off for Active Firms is 10 claims, there must be at least 478 lawyers (4,301/9) handling these cases, if each lawyer handles nine cases and each case has only a single defendant. If we assume that the average Other Firm handles five cases (the mid-point of the range 1-9) and each case has only a single defendant, that would be 860 Other Firms (4,301/5). We use this admittedly crude estimate throughout.

A number of Active Firms broke apart during or after our sample period. Among the first-tier firms (see Table 3): Cogan & McNabola split into two firms: Cogan & Power, and McNabola Law Group; Hilfman, Fogel, Martin & Barr split into Hilfman & Head, and Fogel Law Offices; and Pavalon, Gifford, Laatsch & Marino split into Pavalon & Gifford, and Marino & Simonetti. We treat these firms as if they were intact throughout our entire data period, unless we could disentangle the cases handled by each partner during the pre-split period -- in which case we treat each firm separately.

We use all cases closed from 2000-2010, including cases with non-physician defendants. Because we used firm affiliation in 2013 to sort cases, we also evaluated the extent to which attorneys were associated with the same firm in 2000 and 2010, using Martindale-Hubbell. The number of moves was relatively modest. We considered a number of strategies for dealing with this issue, but were unable to identify an approach that did not create more problems than it solved. So, we generally report results based on firm-lawyer configurations as of 2013.[9]

In the field for submitting the name of the plaintiff's attorney, insurers used various terms to indicate that a claimant was unrepresented. The designations included "pro se", "no attorney, "N/A," "no," "none," "null," "UK," and "not applicable". We treated all of these cases as *pro se* matters.

In other work, we find that med mal insurers often open claim files at an early stage – including instances where there is a low risk of actual litigation, let alone liability (Hyman, Rahmati, Black & Silver, 2015a). For example, malpractice insurers routinely open claim files if a lawyer requests a patient's medical records, even if the case goes no further (i.e., no lawsuit is ever filed). Claim files will also be opened in response to a "lawyer letter" or other demand for payment, even if the plaintiffs' lawyer subsequently decides the case is weak and it proceeds no further.

To distinguish cases that were actually litigated from instances in which insurers merely opened files, we define a "serious" case as one in which an insurer either incurred defense costs (fees plus expenses) of at least $5,000 (below, "$5k"), or paid at least $25,000 (below, "$25k") to the plaintiff. At an average billing rate of $200 per hour, $5k is around three days of work by a defense lawyer. It is hard to imagine many lawsuits that are taken seriously by the defense in which costs will be lower than this, unless the defendant's insurer concludes that it is likely to lose, and decides to settle rather than fight ("clear winner cases"). We use a $25k payout threshold to identify clear-winner cases, in which the defendants settled quickly for a "non-nuisance" amount.

C. Literature Review

What do we know about the market for representation in med mal litigation? The conventional wisdom is that med mal claimants require a lawyer if their case is to go anywhere. Trautner (2006-2007) observes that "it is generally accepted as a truism that lawyers are a necessary, but not sufficient, condition for obtaining compensation through the civil justice system. Thus, like other professionals who control people's access to socially valued resources, plaintiffs' lawyers act as 'gate-keepers' to justice.") More recently, Trautner (2011) argued that

---

[9] Details of our analysis of this issue are available from the authors on request. As described above, we developed a different approach for dealing with firms that split up during our data period.

"because people injured by defective products or medical errors almost always need a lawyer in order to obtain compensation in the civil justice system, lawyers' decisions determine who has the opportunity to be compensated for their injuries." Kritzer (1997) similarly argues that screening of med mal cases by plaintiffs' lawyers helps "hold back the floodtide" that would otherwise wash over the courts – an argument that only makes sense if cases that are rejected by plaintiffs' lawyers do not proceed further. Other authors have reached similar conclusions (Daniels & Martin, 2015, 2006-2007).

More indirect evidence is provided by Shepherd (2014) and Garber et al (2009). Both studied the effect of caps on damages and/or on contingency fees, by evaluating their impact on plaintiffs' lawyers' willingness to take such cases. But plaintiffs' lawyers' willingness to take such cases only has policy significance if cases that are rejected do not proceed further, or are worth far less (even net of the cost of the lawyer, were one involved). Similarly, Shepherd refers to those who are unable to obtain representation as the "silent victims" of the liability system. Once again, Plaintiffs that are able to proceed successfully pro se are not "silent victims." Finally, Silver & Hyman (2009) study paid Texas personal injury cases across five lines of coverage, and found that only 2.5% of med mal cases were handled pro se v. 6.9% for all cases (range 2.5% - 7.9%). Across all five lines of coverage, virtually every paid claimant who filed suit had a lawyer.

There is a clear and well-established hierarchy within the plaintiffs' bar. (Harris, Peeples & Metzloff, 2006, 2005; Parikh, 2006-2007; 2001; Trautner, 2006-2007; Daniels & Martin, 2002; Kritzer, 2015; 2004). Cases with greater upside potential are generally handled by "heavy hitters" and specialists who can maximize their value. Cases of lesser value are generally handled by "bread and butter" non-specialist lawyers, and settlement mills.

The market for legal services uses advertising, referrals, and reputation to match lawyers to cases. (Engstrom, 2009, 2011; Daniels & Martin 1999; Kritzer, 2004; Parikh, 2006-2007; Spurr, 1987, 1988, 1990; Van Hoy, 1999). Elite PI plaintiffs' lawyers attend city law schools, and do not advertise. (Parikh, 2006-2007). Lawyers screen cases carefully, and turn away most of those seeking representation. For example, Kritzer (1997) found that plaintiffs' lawyers routinely turn away more than half of those seeking representation, but some plaintiffs' lawyers are far more selective. Trautner (2006-2007), Parikh (2001) and Hyman, Black & Silver (2015) also find strong evidence of screening. Huycke and Huycke (1994) surveyed individuals who contacted plaintiffs' attorneys seeking representation in med mal cases, and found that only 3.3% resulted in the filing of a lawsuit.

We are not aware of any published study mapping a statewide market for plaintiff-side representation. The closest study we are aware of is an unpublished ABF working paper by Daniels, Grossman & Bertrand (1992), analyzing thirteen years of Wisconsin med mal claims. The claims all came from a single insurer which accounted for almost 40% of the Wisconsin coverage market. Like us, they find evidence that the market is highly stratified, and lawyers at the top of the recovery spectrum are responsible for a disproportionate share of total recoveries. They have a total of 2,735 claims, handled by 728 lawyers. Forty-one lawyers handled more than ten claims, and accounted for just over 1,100 claims – meaning that 5.6% of lawyers in their dataset handled fully 40% of all claims. If we drill down further, two lawyers in their dataset accounted for 275 claims – meaning 0.27% of all lawyers in the Wisconsin med mal space handled fully 10% of all claims.

What about the impact of the lawyer on case outcomes? Veritable oceans of ink have been spilled on the subject. Greiner and Pattanayak (2012: 2175-2180) understatedly describe the literature as "substantial," and then present 3 full pages of single spaced citations to previous studies, including studies involving "automobile insurance claims, bankruptcy, disability (SSI/SSDI, FECA, and veterans claim), educational programs for disabled children, employment (generally as well as focusing specifically on discharge/discipline and discrimination), family law (child neglect, custody, divorce, and restraining orders), housing/eviction, immigration disputes of all types, juvenile delinquency, small claims, special education, federal tax (both small claims and general), state tax, unemployment, and welfare." Almost all of this literature is observational -- and most of it is effectively uncontrolled. Indeed, Greiner and Pattanayak argue that past studies provide no useful information on the existence and magnitude of any effect from representation, because of three methodological problems: failure to define the intervention being studied, failure to account for selection effects, and failure to follow basic statistical principles dealing with uncertainty.

Sandefur (2015) is less negative, and uses meta-analysis and nonparametric bounding to "reveal a domain of consensus for lawyers' effect on case outcomes." Sandefur concludes that lawyers' knowledge of substantive law is far less important than their ability to navigate procedural complexities, and ensure courts and other administrative tribunals follow their own rules.

To the best of our knowledge, there has never been a randomized study evaluating the effect of representation on litigation outcomes in med mal – and we are not holding our breath waiting for one to be done. The few randomized studies that have been done have involved areas other than plaintiff-side personal injury litigation. (Greiner and Pattanayak, 2012; Greiner, Pattanayak & Hennessy, 2013, 2012; Seron, 2001). Several small observational studies show that experienced plaintiffs' lawyers get higher-value cases, and obtain better results (Harris, Peeples & Metzloff, 2006, 2005; Sloan et al., 1993; Daniels, Grossman & Bertrand, 1992).

To summarize, even though most plaintiffs know little about law, and less about lawyer quality, the market for representation does not randomly match cases with lawyers. Instead, the market uses a variety of strategies to channel potential plaintiffs to lawyers that are well-suited to their needs. Plaintiffs' lawyers help turn one-shot plaintiffs into the functional equivalent of repeat players, thereby evening the playing field with defendants and their insurers (Galanter, 1974).

III.   Market Structure and the Wages of Risk

A. Overview and Summary Data

As described above, we divide firms into four tiers, based on number of cases handled and amount recovered. Table 1 presents summary statistics on our dataset, with cases divided by firm tier, plus *pro se*. Total recovery for all cases was $3.32 billion. Pro se plaintiffs make up 16.9% of all cases, but only 0.8% of total recoveries. Active Firms handle 59.7% of all cases, and obtain 92.4% of all recoveries. First- and second-tier firms account for a heavily disproportionate share of cases and recoveries. For example, first-tier firms are only 1.7% of all firms, but account for 18.9% of cases and 45.4% of recoveries. Second-tier firms are only 6.8% of firms, but account for 18.5% of cases and 28% of recoveries.

Table 1: Summary Statistics by Representation Status/Firm Tier

Representation Status/Tier Level		No. of		Recovery	Share of		
		Firms	Cases	($M)	Firms	Cases	Recovery
Pro Se		n.a.	3,108	$27	-	16.9%	0.8%
Lawyer	4th tier	860	4,301	$227	65.3%	23.4%	6.8%
	3rd tier	345	4,099	$632	26.2%	22.3%	19.0%
	2nd tier	90	3,407	$929	6.8%	18.5%	28.0%
	1st tier	22	3,485	$1,507	1.7%	18.9%	45.4%
	All	1,317	15,292	$3.294	100%	83.1%	99.2%
All			18,400	$3,321		100%	100%

Active Firms are firms with at least ten claims or at least $1M in recoveries. 1st tier firms = top 5% of Active Firms based on amount recovered. 2nd tier firms = next 20% of Active Firms, based on amount recovered. 3rd tier firms = remaining 75% of Active Firms. 1st tier firms recovered $25M or more; 2nd tier firms recovered between $5M and $25M; and 3rd tier firms recovered less than $5M. Amounts in 2010 $.

To what extent do higher-tier firms handle cases with more severe injuries, or cases that are taken more seriously by insurers? Table 2 analyzes variation in case mix (serious cases/all cases, and mean injury severity in non-serious and serious cases) and outcomes (success rate, and mean and median recovery per paid case) by firm tier. As described above, we define a "serious" case as one with defense costs > $5k, or an indemnity payout > $25k. We compute mean injury severity using the 9-level NAIC scale, as reported by insurers.[10] "Success" is defined as recovering any amount whatsoever.

As Table 2 demonstrates, there is a big jump in the percentage of serious cases when we go from pro se cases (23%) to represented cases, and then a smaller increase as we move up the firm tiers, from 62% serious cases for fourth-tier firms to 77% serious cases for first-tier firms. All differences are statistically significant (two-sample t-test) at a level of $p < 0.01$, except for the difference in the share of serious cases between first- and second-tier firms (77% v. 76%), which is not statistically significant. The small difference between first- and second-tier firms in the percentage of serious cases is the first instance of what will be a recurring theme of this paper: higher tier firms appear to both pick better cases, and to achieve better results than lower tier firms controlling for case characteristics, but the differences shrink once one gets to the top two tiers.

---

[10] To compute "severity mix" we determine the mean injury severity for all claims handled by a lawyer/firm. In cases where claims have different levels of reported injury severity, we assume that case severity is the worst reported level of severity in any single claim. This assumption does not materially affect our results.

Table 2: Seriousness, Severity and Recovery by Firm Tier

Representation Status/Firm Tier		Serious Cases/All Cases	Mean Severity			Success Rate			Recovery/Paid Case ($k)	
			All	Non-serious	Serious	All	Non-serious	Serious	Mean	Median
Pro Se		23%	4.5	4.2	5.5	8%	6%	14%	$110	$11
Lawyer	4th tier	62%	5.3	4.7	5.7	26%	6%	38%	$203	$105
	3rd tier	71%	6.3	5.8	6.5	30%	3%	41%	$520	$317
	2nd tier	76%	6.4	5.9	6.6	34%	2%	45%	$795	$460
	1st tier	77%	6.8	6.4	7.0	37%	2%	47%	$1,175	$616
	All									
All		63%	5.9	5.0	6.4	27%	5%	41%	$661	$298

Firm tiers are defined in Table 1. Success Rate = no. of paid cases/all cases. Mean and median recovery/case are computed based on paid cases (i.e., conditional on recovery). Average severity is computed using NAIC 9 point scale. Serious cases are cases with defense costs > $5k or indemnity payout > $25k. Amounts in 2010 $.

There are several possible causes for the higher proportion of serious cases at higher firm tiers, including: cases with stronger merits or larger damages are more likely to find representation; higher-tier firms can select better cases than lower-tier firms; higher-tier firms extract more value from the cases they handle (prompting insurers to take them more seriously), and representation by a higher-tier firm can signal case value, and thus lead insurers to take seriously cases that they otherwise might not. At the same time, even the "best" firms rethink case value fairly often, and effectively drop cases that they initially accepted. Even at first- and second-tier firms, about a quarter of cases end up being non-serious. The very low success rates in these cases is a further indication that higher-tier firms have walked away from these cases.

Success rates vary greatly, depending on whether the case is handled pro se or by a lawyer, and whether the case is serious or not. For serious cases, the success rate for cases handled pro se is 14%, but then jumps to 38% for fourth-tier firms ($p < 0.01$) and rises gradually to 41%-47% for higher-tier firms ($p < 0.01$ for all comparisons). The difference in success rates between adjacent tiers are statistically significant at $p < 0.05$ or better for second- through fourth-tier firms, but are not significant for first- v. second-tier firms.

For non-serious cases, the success rates are very low, at only 2-3% for represented cases and 6% for pro se cases. A seemingly odd result is that pro se cases have higher success rates in non-serious cases than represented cases, and fourth-tier firms have somewhat higher success rates than higher-tier firms in non-serious cases ($p < 0.01$). This may mean that nuisance-value settlements are more likely when a plaintiff proceeds pro se, or is represented by a fourth-tier firm. Stated differently, firms are more likely to abandon weak cases than pro se litigants, and higher-tier firms are more likely to abandon weak cases than fourth-tier firms.

Mean recovery per paid case climbs steadily as we move from pro se to 4th tier firms, to higher tier firms. *Median* recoveries for pro se plaintiffs are much lower than mean recoveries ($11k median vs. $110k mean), suggesting that some pro se cases are easy winners, that defendants settle for substantial dollars, perhaps before the plaintiff engages a law firm, even though the median pro se settlement is in the nuisance range. For represented cases, mean and median recoveries show similar patterns; both rise steadily with firm tier. All differences in mean and median recoveries between tiers are statistically significant at $p < 0.01$ (using two-sample *t*-test for mean and χ^2 for median).

Differences in case mix likely explain some of the differences in mean and median payouts shown in Table 2. Within each pro se or firm-tier category, mean injury severity is much higher for serious cases. For serious cases, mean severity is substantial even for pro se cases, and rises steadily as one moves from pro se to represented cases, and then from lower to higher-tier firms. There is a large jump in mean severity, and in mean and median recoveries, as we move from fourth- to third-tier firms.[11] This is consistent with fourth-tier firms sometimes handling smaller med mal cases, but tending to refer more serious cases to specialist firms.[12] All differences are statistically significant at p < .01.

The higher mean (and, to a lesser extent) median recoveries for higher-tier firms are partly mechanical, because we define the tiers based on total recovery during our sample period. We return to this issue below, and show that other approaches to defining firm tiers produce very similar results.

B. League Tables and Fee Concentration

We focus in this section on the first-tier Firms – the most successful med mal firms in Illinois, judged by total recovery. Table 1 indicates that there are 22 first-tier firms, each of which recovered at least $25M during our sample period. For each of these firms, Table 3 lists the total recovery, number of paid cases per year, mean and median recovery per paid case, and the share of the overall recovery secured in the single largest case and in the top 10% of paid cases (which we call the "concentration ratio."

---

[11] To provide some sense of the meaning of the severity categories, an NAIC injury severity of 4 corresponds to "temporary major" injury, "such as burns, surgical material left [in body], drug side effect, or brain damage, where recovery is complete but delayed." Injury severity of 5 corresponds to "permanent minor injury, such as loss of fingers or loss or damage to organs, where the injury is not disabling." Injury severity of 6 corresponds to "significant permanent injury," including "Deafness, loss of limb, loss of eye, loss of one kidney or lung." Injury severity of 7 corresponds to "permanent major" injury, including "paraplegia, blindness, loss of two limbs, or brain damage. NAIC Guideline for Implementation of Medical Professional Liability Closed Claim Reporting, Oct. 2010, at http://www.naic.org/store/free/GDL-1077.pdf.

[12] As we describe in another article, we interviewed several successful plaintiffs' lawyers. (Rahmati, Hyman, Black & Silver, 2016). Every lawyer we spoke to emphasized that provable damages were a critical factor in deciding whether to accept a referred case. If a non-specialist firm refers a case to a specialist firm, but the referral is declined, the non-specialist firm must either handle the case itself, or decline the request for representation. The portfolio of cases handled by fourth-tier firms reflects the results of these dynamics.

Table 3: Recovery and Concentration Ratios for 1ˢᵗ tier Firms

Rank	Firm Name	Total Recovery ($M)	Paid Cases Per Year	Success Rate	Recovery per Paid Case ($k)		Concentration Ratio: Recovery in top		
							Single Case		10% of paid cases
					Mean	Median	$ million	%	
1	Power Rogers & Smith	$216.4	9.8	52%	$2,004	$1,082	$23.6	11%	45%
2	Clifford Law Offices	$188.5	12.4	51%	$1,386	$811	$14.5	8%	48%
3	Corboy & Demetrio	$119.8	4.8	62%	$2,261	$1,231	$14.7	12%	42%
4	Salvi Schostok	$107.7	6.7	57%	$1,455	$1,082	$14.0	13%	43%
5	Cogan Mcnabola Power	$95.4	8.3	46%	$1,048	$652	$10.9	11%	46%
6	Kralovec, Jambois & Schwartz	$77.4	11.9	38%	$591	$296	$5.1	7%	46%
7	Keefe & Keefe	$74.5	7.5	49%	$908	$611	$4.8	7%	34%
8	Burke Wise Morrissey Kaveny	$71.4	3.4	52%	$1,929	$1,154	$17.3	24%	39%
9	Chessick Law Offices	$58.4	7.2	57%	$739	$502	$8.8	15%	38%
10	Hofeld And Schaffner	$56.3	3.8	47%	$1,341	$740	$10.1	18%	44%
11	Munday & Nathan	$56.0	4.5	46%	$1,120	$514	$8.0	14%	47%
12	Jeffrey M. Goldberg	$49.7	2.5	55%	$1,840	$1,007	$15.2	31%	52%
13	Motherway & Napleton	$46.5	4.9	51%	$861	$310	$16.5	36%	57%
14	Cirignani Heller Harman	$38.8	4.3	41%	$825	$578	$4.1	11%	28%
15	Pavalon Gifford Laatsch Marino	$36.9	2.6	35%	$1,272	$304	$20.8	56%	63%
16	Goldberg & Goldberg	$34.9	2.5	37%	$1,293	$693	$5.8	17%	30%
17	Hilfman, Fogel, Martin & Barr	$34.8	2.8	33%	$1,123	$920	$4.2	12%	30%
18	Cook Law Office	$30.2	6.2	52%	$444	$234	$3.9	13%	39%
19	Levin & Perconti	$30.0	4.5	48%	$612	$231	$6.3	21%	45%
20	Romanucci Blandin	$28.4	1.4	39%	$1,892	$390	$22.3	79%	79%
21	Hurley Mckenna Mertz	$28.4	3.1	47%	$834	$446	$4.6	16%	38%
22	Sussman Selig Ross	$26.8	1.7	45%	$1,410	$462	$13.2	49%	49%

Firm names are based on the affiliation of lawyers listed on each firm's website in 2013. Concentration ratio for firm groups are based on aggregating all paid cases for firms in the group. Firm tiers are defined in Table 1. Mean and median recovery/case are computed conditional on recovery. Amounts in 2010 $.

Table 3 shows that even the most elite firms have relatively few paid cases per year, although as a group, their average recovery exceeds $1M per case with a payout. Table 3 also shows that at each of these firms, recoveries are heavily skewed. A small number of cases account for most of the money recovered – and, in a contingency fee system, for most of the legal fees. In another article, we term this a "blockbuster" business model. (Hyman, Black & Silver, 2015). Across all first-tier firms, the top 10% of paid cases accounted for 49% of total recoveries. [13] But, at a few firms, a single case accounts for half or more of the total amount recovered over the entire period: a $22M payout accounts for 79% of total recoveries for

---

[13] In unreported analyses, we find similar concentration ratios for other firm tiers. The top 10% of paid cases accounted for 46% of total recoveries at fourth-tier firms; 34% of total recoveries at third-tier firms; 43% of total recoveries at second-tier firms; and 49% of total recoveries at first-tier firms.

Romanucci Blandin; a $21M payout represents 56% of recoveries by Pavalon Gifford Laatsch and Marino; and one $13M payout accounts for 49% of recoveries for Sussman Selig Ross.

Finally, we examined the physical location of the first-tier firms. Twenty of the twenty-two first-tier firms have their primary or only office in Cook County – and nineteen of those are located in one of five adjoining zip codes in or near Chicago's Loop, which occupy roughly 1.5 square miles.[14] These nineteen firms account for 41% of total recoveries in all med mal cases in Illinois from 2000-2010. If we broaden the scope beyond these nineteen firms, lawyers in these five zip codes account for 64% of all med mal recoveries in Illinois. Probably not coincidentally, these zip codes cluster around the Cook County courthouse located in downtown Chicago.

C. Quantifying the Wages of Risk – and the Effect of Contingency Fee Caps

How much do plaintiffs' lawyers earn, compared to defense lawyers handling the same cases? We might initially expect that plaintiffs' lawyers would earn more, for an obvious reason: plaintiff's lawyers work on a contingency fee basis, and thus bear risks and costs that defense lawyers do not. Plaintiffs' lawyers front litigation costs and the value of their time – and do so on a non-recourse basis. Plaintiffs' lawyers are paid (and reimbursed for the litigation costs they advance) only if they prevail – often after several years of work and delay. Defense lawyers, on the other hand, are usually paid on a monthly basis for the services they provide and the expenses they incur, whether they win or not. Reflecting these "wages of risk," if skills are similar, net income (i.e., fees minus expenses) for plaintiffs' lawyers should exceed that of defense lawyers. The ratio of the net income of plaintiffs' attorneys/net income of defense attorneys, handling the same cases, will reflect the wages of risk. (Kritzer, 1988).

The IDOI dataset contains information on the amounts insurers spent on legal fees and expenses but does not contain any information on the fees paid to plaintiffs' attorneys, or the expenses incurred by those attorneys. In prior research based on closing sheets provided by plaintiffs' attorneys, we found that legal fees averaged 33% across all cases (Hyman, Black & Silver, 2015). This finding is generally consistent with other research. (Kritzer, 1998; 2004) We accordingly assume that plaintiffs' attorneys in Illinois charged, on average, a contingency fee of one-third of their client's gross recovery.[15]

Plaintiffs' attorneys also incurred expenses for expert witnesses, filing fees, photocopies of medical records, and the like. We need to include these costs to make an "apples to apples" comparison of net income. We make the simplifying assumption (which we defend in Appendix section A-1) that plaintiffs and defendants have symmetrical costs on average.[16] We also assume that plaintiffs' attorneys bear all expenses in the cases that they lose, and none of the expenses in

---

[14] The zip codes are 60601 (4 firms), 60602 (11 firms), 60654 (2 firms) and one firm in 60603 and 60606.

[15] Although Illinois had a cap on contingency fees during the years for which we have data, the cap was waivable, and our earlier research indicates it was routinely waived. (Hyman, Black & Silver, 2015).

[16] We explore the plausibility of this assumption in the appendix. The defense-side might incur higher expenses, because they don't directly bear those costs, and higher expenses might help justify (or even cause) higher legal fees. To the extent the defense incurs greater expenses, our estimates will understate the Net Income Ratio.

the cases they win. Stated differently, we assume that when plaintiffs win, their attorneys receive 1/3rd of the total recovery as a fee, plus reimbursement of any costs.[17]

Based on these assumptions, we estimate the net income to plaintiffs' firms, and a "Net Income Ratio" of plaintiff lawyer/defendant lawyer net income, for each law firm tier. The Net Income Ratio provides a measure of the wages of risk. Table 5 presents the Net Income Ratio for each firm tier, broken out by severity of injury.

Table 5: Legal Fees and Net Income Ratios by Injury Severity

	Legal Fees ($M)		Net Income Ratio (Plaintiff/Defendant)			
Firm Tier	Defense	Plaintiff	Temporary	Death	Permanent	All
4th tier	$131	$74	0.28	0.55	0.47	0.45
3rd tier	$178	$212	0.56	1.13	1.30	1.10
2nd tier	$181	$310	0.87	1.57	1.87	1.62
1st tier	$193	$502	1.25	1.89	3.50	2.53
All	**$682**	**$1,098**	0.67	1.38	1.97	1.52

Defense fees are for all cases (whether paid or unpaid). Legal fees for plaintiff assume contingent fee = 1/3 of gross recovery. Firm tiers are defined in Table 1. Net Fee Ratio = (legal fees for plaintiff-side minus imputed plaintiff-side expenses for unpaid claims (based on defense expenses), divided by fees paid to defense counsel as reported by insurer). Amounts in 2010 $ millions.

As Table 5 shows, the Net Income Ratio increases steadily with firm tier. Plaintiffs' lawyers at 4th-tier firms earn only 45% of the amount earned by defense lawyers. But the pattern flips for higher-tier firms, and the Net Income Ratio steadily increases as we move up the recovery spectrum. Plaintiffs' lawyers at third-tier firms make 10% more than defense lawyers handling the same cases; lawyers at second-tier firms earn 62% more; and lawyers at first-tier firms earn 153% more than their defense-side counterparts. The wages of risk are also higher for permanent injury cases than for death cases, and higher for death cases than for temporary injury cases. Across all cases, plaintiffs' attorneys make about 52% more than the defense lawyers handling the same cases, although we do find substantial variation based on injury severity and firm tier.

An important caveat: We compute the wages of risk based on the full fee, independent of the payment of any referral fee. Firms at the top of the recovery spectrum receive many of their cases as a result of a referral from another lawyer – and routinely pay referral fees.[18] To the extent a referral fee is paid, the wages of risk at any given firm tier *will be shared with the referring attorney, if any*. Suppose, to take an extreme example, that second-tier firms obtain their cases entirely by referral and pay a one-third referral fee (one-third of the one-third contingency fee). Their 1.62 Net Income Ratio would then drop to 1.08. Conversely, receipt of

---

[17] If plaintiffs' attorneys have net contingency fee arrangements, where the 1/3rd fee is based on the recovery minus expenses, the figures for Net Income Ratio in Table 5 would be approximately 3% lower.

[18] Illinois ARDC, Ethics Inquiry Program FAQs, available at https://www.iardc.org/ethics_faq.html#5. In his interviews of plaintiffs' lawyers, Professor Tom Baker was told that some firms have cross-referral arrangements, where the non-specialist lawyers send their complex cases to specialist lawyers, and the specialists send their simple cases to the non-specialist lawyers. Baker also told us that in these arrangements, referral fees are generally paid by the specialists to the non-specialists, but not the other way around. Telephone conversation with Professor Tom Baker, November 19, 2015.

referral fees means that non-specialist firms, which keep simpler med mal cases and refer out the complex ones, do better – perhaps substantially better -- than our naïve estimate supposes. The estimate for all cases (Net Income Ratio of 1.52) is less subject to this problem – and will be unbiased if all referral sources are included in our data – but we cannot be sure of that one way or the other.

If Illinois' cap on contingency fees were not both waivable and routinely waived, the ratios in Table 5 would be substantially lower. We examine that issue in Appendix section A-2, and find that the estimated "haircut" if the fee cap were binding varies, depending on injury severity and the firm-tier handling the case. Because first-tier firms handle cases with the largest recoveries (and fees), they will take the biggest hit. Averaged across all level of injury severity and all firms, we estimate Illinois' contingency fee cap would reduce fees by 23%. This implies more money for plaintiffs, all else being equal. But, all else is unlikely to be equal, particularly since a fee reduction of this magnitude would eliminate most of the wages of risk.[19]

It is widely understood that contingency fees allow ex-post winners to subsidize ex-post losers. In previous work we find evidence that large winners are also subsidizing small winners. (Hyman, Black & Silver, 2015). A sliding scale contingency fee cap will disrupt this business model, which allows plaintiffs' attorneys to take both large and small cases, and use larger cases to subsidize smaller cases. Stated differently, if a sliding scale contingency fee cap is adopted, in an occasional big case, plaintiffs will receive somewhat larger net recoveries, but plaintiffs in small cases may no longer be able to find lawyers at all.

IV. Case Selection and the Impact of Representation on Outcomes

What factors predict the expected value of a personal injury case? Any experienced plaintiffs' lawyer will reel off a list, including factors specific to the plaintiff (e.g., severity of injury, provable damages, "likeability"); those specific to the defendant (e.g., policy limits, identity of the insurer, strength of the argument for liability, previous history of negligence by the defendant); and those specific to the venue (e.g., make-up of the jury pool; identity of the judge that will hear the case, and the substantive law of the forum in question). Plaintiffs' lawyers are also not shy when it comes to touting the value they add to the process, and will happily regale willing listeners with war stories about their ability to turn losers into winners, and good cases into great cases.[20] Plaintiffs' lawyers are also known to joke about the impact of bad lawyering on great cases.[21]

For purposes of our analysis, it is helpful to sort the variables into two baskets: factors specific to the case, and factors specific to the plaintiff's lawyer handling the case. If one could

---

[19] As Table 5 indicates, total defense fees were $682 million, and estimated plaintiff-side contingency fees were $1,098 million. Plaintiff-side expenses totaled $62 million. But, Table A-3 indicates that a contingency fee cap will reduce fees by 23%, to $802 million. So, the wages of risk across all cases will drop from 1.52 to 1.08. (802-62)/682).

[20] The phenomenon is not unique to plaintiffs' lawyers. *See* Errol Morris, The Thin Blue Line (1998) ("Prosecutors in Dallas have said for years, 'any prosecutor can convict a guilty man, but it takes a great prosecutor to convict an innocent man.'")

[21] John Day, What It Takes To Be A Great Trial Lawyer – Part 18, at http://www.dayontorts.com/what-it-takes-to-be-a-great-trial-lawyer-what-it-takes-to-be-a-great-trial-lawyer-part-18.html ("I believe in the old joke (how do you get a $1 million verdict? mess up a $4 million case).")

identify and control for all case-specific attributes, any remaining difference in outcomes must be attributable to the impact of the plaintiff's lawyer. Unfortunately, we can only control for the case-specific attributes that are collected by IDOI – meaning we cannot precisely quantify the "true" contribution of the plaintiffs' lawyer to case outcomes. But, given the covariates that we have, we can place a useful upper bound on the value added by having a lawyer (and lawyers from different tiers).

Stated differently, after we control for the case-specific attributes that are observed and recorded in the IDOI database, our estimates of lawyer value added reflects a combination of the effect of unobserved case characteristics and the true value added by plaintiffs' lawyer on case outcomes. Those estimates might decrease if we had access to additional covariates. But, absent additional covariates, the estimates provide an upper bound on the value added by plaintiffs' lawyers, whether in the aggregate (i.e., compared to handling the case pro se), or by comparing the performance of plaintiffs' lawyers at different firm tiers. Those upper bound are scarcely the last word on this subject -- but they do provide a foundation for further research.

A. Naïve Approach

We begin with a simple approach, controlling only for injury severity. Figure 1 breaks out success rates by firm-tier and injury severity. To simplify matters, we combine emotional injury and the three temporary injury levels into a single group of "temporary injury" cases, and the four permanent injury levels into a single group of "permanent injury" cases.[22]

Figure 1: Success Rate by Severity and Firm Tier, All Cases
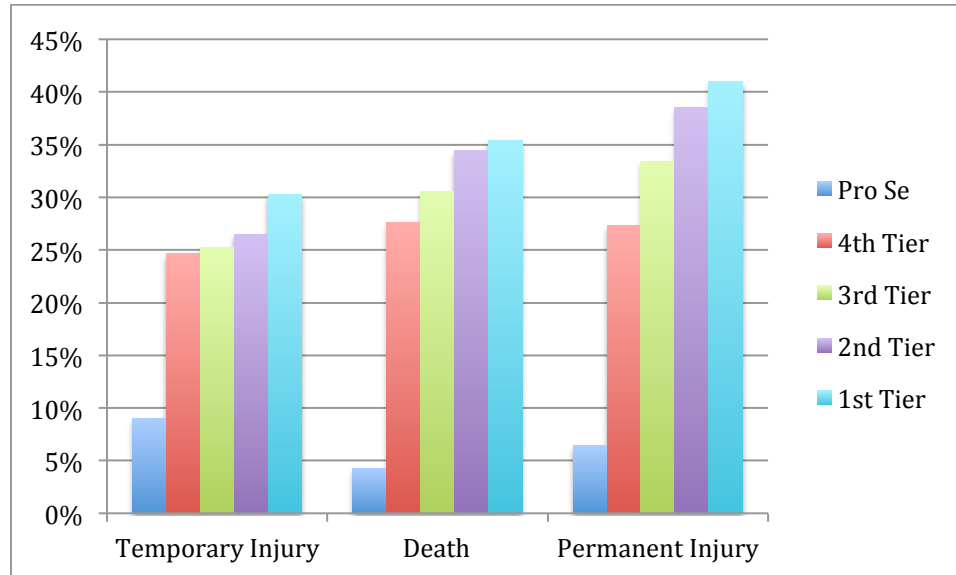
Success rates broken-out by severity and by pro se/firm tier. Firm tiers are defined in Table 1. Severity is based on NAIC 9-level scale, with temporary injury cases = NAIC levels 1-4; permanent injury = NAIC levels 5-8, and death = NAIC level 9.

---

[22] More specifically, temporary injury = NAIC levels 1-4 and permanent injury = NAIC levels 5-8. Thus, we are pooling results for four separate levels of injury within each of these two categories.

As Figure 1 shows, even after controlling for injury severity, success rates are dramatically higher for plaintiffs that have a lawyer. Conditional on having a lawyer, higher firm tiers have higher success rates as well – modestly so for temporary injury and death; more strongly for permanent injury.

What about the amounts recovered? Figure 2 shows mean recovery per paid case, again broken out by firm tier and injury severity. Here the pattern is different Pro se litigants recover almost as much as fourth-tier firms – indeed, they recover more in death and permanent injury cases. But recoveries increase rapidly as one then moves to successively higher tiers. For cases handled by first- and second-tier firms, recoveries are higher for permanent injury than for death. Such "death discounts" are well known (Hyman, Rahmati, Black & Silver, 2016). Figure 2 makes it clear that the death discount reflects the larger recoveries for severe permanent injury earned by top tier firms.

Figure 2: Mean Recovery by Injury Severity and Firm Tier, All Paid Cases
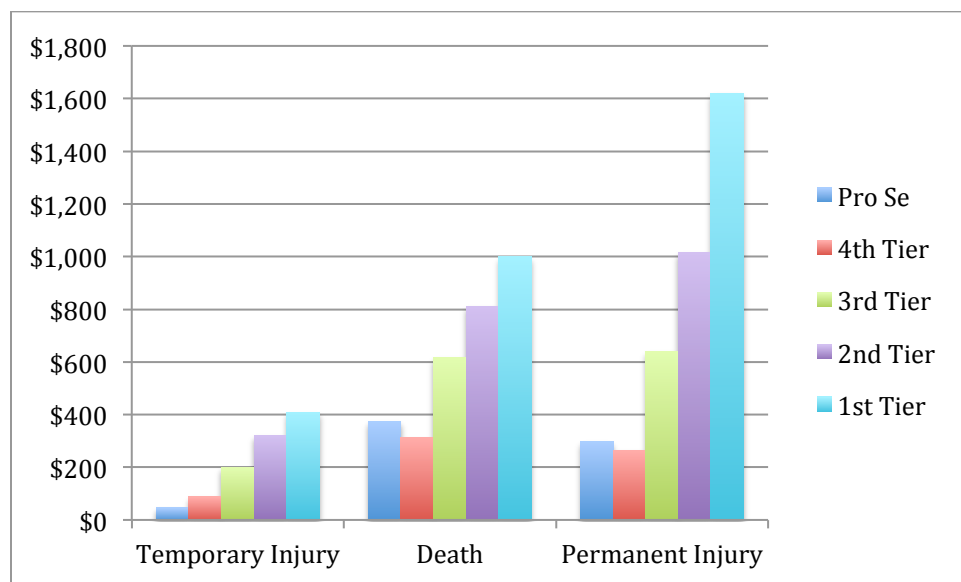
Mean recovery per paid case by severity and firm tier. Firm tiers are defined in Table 1. Severity levels are defined in Figure 1. Amounts in 2010 $ thousands.

The observed results in Figure 1 and Figure 2 might be attributable to real differences, or they might reflect selection -- differences in other factors which affect provable damages, that are not captured by the NAIC severity measure. We turn in the next section to an explicit effort to address selection effects.

B. Trimming and Inverse Propensity Weighting

In the absence of a randomized controlled trial, an alternative strategy is to construct a balanced sample, where the cases that are "treated" (e.g., cases that are handled by a lawyer) are, to the extent feasible, matched with similar cases that can serve as a "control" (e.g., cases that are handled pro se). We have detailed case-level information that includes much, though not all of the information available to plaintiffs' lawyers when they decide to accept a case. In particular,

16

we use information on severity of injury,[23] location of injury,[24] the malpractice insurer, plaintiff gender and age, defendant age and specialty, whether the defendant is board certified, whether the defendant attended a foreign medical school, defendant practice type and professional code,[25] and the year and county of injury. We use this information to estimate propensity scores -- the likelihood an individual with a particular set of attributes will be treated" – for a set of pairwise comparisons: represented versus not, or handled by a firm of tier y versus tier x.[26]

Our ability to construct a balanced sample is limited by the covariates we have. We do not have variables that directly capture the strength of the liability claim, nor other measures that affect case strength and value, including the credibility of plaintiffs and defendants, the skill and effectiveness of the defense lawyer, and the defendant's *ex ante* assessment of liability and damages. Consequently, our effort to create a balanced sample is necessarily imperfect – which is why we seek to define only an upper bound on the value of representation.

To create our balanced sample, we exclude ("trim") cases that have attributes that make them overwhelmingly likely to be either treated (i.e., handled by a lawyer/firm at the firm-tier in question) or control (i.e., handled pro se/by a firm at a lower firm-tier). We use logit regression to estimate propensity (μ) scores for a case to be treated, using all the covariates available to us. Next, we drop observations with "extreme" propensity scores (i.e., those for which $\mu < 0.05$ or $\mu > 0.95$). We also trim to "common support" – we drop observations for which there is no overlap in propensity scores between the treated and control samples.[27] After trimming, we re-compute propensity scores, and then trim a second time. We go through the same process for each combination of control v. treated firms that we analyze.

As an illustration, Figure 3 shows the kernel density plot of propensity scores for treated and control firms, before and after trimming, where the treated group is all represented cases, and the control group is pro se cases.

[23] We have information on nine categories of injury severity, as defined by the NAIC.

[24] We have information on nine specific locations: patient's room; labor or delivery room; operating suite; recovery room; critical care unit; special procedure room; nursery; radiology; and physical therapy department.

[25] We have seven type of practice codes: institutional (academic); professional corporation or partnership group; self employed; employed physician; employed nurse; all other employees, intern or resident. We have four codes for the configuration of defendants: physician; physician and institution; institution-only; and other.

[26] Because many counties have a small number of claims, we group counties based on the Illinois Department of Insurance 2012 med mal report. This report treats Cook, McHenry & Will county as one group; Madison and St Clair county as a 2nd group; Dupage, Kane, and Lake county as a 3rd group; the reminder of the state as a 4th group; and out of state as the 5th group.

[27] Imbens and Rubin (2014, chap. 16) suggest trimming observations with propensities outside [0.1, 0.9]. We have no cases with propensity to be represented < 0.1.

Figure 3: Propensity Score distribution before and after trimming, for treated "All Firms" and control "Pro Se"

Panel A: before trim   Panel B: after trim
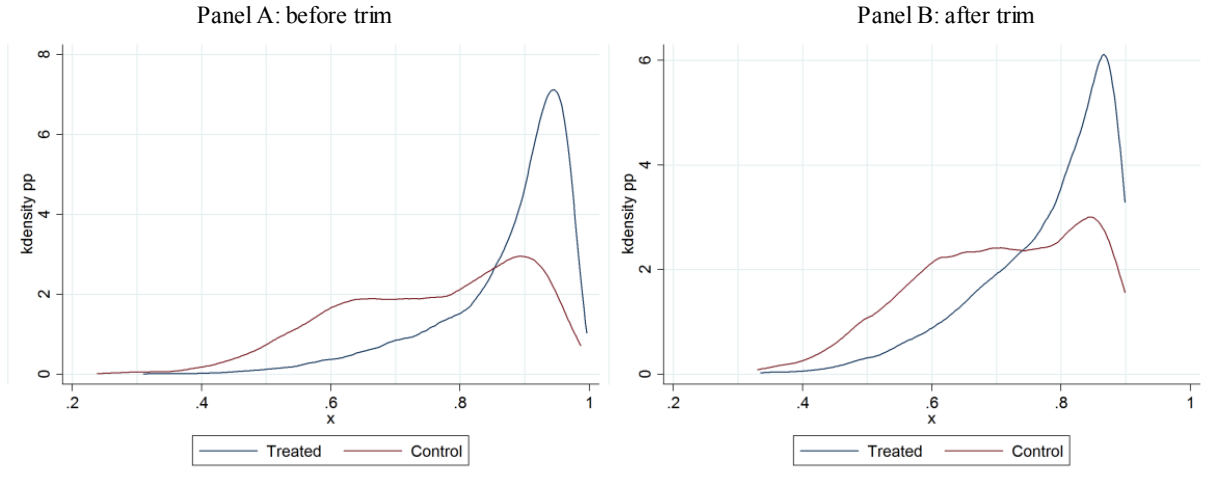
"Treated" is all represented cases. "Control" is pro se cases. Panel B reflects results after 2 rounds of trimming of propensity scores < 0.05 or > 0.95, plus trimming to common support. Variables used to generate propensity scores include: dummy specialty (15), dummy professional code (3), dummy severity (8), dummy region (4), year, dummy for foreign education, board certification dummy, dummy for 3 groups of plaintiff ages, injury place dummy (2), plaintiff gender, disposition dummy (3). Untrimmed sample size is 13,017 cases; trimmed sample is 9,826 cases.

To estimate the treatment effect (e.g., having a case handled by a lawyer versus proceeding pro se) for the trimmed sample, we use inverse propensity weighting ("IPW"), plus linear regression, for the outcomes of interest (i.e., success rate and recovery, conditional on success). We are interested in the average treatment effect on the treated (ATT). We employ the estimated propensities ($\hat{p}_i$) to define ATT weights as:

$$\hat{w}_i^{ATT} = z_i + (1 - z_i) \frac{\hat{p}_i}{(1 - \hat{p}_i)}$$

where $z_i = 1$ for treatment (e.g, having a lawyer) and 0 for control (e.g., proceeding pro se). We then conduct multivariate regression, using all of the covariates that enter the propensity score estimate, plus a treatment dummy (e.g., for having a lawyer).

In Appendix Table A-3, we compare covariate balance for one particular comparison (4th-tier firms versus all Active Firms), before and after trimming and reweighting. Balance is problematic before trimming and reweighting, but excellent afterwards. All "normalized differences" (roughly, how different the sample means are, as fractions of a standard deviation, are either 0.00 or 0.01. All *t*-statistics for the remaining difference in means are statistically insignificant; indeed all t-values are less than 1.00. In effect, the trimming and reweighting project produces *better* covariate balance, on the observed covariates, than random assignment of cases to treated versus control. We can hope – but cannot test – that this also leads to improved balance on unobserved covariates. Balance on unobservables will improve to the extent that the unobserved covariates are correlated with the observed covariates. We obtain similar balance after trimming and reweighting for other comparisons.

C. Effects of Lawyers and Law Firm Tier on Success Rates

We begin by examining whether having a lawyer at all, or a lawyer from a particular firm-tier affects the likelihood of "success" (obtaining a recovery). Table 6 presents three sets of results. The first set is simple OLS coefficients on the treatment dummies for different comparisons. The second set is the OLS coefficient after trimming. The third set is the ATT coefficient, with trimming, IPW, and linear regression on the trimmed, reweighted sample (below, we term these as our "IPW" results). We include the three sets of results so that the reader can see the separate effects of trimming and IPW on our results.

Table 6 indicates that having a lower-tier lawyer, versus no lawyer, predicts a 17% higher probability of success. The estimated effect of having a lawyer rises with injury severity (and thus expected damages), from 13% for temporary injury to 20% for death and 22% for permanent injury. We are agnostic on how much of the increased success rate reflects the greater ability of lawyers to extract value from the same facts, versus lawyers' efforts to screen out cases with low chances of success on the merits. As we discuss above, screening is surely important, and does not end when a law firm initially accepts a case.

A notable feature of Table 6 is that coefficient estimates are almost identical for simple OLS before trimming, simple OLS after trimming, and our IPW approach. Apparently, for this sample, the nature of the data is such that the sources of bias, which trimming and IPW can protect against, are not important.

Table 6: Lawyer Impact on Success Rates

Method		Linear Regression		IPW plus Linear Regression			
Control	Treated	Before Trim	After Trim	Temporary	Death	Permanent	All
Pro Se	4th tier	0.17 (17.85)***	0.17 (17.79)***	0.13 (9.09)***	0.20 (10.36)***	0.22 (9.90)***	0.17 (17.35)***
	Active Firms	0.25 (30.12)***	0.23 (23.39)***	0.19 (14.57)***	0.29 (14.52)***	0.31 (13.94)***	0.25 (24.60)***
	All Firms	0.22 (29.41)***	0.19 (20.87)***	0.17 (14.64)***	0.28 (12.97)***	0.29 (10.32)***	0.20 (21.39)***
4th tier	3rd tier	0.05 (5.22)***	0.06 (5.27)***	0.04 (2.05)**	0.05 (2.51)**	0.08 (4.48)***	0.06 (5.43)***
	Active Firms	0.08 (9.23)***	0.08 (8.81)***	0.06 (4.36)***	0.06 (3.56)***	0.12 (6.95)***	0.08 (8.64)***
3rd tier	2nd tier	0.04 (3.66)***	0.04 (3.67)***	0.04 (1.65)*	0.03 (1.76)*	0.05 (2.43)**	0.04 (3.49)***
	1st tier	0.05 (4.70)***	0.05 (4.66)***	0.07 (3.12)***	0.05 (2.68)***	0.05 (2.69)***	0.06 (4.75)***
2nd tier	1st tier	0.01 (0.87)	0.01 (0.84)	0.04 (1.81)	-0.00 (-0.16)	0.01 (0.27)	0.01 (0.61)

OLS regressions before trimming, after trimming, and after trimming with Inverse Propensity Weights (IPW) of success rate on treatment dummy, dummy specialty (15), dummy professional code (3), dummy severity (8), dummy region (4), year, dummy for foreign education, board certification dummy, dummy for 3 groups of plaintiff ages, injury place dummy (2), plaintiff gender, disposition dummy (3), and a constant term. Firm tiers are defined in Table 1. IPW results use ATT weights. Each row uses separate propensity score estimation and trimming. *t*-

statistics, based on robust standard errors, are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels. Coefficients on covariates are suppressed. Significant results (at 5% or better) are in **boldface**.[28]

Once we look at success for represented cases, the differences in success rates shrink. Moving from a fourth tier to a third tier firm increases success rates by 6% on average. As with the pro-se versus 4th tier comparison, the boost in success rates rises with case severity. Once again, we are agnostic on the extent to which the higher success rates of Active Firms reflect greater ability, versus greater ability to select winning cases, or greater "pickiness" about which cases to accept.

As we move to higher firm tiers, the effect of tier on success rate shrinks further. The increase on overall rate from having a second-tier, versus third-tier firm is 4%, on average, and is only 3-4% and only marginally significant for temporary injury and death cases. The effect of firm tier on success rate disappears entirely if we compare second-tier to first-tier firms. The point estimates for the treatment dummy are insignificant in all cases, are .01 overall, and .01 or .00 for the more serious cases.

D. Effects of Lawyers and Law Firm Tier on Expected Recovery

What about the impact of the lawyer and firm-tier on the overall value of the case (i.e., the expected recovery)? Table 7 presents estimated treatment effects, using the same three methods and the same treated-versus-control comparisons as Table 6, with *ln*(recovery +1) as the dependent variable. We add 1 to the amount recovered in order to keep the zero-payout cases in the sample. These coefficients reflect the combined impact of the treatment (lawyer or law firm tier) on the probability of success and on the amount recovered, conditional on success. When the control group is pro se cases, we compute recovery in the treated (represented) group at 2/3rds of the actual recovery, to account for the payment of a contingency fee.

We find a clear and economically substantial effect of the lawyer and of firm-tier on expected recovery. The coefficients in Table 7 are far larger than those in Table 6, indicating that having a lawyer, and the firm-tier of that lawyer has a dramatically larger effect on payout than it does on success rates. Similar to the results for success rate in Table 6, the more careful balancing of treated and control cases provided by the IPW approach does not produce dramatically different estimates than simple OLS on the untrimmed sample, although there is a tendency for the IPW coefficients to be somewhat larger than the OLS coefficients.

---

[28] Note: We are currently rerunning the regressions in Tables 6 and 7 with firm clusters.]

20

Table 7: Lawyer Impact on Recoveries

Method		Linear Regression		IPW plus Linear Regression			
Control	Treated	Before Trim, All	After Trim, All	Temporary Injury	Death	Permanent Injury	All
Pro Se	4th tier	1.92 (19.11)***	1.91 (19.06)***	1.41 (9.96)***	2.66 (10.15)***	2.31 (10.25)***	1.98 (18.17)***
	Active Firms	3.08 (32.92)***	2.77 (25.65)***	2.28 (16.15)***	3.93 (14.24)***	3.67 (14.85)***	3.06 (25.94)***
	All Firms	2.65 (32.65)***	2.27 (23.46)***	1.94 (16.23)***	3.52 (9.756)***	3.51 (13.96)***	2.45 (23.11)***
4th tier	3rd tier	0.83 (6.55)***	0.84 (6.60)***	0.50 (2.59)***	0.77 (3.14)***	1.28 (5.42)***	0.89 (6.68)***
	Active Firms	1.21 (11.47)***	1.17 (10.94)***	0.87 (5.39)***	1.01 (4.50)***	1.74 (8.45)***	1.26 (10.60)***
3rd tier	2nd tier	0.60 (4.11)***	0.61 (4.12)***	0.49 (1.95)*	0.51 (1.95)*	0.70 (2.70)***	0.59 (3.92)***
	1st tier	0.81 (5.47)***	0.81 (5.43)***	1.03 (3.59)***	0.73 (3.02)***	0.87 (3.29)***	0.86 (5.53)***
2nd tier	1st tier	0.19 (1.22)	0.19 (1.19)	0.58 (1.93)*	0.00 (0.01)	0.15 (0.54)	0.16 (0.95)

OLS regressions before trimming, after trimming, and after trimming with Inverse Propensity Weights (IPW), of *ln*(recovery + 1) on treatment dummy, same covariates as in Table 6, treatment dummy, and a constant term. Firm tiers are defined in Table 1. IPW results use ATT weights. Each row uses separate propensity score estimation and trimming. Coefficients on covariates are suppressed. Regressions includes zero paid cases. *t*-statistics, based on robust standard errors, are in parentheses. *, **, *** indicate significance at the 10%, 5%, and 1% levels. Significant results (at 5% or better) are in **boldface**.

For ease of interpretation, Table 8 converts the IPW coefficients from the log-linear regressions in Table 7 into a percentage impact of the treated group on expected recovery, compared to the control group.[29]

Table 8: Lawyer Impact on Expected Recovery (Percentage)

Control	Treated	Temporary Injury	Death	Permanent Injury	All
Pro Se	4th tier	312%	1,333%	908%	626%
	Active Firms	879%	5,017%	3,833%	2,028%
	All Firms	593%	3,276%	3,261%	1,056%
4th tier	3rd tier	64%	116%	260%	144%
	Active Firms	138%	173%	469%	254%
3rd tier	2nd tier	63%*	66%*	102%	81%
	1st tier	180%	107%	140%	136%
2nd tier	1st tier	78%*	0%	16%	17%

Predicted percentage changes in per-case recoveries, based on IPW plus linear regression coefficients from log-linear regressions reported in Table 7. Firm tiers are defined in Table 1. Significant results (at 5% or better) are in **boldface**. All bolded percentages are significant at the 1% level, except for 3rd tier v. 2nd tier Firms (permanent injury), which is significant at the 5% level. For cases where pro se is the control, percentages are based on *net*

---

[29] If the regression coefficient is x. the percentage increase is 100*(e^x-1).

amount recovered (i.e., expected recovery for treated group reflects the payment of a 1/3rd contingency fee, while expected recovery for the control represents 100% of the amount recovered). * indicates marginally significant results at 10% level; **boldface** indicated significant results at 5% level or better.

Table 8 shows that after trimming, IPW, and controlling for covariates, having a lawyer predicts a huge increase in expected recovery – even after paying for the lawyer. The expected recovery increases by 626% (more than seven-fold) if one goes from no lawyer to a fourth-tier firm, and by even more for death and permanent injury. The increases in expected recovery are not as dramatic but remain large as we move up the firm tiers. Moving from a fourth-tier to a third-tier firm predicts a 144% increase in expected recovery across all cases, including a 260% increase for permanent injury cases. Moving from a third-tier to a second-tier firm predicts an additional 81% recovery.

However, first-tier firms do *not* have significantly larger expected recoveries than second-tier firms; the coefficients are generally positive, but are not statistically distinguishable from zero.

V.   Robustness Checks for Firm-tier Classification

The results above are based on assigning firms to tiers based on the amount recovered by each firm over the 11 years in our dataset. A skeptical reader might wonder whether our finding that higher-tier firms earn higher recoveries simply shows that successful firms are successful. To address that issue, we conducted multiple robustness tests of our firm-tier specification.

Our primary strategy is to divide our sample roughly in half (2000-2004, and 2005-2010), and assess whether the assignment of firms to tiers using data from the first half of the sample period predicts outcomes in the second half, and vice versa. We begin in Figure 4 by focusing on the 276 Active Firms that had positive recoveries in both time periods. We find a high correlation in the amount recovered in each period, as well as in firm-tier classifications. Figure 4 presents a scatterplot of *ln*(first-half recovery) versus *ln*(second-half recovery), with horizontal and vertical lines at the thresholds for first-vs-second and second-vs- third-tier firms. Instead of being set at $25M and $5M, the lines are scaled down to reflect the share of total recovery for first-, second-, and third-tier firms in each of the two periods.[30] Figure 4 includes two lines: the dashed line is fitted to the data (with a correlation coefficient of 0.82), and the solid line has a slope of 45 degrees (corresponding to perfect correlation). Recoveries in the two periods are thus highly correlated. The *t*-statistic for the correlation is 143.28 (this is not a typo).

---

[30] More specifically, 47% of the total recoveries were received during 2000-2004, so the thresholds in Figure 4 for that period are ($5M * 47%) and ($25M * 47%), or $2.3M and $11.8M, respectively. These figures appear on the x axis of Figure 4. The thresholds for the second-half ($2.7M and $13.2M) reflect the fact that 53% of the total recovery was secured during 2005-2010, and equal ($5M * 53%) and ($25M * 53%).

Figure 4: Correlation of Firm-tier Recovery: 2000-2004 v. 2005-2010
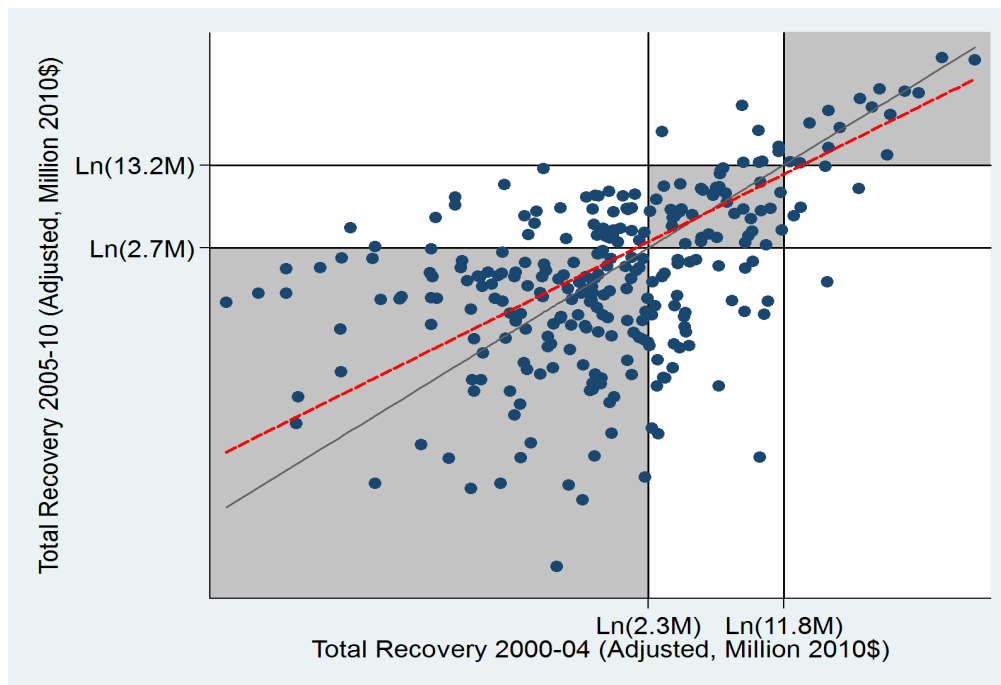
Scatter plot shows total recovery in first period (2000-2004) and second period (2005-2010), for 276 Active Firms (out of 457 total Active Firms) with positive recoveries in both periods. Amounts in 2010 $ millions. Dashed red line: 45-degree line. Fitted line is from regressing *ln*(recovery over 2005-2010) on *ln*(recovery over 2000-2004) plus constant term: *ln*(recovery over 2005-2010) = 0.411 + 0.816 * *ln*(recovery over 2000-2004) (t = 143.28). Dots in shaded regions correspond to firms in the same tier in the 1st and 2nd periods.

How often do firms stay in the same tier in both periods? The shaded regions in Figure 4 correspond to firms remaining in the same tier in both periods (i.e., 1st-1st, 2nd-2nd, and 3rd-3rd). Of the 277 firms in Figure 4, 207 firms (75%) are classified at the same tier during both the 1st and 2nd periods. The remainder split fairly evenly between 33 firms (12%) that moved up and 37 firms (13%) that moved down. Of the 72 firms that moved, only one firm moved up from the third tier to the first tier, and only barely so. One firm moved down from the first tier, but remained well up in the third tier.

For ease of presentation, Figure 4 only includes firms with a positive recovery in both the 1st and 2nd periods. But, we can conduct a similar analysis for all Active Firms, by adding 1 to the recoveries in each period, so that the zero-recoveries do not drop out of the sample when we take logs. We treat zero-recovery as a third-tier outcome. First-half recoveries in the 1st period were even more closely correlated with second-half recoveries (correlation coefficient = 0.95). If we focus on firm-tier, 366 firms (80%) are classified into the same tier in both periods. The remainder split fairly evenly between 44 firms (9.6%) that moved up and 47 firms (10.3%) that moved down. Once again, only two firms moved more than one firm-tier – one up, and one down.

We also conducted several additional robustness checks. More specifically, we used the same IPW method described above to test three alternative firm-tier specifications. The first two methods correspond to the first-half/second half approach shown in Figure 4; the third method relies on a commercial publication that ranks lawyers (Leading Lawyers of Illinois). The details of each specification are as follows:

1. *First-half specification of firm tiers.* We again split our sample roughly in half (2000-2004, and 2005-2010), excluded firms with zero recoveries in the first half, sorted the remaining Active Firms by amount recovered in the first half, and divided Active Firms with positive recoveries during the first half into three groups: first- tier (top 5% of firms), second tier (next 20% of firms), and third tier (bottom 75% of firms,).[31] We then reran the analyses reported in Tables 6-8, using only data for claims closed in *the second-half of the sample period*. Thus, firms with zero recovery during the first half drop out of the analysis, and firm tiers are specified based solely on performance during the first half, but all else, including propensities to be treated, trimming, and coefficient estimates, is obtained using only data from the second half.

2.   *Second-half specification of firm tiers.* Similar to the first-half specification, but we divided firms into tiers based on amount recovered in the second-half, and then reran the analyses reported in Table 6-8, using only data for claims closed *in the first half,* excluding firms with zero recoveries in the second half.[32] Thus, firms with zero recovery during the *second* half drop out of the analysis, and firm tiers are specified based solely on performance during the second half, but all else, including propensities to be treated, trimming, and coefficient estimates, is obtained using only data from the first half.

3.   *Leading Lawyers specification.* "Leading Lawyers of Illinois" is a glossy magazine published by Law Bulletin Publishing Company ("LBPC"). LBPC mails a survey to every lawyer listed in Sullivan's Law Directory. The survey asks "if a family member of friend needs legal help and you can't take the case, which lawyers would you recommend within your area of law or geographic region?" Lawyers may not nominate themselves or anyone at their law firm. The LBPC then goes through several additional steps to identify the most highly regarded lawyers in 100 practice areas, including the three that we rely upon (personal injury law: professional malpractice; personal injury law: general; and nursing home negligence). Leading Lawyers does not have access to information on firm revenues or the total recoveries achieved by each firm. Thus, the Leading Lawyers rankings are based on completely different information than our firm-tier classification.

The October, 2011 issue of Leading Lawyers lists 176 firms with Leading Lawyers in one or more of these categories, of which 106 were Active Firms. Leading Lawyers also identified the top 10 personal injury lawyers in Illinois, who practiced at 8 firms. We classified the eight firms at which the "top 10" personal injury lawyers identified by Leading Lawyers practice as first tier; the other ninety-eight Active Firms with a lawyer classified by Leading Lawyers as expert in any of the three specified practice areas as second tier; and all other Active Firms as third tier. We then repeated our analyses using these alternative definitions for firm tiers.

To simplify the presentation, we report below results with the three alternative ways of computing firm tiers using only the IPW plus linear regression specification, suppress t-statistics,

---

[31] When we sort firms with recoveries in the first half by amount recovered in this half, we have 369 firms with positive recoveries: 18 1st tier firms; 74 2nd tier firms; and 277 3rd tier firms.

[32] When we sort firms with recoveries in the second half by amount recovered in the second half, we have 357 firms with positive recoveries in our sample: 18 1st tier firms; 71 2nd tier firms; and 278 3rd tier firms.

and only boldface the statistically significant results. Table 9 presents the results for success rates, similar to those in Table 6.

Table 9: Impact of Firm-tier on Success Rates, Alternative Tier Definitions

Firm Category			Injury Severity			
Control	Treated	Firm tier based on:	Temporary	Death	Permanent	All
3rd tier	2nd tier	Full Sample	**3.6%**	**4.9%**	**3.6%**	**4.2%**
		1st Half	**6.3%**	**6.8%**	**7.0%**	**7.3%**
		2nd Half	4.4%	9.9%	0.1%	4.3%
		Leading Lawyers	**5.4%**	2.1%	-1.2%	1.6%
	1st tier	Full Sample	**7.7%**	**5.5%**	**5.0%**	**5.8%**
		1st Half	**10.1%**	**5.6%**	**8.5%**	**7.5%**
		2nd Half	2.1%	**8.2%**	3.9%	**5.2%**
		Leading Lawyers	**12.2%**	**6.7%**	**7.2%**	**7.5%**
2nd tier	1st tier	Full Sample	4.5%	0.5%	-0.3%	0.8%
		1st Half	2.9%	-2.16%	0.4%	-0.3%
		2nd Half	-0.3%	0.8%	3.4%	0.6%
		Leading Lawyers	7.2%	2.4%	**9.7%**	**6.0%**

OLS regressions, after trimming and with Inverse Propensity Weights (IPW) of success rate on treatment dummy and same covariates as in Table 6, for four indicated definitions of firm tiers. Coefficients on covariates are suppressed. Full sample firm tiers are defined in Table 1; alternate tier definitions are presented in the text above the table. IPW results use ATT weights. Each row uses separate propensity score estimation and trimming. * indicates significance at the 10%. Significant results (at 5% level or better) are in **boldface**.

Table 10 presents results for expected recovery. Similar to Table 8, we convert coefficients from log-linear regressions, with *ln*(recovery+1) as the dependent variable, into estimated percentage effects.

Table 10: Impact of Firm-tier on Expected Recovery, Alternative Tier Definitions

Firm Category		Firm tier specification based on:	Injury Severity			
Control	Treated		Temporary	Death	Permanent	All
3rd tier	2nd tier	Full Sample	63%	66%	**102%**	**81%**
		1st Half	**135%**	**149%**	**181%**	**174%**
		2nd Half	89%	**313%**	9%	**90%**
		Leading Lawyers	**94%**	28%	-11%	23%
	1st tier	Full Sample	**180%**	**107%**	**140%**	**136%**
		1st Half	**272%**	**120%**	**255%**	**192%**
		2nd Half	47%	**230%**	**119%**	**136%**
		Leading Lawyers	**455%**	**180%**	**231%**	**224%**
2nd tier	1st tier	Full Sample	78%	0%	16%	17%
		1st Half	53%	-21%	9%	0%
		2nd Half	-4%	-13%	89%	17%
		Leading Lawyers	**200%**	68%	**328%**	**169%**

OLS regressions, after trimming and with Inverse Propensity Weights (IPW) of ln(recovery+1) success rate on treatment dummy and same covariates as in Table 6, for indicated definitions of firm tiers. Coefficients on covariates are suppressed. Regression coefficients are converted to percentage changes in dollar recoveries. Full sample firm tiers are defined in Table 1; alternate tier definitions are presented in the text above the table. IPW results use ATT weights. Each row uses separate propensity score estimation and trimming. * indicates significance at the 10%. Significant results (at 5% level or better) are in **boldface**.

For both outcomes, results for the first-half and second-half specifications are consistent with those for the Full Sample specification. Across all cases, we find economically modest (but statistically significant) increases in success rates going from 3rd to 2nd tier, but no further increase going from 2nd to 1st tier firms. We find economically large and statistically significant increases in expected recovery when we go from 3rd to 2nd tier, and smaller or no, and in any case statistically insignificant, increases going from 2nd to 1st tier firms.

The pattern changes when we use Leading Lawyers to specify firm tiers. This time, the increases in success rate and expected recover are small and statistically insignificant going from 3rd to 2nd tier firm, but larger and statistically significant going from 2nd to 1st tier firms. Overall, the Leading Lawyers first tier is comparable to our "regular" first tier, but the Leading Lawyers second tier is more similar to our regular third tier. We note that in the Leading Lawyers specification, there are substantial differences in the number of firms (and the recoveries obtained by those firms) in the 1st, 2nd, and 3rd tier firm bins, compared to the other specifications.[33] Obviously, changes in which firms are placed in each tier can have a significant impact on firm-tier comparisons.

As detailed in Appendix section A-4, we also compared the ranking of plaintiffs' lawyers in Leading Lawyers and another publication (Super Lawyers), compared to our firm-tier specification. Both of these publications use surveys and peer nominations to identify qualifying lawyers. Neither of these publications use payouts (nor do they have access to such information)

---

[33] In the Leading Lawyers specification, there are eight 1st tier and 93 2nd tier firms. Fifty of the 93 2nd tier firms in the Leading Lawyers specification are 3rd tier firms in our regular specification.

as part of their ranking process. We found that higher firm-tiers (using our classification system) were much more likely to have an associated Leading Lawyer or Super Lawyer. And, we found a high degree of correlation between the lawyers identified by these two publications.

Taking these three alternative definitions of firm tiers together, we believe our firm-tier findings are robust to alternative ways to specify firm tiers.

VI. Discussion

A. The Market For Plaintiff-Side Representation in Med Mal Litigation

To our knowledge, this is the first quantitative study of an entire state-wide market for plaintiff-side representation. Using eleven years of detailed claim-level information, we show that the market for plaintiff-side representation in med mal cases is both unconcentrated and highly stratified, with a moderate number of "specialist" firms (loosely, our 1st and 2nd tier firms) bringing cases with the largest recoveries, and many non-specialist firms earning a few recoveries, typically for cases with less severe injuries, with fewer dollars recovered.

More specifically, our dataset is comprised of roughly 18,600 cases, of which 15,500 are handled by around 1,300 firms, and 3,100 cases are handled pro se. The Herfindahl-Hirschman index ("HHI") values for all cases handled, and for all paid cases, is under 100. If we compute HHIs based on the recoveries obtained by each firm, the HHI is under 200. Thus, by any structural measure, the market for plaintiff-side representation in Illinois is extremely competitive. The sub-market for specialist med-mal representation is also un-concentrated, with 22 1st tier and 90 2nd tier firms achieving similar success rates and recoveries, in cases which are similar on observable characteristics.

We do not have information on fees, but in other work we show that several personal injury firms (including one in Illinois) have a standard contingency fee of 1/3rd, which they do discount in some cases. (Hyman, Black & Silver, 2015) The idea that collusion or coordination can explain the prevalence of a standard 1/3rd fee in a market this un-concentrated is implausible on its face.

At the same time, the market for representation in med mal cases is extraordinarily stratified. Eleven firms account for 14% of cases and 33% of recoveries. The 22 first-tier firms account for 19% of cases, and 45% of recoveries. Thus, a small percentage of the overall total of around 1,300 firms is responsible for a heavily disproportionate share of cases and recoveries. These findings are consistent with previous qualitative work, in which only a few firms are recognized as "heavy hitters." (Parikh, 2006-2007; Daniels & Martin, 2015; Kritzer, 2015) Yet none of the 1st tier firms averaged more than 15 paid cases/year – and a few firms made it into the 1st tier primarily on the strength of a single large recovery.

B. The Geography of Plaintiff-Side Representation

We did not anticipate the degree to which plaintiff-side med mal representation is geographically concentrated. Five contiguous zip codes in downtown Chicago account for 19 of the 22 1st tier firms; these firms accounted for 92% of the recoveries by all 1st tier firms. The same five zip codes accounted for 64% of total recoveries across all cases. These zip codes occupy approximately 1.5 square miles. By way of comparison, Cook County is 1,635 square

miles, and Illinois is almost 58,000 square miles. The degree of geographic concentration of representation within a small area within Cook County is remarkable – particularly given the costs a client can incur to visit a law firm in one of these zip codes.[34] Similar patterns of geographic concentration have been observed in many other industries.[35] Further research is needed to evaluate whether lawyers in other specialty areas also concentrate geographically and why. Proximity to the Cook County courthouse is one possible explanation.

Cook County has attracted considerable attention from tort reformers as a plaintiff-friendly venue. (Vidmar, 2005). Indeed, Cook County, along with Madison and St. Clair Counties, is often included in the American Tort Reform Association's annual reports on "judicial hellholes." Does our data support these claims? As we explore in greater detail in Appendix section A-5, med mal litigation patterns in Madison and St. Clair Counties are similar to the rest of Illinois. Cook County has a higher share of med mal litigation and higher average per-case recoveries than the rest of Illinois – but this may reflect only the fact that many people travel to Chicago to receive complex medical treatments, coupled with Illinois' venue rules (which require plaintiffs to sue where the injury occurred). To make further progress on this issue, one would need patient-level data on where healthcare is provided in Illinois, and how much of that healthcare is provided in Cook County. We continue to research this issue. Still, the data we have provides evidence that, for med mal claims, Madison and St. Clair do not deserve to be called "judicial hellholes" For Cook County, more data is needed before any firm statement can be made.

C. Advertising and Plaintiff-Side Representation

Prior research has shown that top med mal lawyers rely heavily on referrals from other attorneys, and most do not advertise all all.[36] (Kritzer, 2015; Daniels & Martin, 2015; Parikh, 2005). In unreported analysis, we confirm these findings for advertising to the public, but find a very different pattern for advertising directed at other lawyers. The higher the firm-tier, the lower the likelihood that the firm advertises in the Yellow Pages, but the higher the likelihood that it advertises in the Leading Lawyers and Super Lawyers trade publications. None of the 1st tier firms advertises in the Yellow Pages, but these firms dominate the ads in Leading Lawyers

---

[34] In the downtown area, on-street metered parking currently costs $6.50 per hour, and parking garages often charge $25-30 for a 1-2 hour stay. Several Chicago-area firms located outside the downtown area advertise in the Yellow Pages that clients can avoid parking fees by selecting them. None of these firms are in our dataset.

[35] See, e.g., Chana Joffe-Walt & Adam Davidson, Why Clusters of Like Businesses Thrive, NPR Planet Money, Dec. 10, 2009. ("New York has a lighting district, a plants district, a kitchen supply district, an Indian restaurant district," and a diamond district.) Other examples include computers and software (Silicon Valley); cars (Detroit), and film (Hollywood).

[36] The Habush firm in Wisconsin, which advertises heavily, is an important exception. (Kritzer, 2015). Indeed, the Habush name is so valuable that another firm (Cannon & Dunphy) purchased that name as a "keyword," so that Cannon & Dunphy's ads would appear if someone ran a Google search for "Habush." Habush unsuccessfully sued Cannon & Dunphy for violating their right of publicity. Habush v. Cannon, 09-CV-18149 (Wis. Cir. Ct. June 8, 2011).

and Super Lawyers. Indeed, four of the top eleven firms in our league tables (Table 3) have full-page or multi-page ads in the first ten pages of a recent issue of Leading Lawyers.[37]

Leading Lawyers also includes a list of the top ten personal injury lawyers in Illinois. All ten of these lawyers practice at firms that advertise in Leading Lawyers -- and none of these firms advertise in the Yellow Pages. Elite plaintiffs' lawyers do advertise – but in venues that target other law firms that can refer cases to them, not to the general public.

D. Where Did Elite Plaintiffs' Lawyers Go to Law School?

Qualitative research has suggested that the "heavy hitters" of the plaintiffs' bar almost always attend non-elite law schools. (Parikh, 2006-2007; Daniels & Martin, 2015) We confirm these findings. The 22 1st-tier firms have a total of 56 named partners. Sorted by the 2015 U.S. News ranking, the six law schools in Chicago are University of Chicago (4th); Northwestern (12th); Loyola (78th tie); Chicago Kent (78th tie); DePaul (122nd); and John Marshall (rank not published). The University of Chicago accounted for one (2%) of the partners; Northwestern accounted for four (7%); Loyola accounted for ten (18%); DePaul for nine (16%); Chicago Kent for seven (13%); and John Marshall for ten (18%). Nine other schools accounted for the remaining fifteen named partners (26.8%) – but only one (Michigan) would be viewed as an elite school.[38] Thus, non-elite law schools accounted for 89% of the named partners at 1st tier firms, with four non-elite Chicago law schools (Loyola, DePaul, Chicago Kent, and John Marshall) accounting for 64% of the named partners.

According to one plaintiffs' lawyer that participated in Shepherd's (2014) study, med mal is "the sport of kings." If one wishes to become a king, attending a non-elite city law school appears to offer one of the few pathways for ascending to the throne.

E. The Wages of Risk, Contingency Fee Caps, and Access to Justice

Plaintiffs' lawyers assume the risk that they won't be paid, but defense lawyers do not. How much are plaintiffs' lawyers paid to assume this risk? And, how much do the wages of risk vary by firm-tier? Table 5 shows that the wages of risk are modest overall, but are substantial for firms at the top of the recovery spectrum. When we take out-of-pocket expenses into account, which plaintiffs' lawyers only recover if they win a recovery, we find only slightly lower wages of risk. This indicates that these expenses are a less significant risk for med mal firms than the value of the time spent on cases that do not result in a recovery. However, 1st tier firms do not pocket the full wages of risk from the cases they bring, since they routinely pay referral fees to originating lawyers.

We also estimate the impact of contingency fee caps, and find that the pre-2013 Illinois cap, if it were binding rather than waivable (and routinely waived) would dramatically reduce the wages of risk. Tort reform proponents argue that fee caps put more money in the pockets of

---

[37] These four firms account for six of the first ten pages in the October, 2013 issue of Leading Lawyers of Illinois. Two more pages are taken up by an ad for a 2nd-tier firm that fell just below our cut-off for the 1st tier, and the remaining two pages are taken up by an ad for a firm that specializes in family law.

[38] The remaining fifteen named partners went to St. Louis University (4 partners), the University of Illinois (3 partners); and the University of Miami (2 partners). Capital, Case Western, Michigan, NIU, Notre Dame, and Washburn accounted for one partner each.

injured plaintiffs, and are needed to ensure that plaintiffs are not overcharged. Neither position is sound. Instead, a fee cap that significantly reduces the wages of risk will likely reduce access to legal services -- limiting the ability of plaintiffs to recover in the first instance. As noted above, the market for plaintiff-side legal representation is extremely un-concentrated, and hence presumptively price-competitive. Absent any evidence that the market is not competitive, it is hard to make an economically plausible argument for capping contingency fees in med mal cases.

F. Do Lawyers Add Value – And Do They Earn Their Keep?

We observe economically large and statistically significant differences in success rates and expected recoveries between pro se cases and cases where a med mal plaintiff has a lawyer – even a 4th-tier lawyer. Selection effects could explain these differences. Plaintiffs' lawyers devote considerable effort to screening and turn away most potential plaintiffs. Some of those potential plaintiffs pursue recoveries pro se. We also find evidence that, both in this study and in related work with the same dataset (Rahmati et al., 2016), that some pro se cases stay pro se either because damages are small, liability is clear, or both.

The modestly higher success rates and substantially higher recoveries earned by Active Firms, and even more so by 1st and 2nd tier firms, could also be due entirely to selection. Thus, our results provide an upper bound on the value added by lawyers. Still, that upper bound is quite high, even taking into account that plaintiffs' lawyers must be paid, with a modal contingency fee of 1/3rd of the recovery. (Hyman, Black & Silver, 2015)

We use extensive case-level covariates and careful balancing methods for observational studies, including trimming the sample and regression with inverse propensity weights, to compare the *net* recovery for the plaintiff, after paying a one-third contingency fee (if represented by counsel) v. keeping the entire recovery (if handled pro se). Our ATT (average treatment effect for cases which are "treated" with legal representation is a *net* recovery that is over 11 times geater (1,056% higher) than if they (counterfactually) proceed pro se. Plaintiffs that are represented by an Active Firm have a net recovery that is over 20 times greater (2,028% higher) than if they (again counterfactually) proceed pro se. The upper bound is large, indeed.

G. Does It Matter Which Plaintiffs' Lawyer Handles a Med Mal Case?

Conditional on having a lawyer, does it matter which plaintiff's lawyer handles the case? In our first cut at the issue, we find success rates increase modestly, and expected recoveries increase more substantially as one moves up to a higher firm tier. The higher expected recoveries are not driven by the way we define firm tiers – we find similar results across a variety of ways to specify tiers.

We then use trimming and IPW to create a balanced sample, and control, to the extent feasible, for selection effects. In keeping with the widely held belief that lawyer quality matters, we found that cases handled by 4th tier firms would have been worth more if they had been handled by a 1st, 2nd, or 3rd tier firm, and that cases handled by 3rd tier firms would have been worth more if they had been handled by a 1st or 2nd tier firm. Thus, there is more to being a top-tier firm than just the luck of having good cases arrive at one's door. Stated differently, "better" lawyers extract more value from the cases they handle – partially because they win more often, but more importantly because they get a lot more when they win.

But, we also find evidence of diminishing marginal returns to expertise. Past research indicates 1st tier firms are extremely selective about the cases they accept -- but that selectivity does not translate into a higher success rates or expected value than 2nd tier firms.

Second, the disparities in firm-tier performance are much larger for expected recoveries than for success rates. If selection effects accounted for the observed differences, we would expect to find consistent disparities across both domains.

Our findings indicate that skill matters – and matters a lot, in explaining why some plaintiffs' lawyers own private jets, while others take the bus to work. But, our findings also show that Lady Luck, in the form of favorable case selection matters as well.

H. Are Referral Markets Efficient?

As noted previously, the market uses advertising, referrals and reputation to steer cases to lawyers best suited to maximize their expected value. But, our findings indicate that, with some frequency, lawyers at the bottom of the recovery spectrum are handling cases that, on average, would have a higher expected recovery if they were matched with lawyers higher up the food chain. Why might this happen? One obvious possibility is informational. The attorney that initially gets the case may fail to recognize its upside potential, or may recognize it too late to refer it elsewhere. Another possibility is deficient incentives. The attorney that initially gets the case may not be able to obtain a large enough referral fee to justify sending it elsewhere. A third possibility is over-confidence bias on the part of the initial attorney. Finally, the initial attorney may have sought to refer the case out, but been refused. We are unable to differentiate between these competing explanations with the data that is available to us.

Given these circumstances, what advice do we have for plaintiffs with a med mal claim? Plaintiffs should do their best to secure representation from a 1st tier or 2nd tier firm. Plaintiffs should avoid 3rd tier firms, and shun 4th tier firms, for whom this is their first (or ninth) time at the rodeo. Finally, if 1st tier and 2nd tier firms decline a request for representation, plaintiffs should probably revisit (and lower) their expectations about the value of their cases.

I. How Do Elite Plaintiffs' Lawyers Add Value?

Our findings help place some boundaries on the extent to which elite plaintiffs' lawyers add value – but cast no light on how they might they do so. However, there are several obvious possibilities. Elite plaintiffs' lawyers might do a better job:

- identifying cases with higher expected value;
- working up cases;
- finding experts;
- conducting direct and cross-examination;
- finding additional sources of insurance coverage.

One can imagine other ways in which elite plaintiffs' lawyers can add value – particularly in a specialized area like medical malpractice. Of course, all of this is speculation. Quantification will require better data.

J. Screening, Success Rates, and Seriousness

Physicians and tort reform advocates point to the high percentage of claims that close without payment as evidence that most med mal litigation is frivolous. Physicians are particularly aggrieved, since they spend a significant share of their career with one or more med mal claims hanging over their head. (Jena et al, 2013) There is also a significant psychic cost to being sued, even if one is ultimately vindicated. On the other hand, plaintiffs' attorneys insist that they screen cases with great care, and argue that contingency fees ensure they will only pursue cases that they believe have merit.

Can these competing perspectives be harmonized? Empirical research has shown that plaintiffs' attorneys turn away most of those seeking representation (Kritzer, 2004, 1997; Hyman, Black & Silver, 2015). Case-level success rates are also far higher than commonly believed (Hyman, Black & Silver, 2015) Cases that are closed without payment appear to be made up of two distinct categories: serious cases, and non-serious cases. The former group of claims has sufficient merit that defendant-insurers are willing to incur legal fees (often sizeable legal fees) to defend against the risk of an indemnity payout. The latter group of claims seemingly go away on their own – either because they were never "real" claims to begin with (i.e., the insurer opened them on their own, without any reasonable prospect of being held liable), or because they started out as a real claim, but the plaintiff's attorney quickly discovered they lacked merit and dropped them.

As Table 2 indicates, the percentage of serious cases climbs steadily as we move up the recovery spectrum. Insurers treat most pro se cases as non-serious. And, we find the frequency of nuisance-level payments in non-serious cases is much higher at 4th tier firms than at 1st, 2nd, and 3rd tier firms. All of this is what we would expect to find if plaintiffs' attorneys aggressively screen cases, and defense lawyers know that they do so, and use the firm-tier/identity/reputation of the plaintiffs' firm as a signal of the likely merits. (Kritzer, 2004) That said, even at the most elite of plaintiffs' firms, a majority of serious cases close without payment – showing how difficult it is for even highly skilled and motivated plaintiffs' lawyers to prevail.

K. How Should We Think About the Residual Differential?

Our analysis treats the residual differential (i.e., the observed results in Tables 6 – 8, after we use trimming and IPW to control for case-specific attributes) as an upper bound on the effect of the plaintiffs' lawyer on case outcomes. Is that a fair assumption? The residual differential should go down if an additional (currently omitted) covariate explained some of the observed outcome. For example, if firms higher up the recovery spectrum disproportionately handle cases where liability is easy to establish, some of the observed differences in firm-tier success rates would be attributable to that fact. Similarly, if firms higher up the recovery spectrum disproportionately handle cases where provable damages and policy limits are higher (even after controlling for injury severity), some of the observed differences in recovery conditional on success would be attributable to that fact. If we had covariates that captured those case-level attributes, the residual differential would be lower. Because we do not have a covariate that reflects several obvious case-level attributes (e.g., case strength, coverage limits, actually incurred damages and policy limits), the residual differential currently captures any differences attributable to these omitted covariates. In combination, this means that the actual effect of the

plaintiffs' lawyer is likely to smaller than the observed coefficients in Tables 6 and 7, and the percentages in Table 8. As such, we believe our results present a plausible upper bound.

To be sure, it is theoretically possible for the residual value to understate the impact of the plaintiffs' lawyer on case outcomes. Suppose it turned out that higher firm-tiers handled much more difficult cases. Or suppose that we obtained a covariate that indicated the expected value of the damages in a specific case was only $100k, but, when an exceptional plaintiffs' lawyer handled the case, it turned out to be worth $150k. Under those circumstances, the residual differential would under-estimate the value added by the plaintiffs' lawyer – and adding the omitted covariates would cause the residual to increase. But, it is the net effect of all the omitted covariates that matters, and we have listed several omitted covariates (liability risk, case strength, actually incurred damages, and policy limits) – each of which seems likely to reduce the observed residual differential. We doubt that additional omitted covariates are sufficiently large to overwhelm the effect of the listed covariates. For that reason, we believe our estimates provide a plausible upper bound on the impact of the plaintiffs' lawyer on case outcomes.

Finally, in our interviews, plaintiffs' lawyers emphasized the importance of screening to identify "good cases" (Hyman, Rahmati, Black & Silver, 2015b). Should we treat the identification of "good cases" as an attribute of the plaintiffs' lawyer, or of the underlying case? If, as seems likely, the answer is "some of both," what is the correct split? The authors have gone back and forth on this issue, and reached the unsatisfying conclusion that we don't have to decide these philosophical issues until we come up with a covariate that actually captures whatever it is that our interviewees are describing. Until then, any effect is captured by our residual differential, along with all the other omitted covariates.

L. ATT and Access to Justice

Our findings are based on information from closed med mal claims files. Insurers invariably open a claim file when an insured physician receives a complaint alleging malpractice. Short of that, insurers may open claim files when they are informed that the insured is worried about being sued – usually because of a bad outcome, or conflicts with the patient. Some insurers also reportedly open claim files when an insured receives a request for medical records from a lawyer (Hyman, Rahmati, Black & Silver, (2015a)). It is certainly possible that the large number of non-serious claims in our dataset (i.e., claims in which the defendants incurred <$5k in defense costs, unless they paid >$25k in indemnity) are there because insurers are quick to open claim files even if there is not a *bona fide* risk of liability.

However, past research makes it clear that an overwhelming majority of those who receive negligent treatment never initiate a claim (Hyman & Silver, (2006); Mello & Brennan, (2002)). Patients may not realize they have been negligently injured. Provable damages may be too small, or liability may be too hard to prove to justify a lawsuit. Or the patient may have no interest in suing their doctor, particularly if they received an apology. Regardless of which reason or combination of reasons explains this phenomenon, it is clear that "under-claiming" is widespread.

Why does this matter? First, our dataset only includes the results of interactions between patients and health care providers that result in a claim file. Stated differently, interactions between patients and health care providers that do not result in a claim file are "out of sample" – even if those interactions involved negligent treatment that would or should have been

compensated had a claim actually been initiated. We quantify the average treatment effect for the treated ("ATT") on the actual claims that are brought, but one should not assume that the ATT will be the same for the universe of interactions that are not (but could have been) claims. Of course, absent some exogenous shock, there is no reason to expect many of these "non-claims" to suddenly become claims.

Second, our results are consistent with the overall findings of the access to justice literature -- that having a lawyer makes a large difference in the outcome of a case. In fairness, most of the access to justice literature fails to adjust for covariates, and has other limitations. And, randomized studies on the effects of representation have been considerably more mixed, although none of these studies involved personal injury litigation – let alone med mal litigation. The access to justice literature has also become more sophisticated in its treatment of the supply and demand side constraints and preferences that affect use of the legal system to resolve disputes. (Albiston & Sandefur, 2013)

In other work, we find that small paid claims (i.e., <$50k) have been almost entirely squeezed out of the med mal system (Hyman, Rahmati, Black & Silver, (2015)). We think it unlikely that the typical menu of reforms proposed by access to justice proponents will be sufficient to reverse this trend – let alone deal with the staggeringly large number of non-claims. More specifically, we are skeptical that unbundling and limited performance agreements will have much of an impact – even though we have previously argued in favor of these strategies (Hyman & Silver, (1998)). We are also skeptical that elimination of the corporate practice of law doctrine will have any impact. (Hadfield, 2014; Hadfield, 2008) Simply stated, there is a reason why many plaintiffs' lawyers view med mal as the "sport of kings." (Shepherd, 2014)

The virtual disappearance of small paid claims raises both a policy concern and a political opportunity. If smaller claims are no longer being brought, med mal liability is providing neither deterrence nor compensation. An alternative system is needed. Proposals to move to a no-fault system have been made before (e.g., Studdert & Brennan, 2000; Tancredi, 1986). These proposals foundered because no-fault compensation was projected to greatly increase the number of claimants, and consequently raise total payouts. Plaintiffs' lawyers also opposed these proposals, because they expected their fees would be reduced in a no-fault system. As a result, apart from birth injury cases in Virginia and Florida, med mal no-fault has been defeated in every state in which it was proposed.

Perhaps policymakers should consider a no-fault system limited to small claims. No fault for small claims will only modestly increase total payouts for medical injuries. And, plaintiffs' lawyers are no longer handling many small claims, so there should be little opposition to a no-fault system limited to these claims. Physicians have long sought ways to eliminate the "naming, blaming, and shaming" implicit in our fault-based system. The combination of these factors can make no-fault for small claims a politically attractive way to "do something" about med mal. We could then learn whether no-fault compensation for med mal works (or doesn't work), from state-level pilot programs. Depending on the performance of these pilot programs, and the politics of each state, these programs could conceivably be expanded to larger claims (or not).

M. IPW and The Limits of Causal Inference

Cases are not randomly assigned to to be handled pro se or by particular firms. Because we do not observe the results of counter-factual combinations, it is difficult to determine the

actual impact of a lawyer and of firm-tier on case outcomes. We address this difficulty with trimming and inverse propensity weighting, so as to create a balanced sample. Using this balanced sample, we can more directly assess the impact of lawyers and firm tier on success rates and recovery, conditional on success. We conduct multiple robustness tests of our firm-tier specification.

But, regardless of how many robustness tests we run, IPW and similar matching methods for causal inference do not create a true randomized sample. Our trimming and IPW is only as good as our data – and we only have data on factors that were both observed and recorded. Unobserved and observed but unrecorded factors might well result in different matching, trimming, and inverse propensity weighting, which would affect our results. Some of the residual differences in outcome we observe are likely attributable to these unobserved or observed but unrecorded covariates. For that reason, we view our findings as setting an upper bound on the effect of representation.

Despite these limitations, we still find very large differences in case outcomes when a lawyer is present, and in cases handled by firms at different points on the recovery spectrum. More work (and better data, including the defendant insurer's *ex ante* assessment of liability and damages) will be required to make progress on this issue.

VII. Conclusion

The market for plaintiff-side representation in med mal cases is simultaneously un-concentrated and highly stratified. If not "top-tier firms take all," it is at least "top-tier firms take most." For most plaintiffs' lawyers in Illinois, the wages of risk – the premium they earn for working on contingency -- are actually negative. Only for firms at the top of the recovery spectrum does this shift – a few firms earn substantial rewards from taking contingency fee cases. The overall wages of risk are relatively modest – which is what one would expect to find in an unconcentrated market, with limited barriers to entry.

We cannot fully address the selection problems which affect any effort to quantify how much value lawyers add in med mal cases. But we believe we have made progress on that question. Plaintiffs' lawyers appear to add substantial value to med mal cases, even after accounting for their cost. Higher-tier law firms appear to add additional value, beyond that provided by the 4th-tier firms. Lawyers – and higher-tier firms -- appear to do so both by increasing the probability of prevailing, and by increasing the payout conditional on success. Absent a randomized trial, we cannot give a definitive answer to the question of whether med mal claimants are better off with a lawyer – let alone with a lawyer from one firm-tier as opposed to another. But, we are not holding our breath waiting for those studies to be conducted. Accordingly, we give the last word on the subject to Chico Marx: "whenever you've got trouble, the best thing to do is get a lawyer. Then you got more trouble, but at least you've got a lawyer."

Appendix

A-1.   Justifying the Assumption of Symmetric Expenses

Our analysis of the wages of risk assumes that plaintiffs and defendants have symmetric expenses. How plausible is that assumption? This assumption leads to imputed expenses averaging 2.1% of the amounts recovered by plaintiffs, ranging from 1.6% for 1st tier firms, to 5.3% for 4th tier firms – consistent with previous work showing that plaintiffs' expenses account for 2-3% of the amounts recovered. (Studdert, Mello, et al, 2006; Hyman, Black & Silver, 2015). But, we are also able to test the assumption directly, using data from another project. (Hyman, Black & Silver, 2015). As part of that project, we obtained data on plaintiff-side fees and expenses for a firm in Illinois that does medical malpractice litigation. Using information on the name of the plaintiff, the payout, and the plaintiff's firm, we were able to match and compare expenses for 48 claims, each with a positive payout. Figure A-1 provides a kernel density plot of expenses for plaintiffs and defendants for these claims. So as to include the 14 claims with zero defense-side expenses, we computed the kernel density plot based on ln(expenses + 1).

Figure A-1: Kernel Density Plot for Plaintiff and Defense Expenses
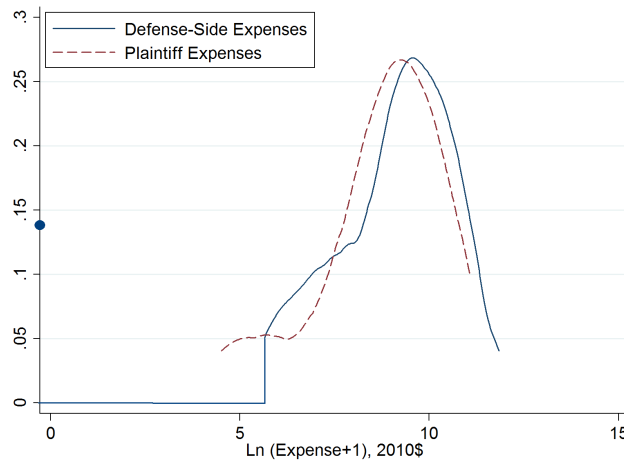
Kernel density plots of *ln*(expenses +1) for 48 matched claims with both plaintiff and defense expenses. Claims are from one 1st tier firm. Amounts in 2010 $.

If we limit the analysis to claims in which both sides are incurring expenses, those expenses are similar for plaintiffs and defendants. Plaintiffs have mean expenses of $13.8k, and defendants have mean expenses of $14.3k. But, as Figure 1 shows, in almost 30% of the matched claims, defendants do not incur any expenses. Presumably, plaintiffs incur expenses in these cases, even though defendants do not. If we exclude the 14 cases where defendants incur no expenses, plaintiffs have mean expenses of $14.4k, and defendants have mean expenses of $20.2k. We believe these findings generally confirm our assumption of symmetrical expenses across all cases.

A-2.   Effect of Contingency Fee Caps

In a recent article, we estimated the effects of various contingency fee caps on the 124 firms for which we had data. (Hyman, Black & Silver, 2015) We found that a flat one-third contingency fee cap would have almost no effect, since the plaintiffs' attorneys in our dataset almost never charged more than that – and routinely charged less, particularly for smaller cases. But, sliding scale contingency fee caps had a real impact – the magnitude of which depended on

cap design and the portfolio of cases to which it was applied. We use the same approach in Table A-2 to estimate the impact of Illinois' sliding scale contingency fee cap, with the results broken out by injury severity and firm-tier.

Table A-2: Fee Reduction From Applying Illinois' Contingency Fee Cap by Injury Severity and Firm-tier

Firm-Tier	Temporary Injury	Permanent Injury	Death	All
4th tier	-7%	-13%	-14%	-12%
3rd tier	-14%	-20%	-19%	-19%
2nd tier	-19%	-24%	-22%	-23%
1st tier	-20%	-30%	-24%	-27%
All	-16%	-26%	-21%	-23%

Percentage impact of sliding scale contingency fee cap, allowing 33% on first $150k, 25% on next $850k, and 20% on amounts exceeding $1M. Firm tiers are defined in Table 1.

The figures in Table A-2 are expressed as a "haircut" relative to a standard fee of 33%. This calculation implicitly assumes that the same cases will be brought once a contingency fee cap applies. For reasons we explain above, that assumption is implausible on its face.

A-3   Assessing Covariate Balance

The combination of inverse propensity weights (IPW) and trimming is intended to balance the treated v. control groups on observable covariates. Table A-3 evaluates balance on all of the covariates employed in computing the propensity score for one particular comparison, of 4th tier firms to All Active Firms. We show sample means for the two groups, a two-sample t-test for differences in means, and the normalized differences between the two groups, in each case before and after trimming and reweighting. The normalized difference is defined as $ND_j = (\bar{x}_{jt} - \bar{x}_{jc})/[(s_{jt}^2 + s_{jc}^2)/2]^{1/2}$ (see Imbens and Rubin, 2015). The unweighted, untrimmed sample shows large differences on some covariates. In contrast the trimmed, weighted sample shows quite good balance across all covariates. We conduct a similar weighting and trimming process for all other comparisons for which we report results in text.

Table A-3 Mean of Variables for 4th tier firms versus Active Firms, Before and after Trimming and Weighting

	Unweighted		With IPW		t-test for Difference		Norm. Difference	
	4th tier	Active Firms	4th tier	Active Firms	Unweighted	Weighted	Unweighted	Weighted
Specialty Dummy								
Anesthesiology	2.0%	2.5%	2.4%	2.4%	-1.88	0.20	-0.04	0.00
Cardiovascular Disease	2.0%	3.7%	3.3%	3.2%	-4.88	0.19	-0.10	0.00
Emergency Medicine	3.9%	4.3%	4.1%	4.1%	-1.13	-0.04	-0.02	0.00
Family Physicians Or General Practitioners	6.1%	7.8%	7.2%	7.3%	**-3.23**	-0.25	-0.06	0.00
Gastroenterology	1.3%	2.2%	2.0%	1.9%	**-3.11**	0.54	-0.06	0.01
Hematology/Oncology	0.6%	0.8%	0.7%	0.7%	-0.88	0.01	-0.02	0.00

Internal Medicine	9.5%	11.9%	11.0%	11.2%	**-3.88**	-0.32	-0.08	0.00
Nephrology	0.4%	0.6%	0.6%	0.6%	-1.56	0.33	-0.03	0.00
Neurology	0.9%	1.2%	1.1%	1.1%	-1.65	0.05	-0.03	0.00
Obstetrics And Gynecology	9.2%	11.0%	10.4%	10.5%	**-3.08**	-0.15	-0.06	0.00
Pediatrics	1.9%	2.4%	2.2%	2.2%	-1.64	-0.09	-0.03	0.00
Psychiatry	1.2%	1.0%	1.1%	1.1%	1.15	0.23	0.02	0.00
Pulmonary Diseases	0.9%	1.3%	1.3%	1.2%	-1.90	0.40	-0.04	0.01
Radiology	3.5%	4.8%	4.3%	4.4%	**-3.30**	-0.38	-0.07	-0.01
Surgery - Other Than Obstetrics	26.0%	25.3%	25.8%	25.6%	0.86	0.32	0.02	0.00
Professional Dummy								
Physician	63.9%	64.8%	65.1%	64.6%	-0.95	0.70	-0.02	0.01
Hospital	16.6%	14.9%	15.3%	15.4%	2.44	-0.14	0.05	0.00
Other Individual	6.8%	13.8%	11.5%	11.7%	**-11.38**	-0.50	-0.23	-0.01
Severity Dummy								
Temporary Insignificant	6.8%	2.0%	3.4%	3.4%	**13.95**	0.07	0.24	0.00
Temporary Minor	17.2%	8.4%	11.1%	11.0%	**14.62**	0.13	0.26	0.00
Temporary Major	18.1%	15.2%	16.2%	16.0%	**4.06**	0.28	0.08	0.00
Permanent Minor	14.0%	13.3%	13.5%	13.5%	1.05	-0.07	0.02	0.00
Permanent Significant	8.9%	12.2%	11.2%	11.2%	**-5.38**	-0.12	-0.11	0.00
Permanent Major	5.2%	8.2%	7.1%	7.3%	**-6.03**	-0.57	-0.12	-0.01
Permanent Grave	1.4%	3.0%	2.6%	2.6%	**-5.36**	0.13	-0.11	0.00
Death	24.6%	36.4%	33.0%	33.0%	**-13.09**	0.02	-0.26	0.00
Region Dummy								
Cook, McHenry, Will	46.8%	53.1%	51.0%	51.3%	**-6.61**	-0.46	-0.13	-0.01
Madison, St. Clair	4.1%	3.9%	4.2%	4.0%	0.42	0.74	0.01	0.01
Dupage, Kane, Lake	19.3%	20.1%	20.1%	19.9%	-1.03	0.47	-0.02	0.01
Champaign, Jackson, Macon, Sangamon, Vermilion	5.3%	4.1%	4.5%	4.4%	**3.01**	0.09	0.06	0.00
Out of State	21.2%	15.3%	16.8%	17.0%	**8.06**	-0.40	0.15	-0.01
Plaintiff Age Category								
Plaintiff Age- 0-3	6.7%	10.4%	9.3%	9.3%	**-6.72**	-0.12	-0.14	0.00
Plaintiff Age-4-17	4.6%	5.4%	4.8%	5.1%	-1.84	-0.82	-0.04	-0.01
Place of Injury								
Hospital Inpatient Facility	53.5%	63.8%	60.9%	60.8%	**-11.03**	0.21	-0.21	0.00
Other Variables								
Year	2005	2005	2005	2005	0.01	0.35	0.00	0.00
Foreign Education	14.6%	15.8%	15.5%	15.4%	-1.75	0.12	-0.03	0.00
Board Certificate	33.1%	42.5%	39.7%	39.7%	**-9.97**	0.09	-0.19	0.00
Female Plaintiff	58.5%	56.2%	56.9%	57.0%	2.42	-0.04	0.05	0.00

A-4   Leading Lawyers and Super Lawyers

There are two competing publications (Leading Lawyers of Illinois and Super Lawyers) which rank plaintiffs' lawyers.[39] Neither publication uses recoveries to identify the lawyers that

---

[39] The Leading Lawyers selection process is described above. Super Lawyers is a rating service that identifies "outstanding lawyers from more than 70 practice areas who have attained a high-degree of peer recognition and professional achievement." *See* http://www.superlawyers.com/about/.   According to the website, "the selection process includes independent research, peer nominations and peer evaluations." The selection process

they recognize, and each uses its own unique methodology. As such, these publications provide a further independent robustness check on our firm-tier classification.

If our firm-tier classifications are capturing something real about the market for representation, 1st tier firms should be more likely to have Leading Lawyers and Super Lawyers than 2nd tier firms; 2nd tier firms should be more likely to have Leading Lawyers and Super Lawyers than 3rd tier firms; and 3rd tier firms should be more likely to have Leading Lawyers and Super Lawyers than 4th tier firms. Finally, there should be a substantial correlation between those designated as Leading Lawyers v. Super Lawyers.

Table A-4 breaks out the distribution of Leading Lawyers and Super Lawyers by tier.[40] To simplify the analysis, we assume that any Leading Lawyer or Super Lawyer not affiliated with a 1st, 2nd, or 3rd tier firm was associated with a 4th tier firm; this likely overstates the share of 4th tier firms with a Leading or Super Lawyer.[41] Table A-4 also reports the breakdown of the 113 firms that were listed in both Leading Lawyers and Super Lawyers – of which 77 are 1st, 2nd, or 3rd tier firms.

Table A-4: Leading Lawyers and Super Lawyers Designation by Firm Tier

Firm Tier		No. of firms	Leading Lawyers		Super Lawyers		Both (Leading + Super)	
			Listed	Share	Listed	Share	Listed	Share
4th tier		860	70	8%	56	6%	36	4%
Active Firms	3rd tier	347	51	15%	56	16%	29	8%
	2nd tier	90	35	39%	38	42%	29	32%
	1st tier	22	20	91%	20	91%	19	86%
	All	457	106	23%	113	25%	77	17%
All		**1,317**	**176**	**13%**	**169**	**13%**	**113**	**9%**

As Table A-4 reflects, the percentage of firms with an associated Leading Lawyer and Super Lawyer climbs steadily with higher tiers. Even with our overly generous assumption about the allocation of residual Leading/Super Lawyers to fourth-tier firms, only 6%-8% of 4th tier firms had an associated Leading Lawyer or Super Lawyer v. 15%-16% of third-tier firms; 39%-42% of second-tier firms; and 91% of first-tier firms. The final columns in Table A-4 show that we obtain similar results when we analyze the firm-tier breakdown of firms listed in both Leading Lawyers and Super Lawyers.

---

is described in more detail at http://www.superlawyers.com/about/selection_process.html. Using the 2010 results, we identified the firms at which Super Lawyers practiced for three separate categories: PI general; PI med mal; and Professional liability. As Table A-4 indicates, we identified a total of 169 firms that had lawyers who were designated in one or more of these categories, of which 113 are Active Firms.

[40] In unreported analysis, we explored the overlap between Leading Lawyers and Super Lawyers. Of the 457 Active Firms, a total of 142 firms were recognized by one or both of these publications. Seventy-seven firms (54%) were recognized by both publications; 29 firms (21%) were only recognized by Leading Lawyers, and 36 firms (25%) were only recognized by Super Lawyers.

[41] A Leading Lawyer or Super Lawyer that handles non-med mal personal injury cases would not appear in our dataset. But, we treat them as affiliated with a 4th tier firm, thereby inflating the share of Leading Lawyers and Super Lawyers at that firm-tier.

A-5   Judicial Hellholes?

Table A-5 compares the share of med mal cases and recoveries in Cook, Madison, and St. Clair Counties, compared to the rest of Illinois. Table A-5 also presents the share of population, health care spending, and location of first-, second, and third-tier Firms in the same counties.

Table A-5: Location of Cases and Firms

	Share of					
	Cases					1st, 2nd, and 3rd tier Firms
County	All	Pro Se	Recovery	Population	Healthcare Spending	
Cook	47.2%	40.3%	56.7%	40.5%	44.5%	62.1%
Madison	1.8%	0.9%	2.3%	2.1%	2.0%	3.3%
St. Clair	2.2%	2.2%	1.3%	2.1%	1.9%	4.0%
All Other	48.9%	56.6%	39.6%	55.3%	51.6%	30.5%

Location is based on county where injury occurred, except for location of 1st, 2nd, and 3rd tier Firms column, where it is based on the zip code as reported on each firm's website. For firms with multiple offices, we use the first listed office. Firms located outside Illinois are treated as "Other." Share of population is based on 2010 Census data. Health Spending Share is based on average Medicare fee-for-service spending for 2000, 2005, and 2010 for each county.

As Table A-5 reflects, Cook County accounts for 47% of all med mal cases in Illinois – only slightly more than its share of Illinois healthcare spending (45%), and somewhat more than its share of Illinois' population (41%). However, Cook County's share of recoveries (57%) is substantially higher than its share of cases or healthcare spending. In contrast, Madison and St. Clair Counties have about the same share of med mal cases and total recoveries that one would expect, based on their population and healthcare spending. Finally, all three of these counties have a larger share of Active Firms than one would otherwise expect. Table A-5 offers a modicum of support for those who believe Cook County is a litigation hot spot, but little evidence for Madison and St. Clair Counties.

But, there are reasons to be cautious about that conclusion. Illinois' venue rules require individuals to sue either in the county of residence of any defendant, or in the county in which the events that gave rise to the case occurred. Since patients may travel to receive medical care – and severely ill patients in particular may be more likely to travel to Chicago -- controlling for county-level population may result in a distorted impression of plaintiffs' propensity to sue. The healthcare spending figures reported in Table A-5 are based on average Medicare fee-for-service spending for individuals who reside in the specified counties – not actual healthcare spending in those counties. Healthcare spending in each county is a better measure for intensity of medical treatment (and thus liability risk). We are in the process of analyzing that data. Finally, lawyers can also litigate in any county in Illinois, even if their office is located elsewhere. Thus, controlling for population, health care spending, and office location will not fully capture the dynamics that influence where claims are brought.

To what extent do differences in payout per paid claim affect the results in Table A-5? In unreported analysis, we find that mean payout per paid case for each of the four most severe levels of injury (permanent-significant; permanent-major; permanent-grave and death) are higher

in Cook County than in the rest of the state.[42] Controlling for population, Cook County also had a modestly higher frequency of paid claims for these four categories of severe injuries (53.4 per 100k population in Cook County v. 48.3 per 100k population in the rest of the state). In combination, these two factors help explain why Cook County's share of recoveries is materially higher   than   its   share   of   med   mal   litigation.

---

[42] These four levels of injury severity account for 60% of paid claims, and 80% of total recoveries.

References

Albiston, Catherine R. & Rebecca L. Sandefur, 2013. Expanding the Empirical Study of Access to Justice, 2013 *Wisconsin Law Review* 101-120.

Daniels, Stephen, Mary Grossman & Joy Malby Bertrand. Why Kill All the Lawyers? Repeat Players and Strategic Advantage in Medical Malpractice Claims, ABF Working Paper #9210

Daniels, Stephen & Joanne Martin,

> 2015. Tort Reform, Plaintiffs' Lawyers, and Access to Justice (University Press of Kansas)

> 2006-2007. Texas Plaintiffs' Practice in the Age of Tort Reform: Survival of the Fittest – It's Even More True Now, 51 *New York Law School Law Review* 285.

> 2002. It Was the Best of Times, It was The Worst of Times: The Precarious Nature of Plaintiffs' Practice in Texas, 80 *Texas Law Review* 1781-1828.

> 1999. 'It's Darwinism—survival of the fittest:' How markets and reputations shape the ways in which plaintiffs' lawyers obtain clients. 21 *Law & Policy* 377–399.

Engstrom, Nora Freeman

> 2009, Run of the Mill Justice, 22 Georgetown Journal of Legal Ethics 1485-1547

> 2011, Sunlight and Settlement Mills, 86 New York University Law Review 886-925

Galanter, Marc, 1974. Why the 'Haves' Come Out Ahead: Speculation on the Limits of Legal Change." Law and Society 9: 95-160.

Garber, Steven, Michael D. Greenberg, Hilary Rhodes, Xiaohui Zhuo & John L. Adams, 2009. Do Noneconomic Damages Caps and Attorney Fee Limits Reduce Access to Justice for Victims of Medical Negligence? 6 Journal of Empirical Legal Studies, 637-686.

Greiner, D. James and Cassandra Wolos Pattanayak, 2012. Randomized Evaluation In Legal Assistance: What Difference Does Representation (Offer and Actual Use) Make? 121 Yale Law Journal 2118-2214

Greiner, D. James, Cassandra Wolos Pattanayak & Jonathan Hennessy,

> 2013. The Limits of Unbundled Legal Assistance: A Randomized Study in a Massachusetts District Court and Prospects for the Future, 126 Harvard Law Review. 901-1170.

> 2012. How Effective are Limited Legal Assistance Programs? A Randomized Experiment in a Massachusetts Housing Court, University of Chicago Law Review

Hadfield, Gillian

> 2014. The Cost of Law: Promoting Access to Justice through the (Un)Corporate Practice of Law." 39 *International Review of Law and Economics* S: 43-63.

> 2008. Legal Barriers to Innovation: The Growing Economic Cost of Professional Control Over Corporate Legal Markets, 60 Stanford Law Rev. 1689-1732.

Harris, Catherine, Ralph Peeples & Thomas Metzloff

2006, Placing "Standard of Care" in Context: The Impact of Witness Potential and Attorney Reputation in Medical Malpractice Litigation, 3 J. Empirical Legal Stud. 267-496.

2005, Who Are Those Guys? An Empirical Examination of Medical Malpractice Plaintiffs' Attorneys, 58 S.M.U. L. Rev. 225.

Ho, Daniel and Donald B. Rubin, 2011. Credible Causal Inference for Empirical Legal Studies, 7 Annual Rev. L. & Soc. Sci. 17-40

Huycke, LaRae, I. & Mark M. Huycke, 1994. Characteristics of Potential Plaintiffs in Malpractice Litigation, 120 Annals of Internal Medicine 792-796.

Hyman, David, Bernard Black and Charles Silver, 2015. The Economics of Plaintiff-Side Personal Injury Practice, 2015 U. ILLINOIS L. REV. 1563-1603 (with Bernard Black & Charles Silver), available at http://ssrn.com/abstract=1441487

Hyman, David, Mohammad Rahmati, Bernard Black, and Charles Silver, 2016 Insurance Crisis or Liability Crisis? Medical Malpractice Claiming in Illinois, 1980-2010, available at http://ssrn.com/abstract=2462942

Hyman David & Charles Silver, 1998. And Such Small Portions: Limited Performance Agreements and the Cost/Quality/Access Trade-Off, 11 *Georgetown Journal of Legal Ethics* 959-979.

Imbens, Guido W. and Donald B. Rubin, 2015. *Causal Inference in Statistics, Social and Biomedical Sciences: An Introduction* (Cambridge University Press)

Kritzer, Herbert M,

2015. Lawyers at Work (Quid Pro Books)

2004. Risks, Reputations, and Rewards: Contingency Fee Legal Practice in the United States (Stanford University Press).

1998. The Wages of Risk: The Returns of Contingency Fee Legal Practice, 47 Depaul Law Review 267

1997, Holding Back the Floodtide: The Role of Contingent Fee Lawyers, 70 Wisconsin Lawyer at http://www.wmitchell.edu/faculty/kritzer/files/WiscLawyer-1997a.pdf

Mello, Michelle M & Troyenn A. Brennan, 2002. Deterrence of Medical Errors: Theory and Evidence for Malpractice Reform, 80 Texas Law Review 1595-1637.

Parikh, Sarah,

2006-2007. How The Spider Catches the Fly: Referral Networks in the Plaintiffs' Personal Injury Bar, 51 New York L. School J. 243-283.

2001. Professionalism and its Discontents: A Study of Social Networks in the Plaintiffs' Personal Injury Bar (unpublished dissertation)

Rahmati, Mohammad, David Hyman, Bernard Black, and Charles Silver, 2016. *Case Screening, Defendant Selection and Case and Claim Level Success Rates in Medical Malpractice Litigation: Evidence from Illinois*, working paper, at http://ssrn.com/abstract=2465092.

Sandefur, Rebecca L,

2015. Elements of Professional Expertise: Understanding Relational and Substantive Expertise Through Lawyers' Impact, 80 American Sociological Review 909-933

2010. The Impact of Counsel: An Analysis of Empirical Evidence, 9 Seattle Journal for Social Justice, 51-95.

Seron, Carrol, et al., 2001. The Impact of Legal Counsel on Outcomes for Poor Tenants in New York City's Housing Court: Results of a Randomized Experiment, 35 Law & Society Review 419

Shepherd, Joanna, 2014. Uncovering the Silent Victims of the American Medical Liability System, 67 Vanderbilt Law Review 151

Silver, Charles & David A. Hyman, 2009. Access to Justice in a World Without Lawyers: Evidence from Texas Bodily Injury Claims, 37 Fordham Urb. L.J. 357

Sloan, Frank A. et al, 1993. Suing For Medical Malpractice (University of Chicago Press)

Spurr, Stephen J.

1987, How the Market Solves an Assignment Problem: The Matching of Lawyers with Legal Claims, 5 Journal of Labor Economics 502-532

1988, A Theoretical and Empirical Analysis of Referral Practices Among Lawyers, 13 Law and Social Inquiry 87-109

1990, The Impact of Advertising and Other Factors on Referral Practices, with Special Reference to Lawyers, 21 RAND Journal of Economics 235-246

Studdert, David M, Troyen A. Brennan, and Eric J. Thomas, Beyond Dead Reckoning: Measures of Medical Injury Burden, Malpractice Litigation, and Alternative Compensation Models from Utah and Colorado, Indiana Law Review. 2000. 33:1643-1687.

Tancredi, Laurence R., Designing a No Fault Alternative, Law and Contemporary Problems 1986; 49:277-286.

Trautner, Mary Nell

2011. Tort Reform and Access to Justice: How Legal Environments Shape Lawyers' Case Selection, 34 Qualitative Sociology 523–538

2006-2007. How Social Hierarchies Within the Personal Injury Bar Affect Case Screening Decisions, 51 New York L. School J. 215-240.

Van Hoy, Jerry. 1999. Markets and Contingency: How Client Markets Influence the Work of Plaintiffs' Personal Injury Lawyers, 6 International J. Legal Profession 345.