Published in final edited form as:

Health Aff (Millwood). 2013 January ; 32(1): 111–119. doi:10.1377/hlthaff.2012.0967.

On Average, Physicians Spend Nearly 11 Percent Of Their 40-Year Careers With An Open, Unresolved Malpractice Claim

Seth Seabury, Ph.D.¹ [senior economist], Amitabh Chandra, Ph.D.² [professor and director], Darius Lakdawalla, Ph.D.³ [Quintiles Chair], and Anupam B. Jena, M.D., Ph.D.⁴ [assistant professor]

¹RAND Corporation in Santa Monica, California.

²health policy research at Harvard University's Kennedy School of Government, in Boston, Massachusetts.

³Pharmaceutical and Regulatory Innovation at the University of Southern California, in Los Angeles.

⁴health care policy at Harvard Medical School, in Boston.

Abstract

The US malpractice system is widely regarded as inefficient, in part because of the time required to resolve malpractice cases. Analyzing data from 40,916 physicians covered by a nationwide insurer, we found that the average physician spends 50.7 months—or almost 11 percent—of an assumed forty-year career with an unresolved, open malpractice claim. Although damages are a factor in how doctors perceive medical malpractice, even more distressing for the doctor and the patient may be the amount of time these claims take to be adjudicated. We conclude that this fact makes it important to assess malpractice reforms by how well they are able to reduce the time of malpractice litigation without undermining the needs of the affected patient.

The US medical malpractice system is widely regarded as costly and inefficient.^{1,2} One aspect of this inefficiency is the lengthy process required to resolve malpractice cases. The length of the process stems from multiple factors, including the difficulty of distinguishing negligent care (malpractice) from appropriate care in complex medical cases, the lengthy discovery process required to determine which physician defendants were potentially involved in malpractice and their specific roles, and the length of trials and settlement proceedings.

Despite extensive research on malpractice and its reform,^{3–7} few studies have used contemporary, large malpractice claims databases to report the length of time between the date a claim is filed against a physician and the date that claim is resolved—the time to resolution—and the factors associated with that length. In particular, there is little information on how time to resolution of malpractice cases varies according to whether a

payment was made to a patient, the nature of injury in the case, and the specialty of the physician.

Time to resolution is an important component of the cost of medical malpractice resolution to both physicians and patients, although it is typically not quantified in dollar terms. Lengthier time to resolution affects physicians through added stress, work, and reputational damage, as well as loss of time dealing with the claim instead of practicing medicine.^{3,8–11}

In theory, lengthy time to resolution may also impose delays on physicians' ability to learn from medical errors. Physicians and their institutions may also be delayed in implementing changes in quality- and safety-related procedures to prevent similar adverse events from occurring again. Thus, in addition to any harm that occurred to the original patient or patients, lengthy time to resolution may adversely affect future patients as well.

Finally, malpractice insurance market cycles tend to exhibit greater fluctuations in premiums than other insurance industries because of cyclical changes in insurers' investment income, competition among insurers, and the long time period required to resolve claims (which introduces greater uncertainty to insurers and therefore higher and more variable premiums).¹² The greater fluctuation in malpractice insurance premiums caused by lengthy time to resolution may impose even more financial risk on physicians.

Patients and their families faced with a lengthy malpractice process also suffer. They are affected by anxiety; by delays in physicians' acknowledgment and discussion of the event with the patient; and by delays in appropriate compensation. Evidence of the difficulties encountered by patients comes from surveys showing that patients prefer early disclosure and apologies from their health care providers, and are more likely to forgive physicians and less likely to pursue litigation as a result.^{13–16}

Yet despite the importance of these issues to physicians, insurers, and patients, lack of access to large, recent malpractice databases has limited the analysis of time to resolution of malpractice claims. Large studies of closed malpractice claims in Texas between 1988 and 2004 describe several aspects of malpractice claims but do not include data on the duration of claims.^{17,18}

Other studies from the 1970s to early 1990s are useful for understanding malpractice trends but are not current.^{19,20} A Harvard study of closed malpractice claims reported time to resolution but did not explore variation by specialty, time period, and severity of alleged malpractice.²¹

A Bureau of Justice Statistics examination of closed claims between 2000 and 2004 reported time to resolution but was limited to seven states and was unable to analyze time to resolution in claims without payment, the majority of claims faced by physicians.²²

To provide a fuller picture of medical malpractice, we analyzed data from a national physician liability insurer on malpractice claims closed between 1995 and 2005.^{23,24} We characterized how time to resolution varied according to whether a payment was made to a patient, the nature of the alleged injury, and the specialty of the physician. To better

understand the potential impact of time to resolution on physicians' perceptions of malpractice risk over a career, we estimated the proportion of a physician's career spent with an open malpractice claim.

METHODS

Malpractice Claims Data

We obtained malpractice claims data for all 40,916 physicians covered by a large, physician-owned liability insurer with insured physicians in every US state and the District of Columbia. These data have been used to study malpractice risk according to physician specialty and defense costs of malpractice.^{23,24} The safeguarding procedures for these data were approved by the Institutional Review Board at RAND. The data consisted of records on all reported malpractice claims closed between 1995 and 2005 (N=46,052 claims). Claims that were not yet closed by the insurer were unavailable.

A *claim* is defined as an allegation of malpractice against a physician and a request for compensation. Claims are made by injured patients or their attorneys. Once a claim is filed, the insurer, physician, and patient (or patient's attorney) negotiate to resolve the case. During the course of a claim, there may be pretrial legal activities such as depositions and discovery. The claim may proceed to trial, and if a verdict is reached by a judge or jury, it could be subject to appeal. A claim could also be settled and resolved at any point.

We excluded claims that did not result in either an indemnity payment or some defense costs (n=18,357), because these often reflected instances in which physicians preemptively notified the insurer of an adverse event or patient encounter, but no actual allegation of malpractice was ever made.

Each claim record contained the date of the alleged injury; the date a claim was filed; the date of closure; the alleged severity of the injury; and whether a plaintiff was paid and, if so, the size of the indemnity payment. As in our prior work with these claims data, we identified twenty-four unique specialties and combined the rest into an "other specialty" category.^{23,24}

Severity was coded according to the nine-point scale used by the National Association of Insurance Commissioners: fatal injury, four categories of permanent injury, three categories of temporary injury, and emotional injury only (that is, involving no physical injury).²⁰ In our data this scale was recorded by the insurer as of the time of claim closure. We excluded a small number of claims for which information on severity was unavailable (n=842), leaving a final study sample of 26,853 claims.

Although the data included physicians from all fifty states, California was overrepresented, accounting for 39.3 percent of covered physicians. As in our prior work, we corrected for this oversampling by weighting each physician by the relative number of nonfederal physicians reported in the Area Resource Files, a source of workforce statistics maintained by the federal Health Resources and Services Administration.²³ After this adjustment, our numbers provided mean claims per physician and payment amounts that matched comparable figures in the National Practitioner Data Bank.

Analysis of Malpractice Claims

We reported the average time from the date a claim was filed until the date the claim was closed, as well as the time from patient injury to claim report. We focused our analysis on the time between reporting and closure rather than from injury to claim report (see the online Appendix for justification).²⁵

A number of factors may influence the time required to resolve a malpractice claim. We related the time to resolution to whether an indemnity payment was made, injury severity, and the specialty and age of the physician involved in the claim. We used multivariate regression to isolate the independent effects of these covariates.

In addition to these factors, we also adjusted for the year in which the claim was closed and the state in which the physician worked. Given the periodic occurrence of periods of instability in malpractice insurance markets—that is, “malpractice crises”—there is interest in how claims trends behave over time.^{1,26} We explored how time to resolution varied over the time period in which the claim was closed, grouping years together to smooth out random year-to-year variation.

In the multivariate analysis, we did not include as an independent variable whether a payment occurred (indemnity payment) because our goal was to identify how factors that are known at the start of a claim predict time to resolution. Additional details on the statistical approach are available in the online Appendix.²⁵

Time spent with open malpractice claims over a physician's career

To better understand the potential impact of time to resolution of malpractice claims on physician perceptions of malpractice risk, we computed the share of a physician's career spent with an open, unresolved malpractice claim.

We first computed the number of days each physician spent with an open malpractice claim for each year he or she was in the sample. Following our prior work,²³ we then used multivariate regression to estimate the number of days in a year that a physician had an open claim as a function of the physician's age and specialty.

We next predicted the number of days with an open claim. Summing the predicted time with a claim across all ages, we computed the expected total number of months and the percentage of time in months during a physician's career when the physician had an open malpractice claim. Following our prior work, we assumed a hypothetical career of forty years, from age thirty to age seventy.²³

Separate calculations were made for time spent with any claim and time spent with a claim that was ultimately resolved in favor of the physician—that is, no indemnity was paid. Additional details are available in the Appendix.²⁵ The statistical software Stata, version 11.2, was used for all statistical analysis.

LIMITATIONS

Our study had several limitations. Most of these have to do with limitations of the data and have been discussed in detail elsewhere.²³ Our data came from a single insurer whose coverage, although national, is not geographically representative. Our weighting procedure alleviated this concern, and prior estimates using these data are consistent with estimates from the National Practitioner Data Bank.²³

The merit of claims—based on physician claim review—could also not be assessed as in other studies. In addition, we were unable to verify the validity of the alleged injury severity. Our data also had only limited information on the litigation process—for example, whether there was a lawsuit, if a case was tried in court, if there was a settlement, and so on. This omission is important because time to resolution may vary depending on how a case is litigated—for example, whether it is tried in court.

Finally, we did not have information on the type of claim—diagnostic error, procedural error, and so on.²⁷

RESULTS

Table 1 summarizes time to resolution of malpractice claims and provides the breakdown of claims by specialty, severity, and year in which the claim was closed. The specialties with the largest number of claims in our data were plastic surgery, orthopedic surgery, anesthesiology, and internal medicine. These were not necessarily the highest-risk specialties at the physician level, as the number of claims reflects both the number of covered physicians and the risk per physician.

The mean claim took 20.3 months to be resolved (twenty-fifth percentile: 7.0 months; seventy-fifth percentile: 28.3 months; Table 1). The mean time from the incident date and the date the claim was filed was 22.8 months. Putting these data together, the average claim was not resolved until forty-three months after the incident.

Fatalities and permanent injuries represented the single most common injury severity reported (63.2 percent; Table 1). Claims data were approximately evenly distributed across 1995–97, 1998–2000, and 2001–03; slightly fewer claims were closed in 2004–05 since this time period included two years, not three.

CLAIMS INVOLVING INDEMNITY PAYMENT

Time to resolution varied significantly with whether or not a claim resulted in payment to a patient. Among claims resolved with no payment, 72 percent of cases took six months or more to be resolved, 50 percent took one year or more, and 12 percent took three years or more (see Appendix Exhibit 1).²⁵ Resolution time was uniformly longer for cases in which indemnity was paid.

For cases with indemnity, 81 percent took one year or more to resolve, and 27 percent took three years or more. A small share of cases required five or more years to resolve: 2 percent

for cases without indemnity, compared to 4 percent for cases with indemnity. The difference in mean time to resolution across the two groups was statistically significant ($p<0.001$).

CLAIMS WITH SEVERE PATIENT INJURY

Time to resolution of malpractice claims increased with the severity of patient injury (Figure 1). For claims with only emotional injury, 51 percent took six months or more to resolve, 35 percent took at least one year, and 7 percent took at least three years. Meanwhile, for cases involving a temporary physical injury, 49.0 percent of cases took at least one year to resolve, and 10 percent took three years or more.

Among claims involving a fatality or permanent disability, 62 percent took at least one year to resolve, and 17 percent took three years or more to resolve. About 3 percent of cases involving a fatality or permanent disability took five years or more to resolve. These differences across the three groups were statistically significant ($p<0.001$).

After adjustment for physician age and specialty, time to resolution was still much longer when the severity of injury was greater (Table 2). Cases involving fatalities and permanent injuries took 21.8 months to resolve—significantly longer than cases involving temporary injuries or emotional injuries.

PHYSICIAN AGE AND SPECIALTY AND YEAR OF CLAIM

Time to resolution of claims varied considerably depending on the age of physicians and their specialties (Table 2). The variation was similar between unadjusted and adjusted analyses.

Focusing on adjusted estimates, claims were resolved more quickly on average for younger physicians. The time to resolution was 16.4 months for physicians ages 30–39, compared to 20.4 months for physicians ages 40–49 and 21.1 months for physicians age 50 or older, respectively ($p<0.001$ in both cases). Across specialties, the adjusted time to resolution was greatest for pediatrics and obstetrics and least for nephrology and oncology.

The statistical significance of the differences across specialties from the reference group (anesthesiology) varied, in part because of differences in sample size across specialties. But the differences across all specialties were jointly significant ($p<0.001$).

Finally, after adjustment, there was a modest upward trend in mean time to resolution between 1995 and 2005. Claims were resolved in 17.9 months on average during 1995–97 compared to 22.9 months during 2004–05—an increase of approximately 2.5 percent per year ($p<0.001$). See Appendix Exhibits 2 and 3 for more details. ²⁵

PORTION OF CAREER WITH AN OPEN MALPRACTICE CLAIM

Figure 2 reports the estimated proportion of a physician's career spent with an open malpractice claim according to physician specialty and whether a payment was made to a patient. The average physician was estimated to spend 50.7 months (10.6 percent) of an assumed forty-year career with an unresolved, open malpractice claim. Claims that did not

result in an indemnity payment accounted for an estimated 35.0 months (7.3 percent) of the typical physician's career, and nearly 70 percent of the months a physician spent defending a claim was spent defending a claim that ultimately resulted in no payment.

The estimated proportion of a physician's career spent with an unresolved claim varied significantly by specialty. Neurosurgeons were estimated to spend 130.8 months of their careers (27.2 percent) with an unresolved, open malpractice claim. Moreover, 102.4 months (21.3 percent) of their careers were estimated to be spent with an open claim that was ultimately resolved in their favor (that is, with no payment made).

Psychiatrists spent the least amount of their careers with an open claim: 15.7 months (3.3 percent). The differences across specialties varied in significance, but the differences were jointly significant ($p < 0.05$) for both the total share of time with claims and the share of time with indemnity claims. See Appendix Exhibit 4 for more details.²⁵

DISCUSSION

Despite widespread concern about the cost and inefficiency of the US medical malpractice system, there is little recent information about the length of time required to resolve different types of malpractice claims. Using malpractice claims data from a national insurer, we characterized how time to resolution of malpractice claims varied according to whether a payment was made to a patient; on the basis of severity of injury; and by physician specialty.

Malpractice claims involving death or permanent disability to patients took the longest to resolve—roughly eighteen months for the median claim. More than half of claims involving minor injuries or those without physical injury took longer than a year to resolve.

Similarly, although 50 percent of claims that ultimately resulted in payment to a patient took two years to resolve, the same percentage of claims that did not lead to indemnity payments still took nearly a year to resolve.

Pediatrics and obstetrics were the specialties with the longest average time to resolution. Studies have demonstrated that injury severity is traditionally high in malpractice cases involving children—for example, birth-related neurological damage—which may partly account for longer time to resolution in pediatrics and obstetrics.²⁸

After we accounted for injury severity in our statistical analysis, however, time to resolution was still greater in these two fields—pediatrics and obstetrics. As others have suggested, this disparity may be because infants with catastrophic injuries are perceived by attorneys and insurers to provoke sympathy, thereby lengthening the resolution process.²⁸

Injuries to infants and children are also associated with larger damages, because economic costs such as lost earnings and medical expenditures are projected over a longer period, which could lead to protracted negotiations and delayed claim resolution. Attorneys, insurers, and courts may also fail to use clinical guidelines objectively to determine malpractice when children are involved.²⁹

These particular features of pediatric malpractice may also explain why prior work studying the outcomes of malpractice litigation among physician specialties found that pediatrics was among the lowest specialties in rates of case dismissal and highest specialties in rates of claims that are eventually litigated.²⁷

One implication of our findings is that the typical physician may spend a sizable portion of his or her career involved in disputing a malpractice claim. Across all physicians, we estimated that 50.7 months (10.6 percent) of an assumed forty-year career will be spent with an unresolved, open malpractice claim—a time period similar to that spent in medical school.

In specialties such as neurosurgery, in which the average time to resolution is 22.3 months and the mean annual probability of a malpractice claim is 18.9 percent,²³ we estimated that nearly eleven years (27.2 percent) of a physician's career is spent with a malpractice claim outstanding. The substantial portion of the average physician's career spent with an outstanding malpractice claim may be as important as the annual probability of facing a malpractice claim in shaping physicians' perceptions of malpractice risk.

Importantly, claims that did not result in payment accounted for more than 70 percent of the time physicians spent with open claims. This finding highlights the importance of considering physicians' and patients' experience with all claims, not just the subset that result in awards, to measure the true costs of the malpractice system.²⁶

In fact, an important limitation of studies that use the National Practitioner Data Bank is the inability to analyze claims that do not result in payments to a patient.²⁶ The fact that physicians spend such a substantial portion of their careers defending—usually successfully—malpractice claims probably contributes to their negative perceptions of the system. The long duration of claims seems inconsistent with the popular view that many (if not all) claims are obviously without merit and can be resolved very quickly.

Our results suggest that the majority of claims involve serious injuries (mostly death or permanent disability) and that it requires a long time for the legal system to separate nonnegligent injuries from malpractice.^{21,30}

Although not always recognized as a cost of the medical malpractice system, the length of time required to resolve claims is important to both physicians and patients. From a physician's perspective, past work suggests that the out-of-pocket legal expenses to physicians of malpractice claims is close to zero. This prior work also indicates that the lost practice time associated with defending a case is the biggest financial cost of malpractice to physicians.⁹

However, the focus on financial costs ignores the emotional costs associated with loss of reputation; the anxiety produced while a case is outstanding; the delays in learning by physicians from medical errors; and the delays in implementation of quality and safety improvements to prevent similar adverse events from occurring.

From a patient's perspective, a longer time until case resolution can create anxiety for patients and their families through delays in physicians' acknowledgment and discussion with the patient of the potential medical error, as well as delays in financial compensation. The potential impact on patients of lengthy time to resolution is supported by evidence that patients tend to prefer early apologies and are more likely to forgive physicians and less likely to pursue litigation when early disclosure occurs.^{13–16}

It is also noteworthy that the time between alleged injury and filing of a malpractice claim was similarly long. Because patients prefer early disclosure of potential medical errors as well as early apologies, this lag further reinforces the importance to physicians of providing patients with early knowledge and discussion of medical errors.

From a policy perspective, understanding factors associated with time to resolution of malpractice claims is important in assessing the impact of malpractice reforms. One popular approach to addressing inefficiency in the malpractice system is to call for traditional tort reforms, particularly those restricting punitive damage awards or attorney fees, which can in theory promote settlement and limit the financial incentives to pursue claims through a lengthy trial. Another approach is to propose alternative dispute resolution or other changes that would resolve cases faster and filter out meritless claims.²

Our findings indicate that comparing how such reforms affect time to resolution across injury severity or physician specialties would be an important metric of their effectiveness.

Despite the costs to physicians and patients of lengthy time to resolution of malpractice cases, there are important instances in which longer time to resolution is warranted. Malpractice cases often deal with complex issues of health and causality, which take time to resolve. Speeding up time to resolution might not be desirable if it made the system less fair or accurate, in terms of distributing compensation to patients legitimately injured by negligent care.

Nonetheless, if the psychic costs of fear and uncertainty are a sizable portion of the costs of malpractice to physicians, then the portion of physicians' time spent with an outstanding claim helps explain physicians' negative attitude toward the system, beyond the financial costs. The psychic burden that physicians in these circumstances bear also suggests that making the system resolve cases faster—without sacrificing appropriate compensation to patients injured by negligent care—could have important benefits to physicians and patients.

Ultimately, whether perceived delays in time to resolution of malpractice cases are avoidable is an open empirical question. The answer relies on an assessment of whether patients and physicians will be harmed by streamlining the claims process.

Limited evidence from an early disclosure and compensation program implemented by the University of Michigan Health System in 2001 suggests that time to resolution, total liability costs, and non-compensation-related legal defense costs may all be reduced considerably through streamlining the claims process.³¹ The fact that claims not resulting in payment to a patient account for the majority of the time physicians spend with an open claim is a salient argument for such early disclosure and resolution programs.

Our study provides new information on the length of time required to resolve medical malpractice disputes against US physicians. The length of time required to resolve malpractice claims is high. As a result, open malpractice claims account for a meaningful proportion of most physicians' careers. A fuller understanding of how time to resolution of malpractice claims is affected by various malpractice reforms is important to reducing cost and inefficiency in the malpractice system.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

ACKNOWLEDGMENTS

Seth Seabury received support from the RAND Institute for Civil Justice and National Institute on Aging (NIA) Grant No. 7R01AG031544. Darius Lakdawalla received support from NIA Grant No. 7R01AG031544, NIA Grant No. 1RC4AG039036-01, and the NIA Roybal Center at the University of Southern California (5P30AG024968). Amitabh Chandra was supported by NIA Grant No. P01 AG19783-02. The design, conduct, analysis, interpretation, and presentation of the data are the responsibility of the investigators, with no involvement from the funding sources.

References

1. Mello MM, Studdert DM, Brennan TA. The new medical malpractice crisis. *N Engl J Med* 2003; 348(23): 2281-4. [PubMed: 12788991]
2. Studdert DM, Mello MM, Brennan TA. Medical malpractice. *New England Journal of Medicine* 2004; 350(3): 283-92. [PubMed: 14724310]
3. Mello MM, Chandra A, Gawande AA, Studdert DM. National costs of the medical liability system. *Health Aff (Millwood)*; 29(9): 1569-77.
4. Mello MM. Medical malpractice: Impact of the crisis and effect of state tort reforms. Robert Wood Johnson Synthesis Report No 10 2006.
5. Congressional Budget Office. Medical malpractice tort limits and health care spending. 2006.
6. Mello MM, Brennan TA. The role of medical liability reform in federal health care reform. *N Engl J Med* 2009; 361(1): 1-3. [PubMed: 19528190]
7. Thorpe KE. The medical malpractice 'crisis': recent trends and the impact of state tort reforms. *Health Aff (Millwood)* 2004; Suppl Web Exclusives: W4-20-30.
8. Baicker K, Fisher ES, Chandra A. Malpractice liability costs and the practice of medicine in the Medicare program. *Health Aff (Millwood)* 2007; 26(3): 841-52. [PubMed: 17485765]
9. Lawthers AG, Laird NM, Lipsitz S, Hebert L, Brennan TA, Localio AR. Physicians' perceptions of the risk of being sued. *Journal of Health Politics, Policy and Law* 1992; 17(3): 463.
10. Sage WM. Reputation, malpractice liability, and medical error. *Accountability: Patient Safety and Policy Reform* 2004: 159-84.
11. Quinn R. Medical malpractice insurance: the reputation effect and defensive medicine. *Journal of Risk and Insurance* 1998: 467-84.
12. GAO. Medical Malpractice Insurance: Multiple Factors Have Contributed to Increased Premium Rates. Washington, DC: General Accounting Office, 2003.
13. Berlin L. Will Saying "I'm Sorry" Prevent a Malpractice Lawsuit? *AJR Am J Roentgenol* 2006; 187(1): 10-5. [PubMed: 16794148]
14. Gallagher TH, Levinson W. Disclosing harmful medical errors to patients: a time for professional action. *Arch Intern Med* 2005; 165(16): 1819-24. [PubMed: 16157824]
15. Gallagher TH, Studdert D, Levinson W. Disclosing harmful medical errors to patients. *N Engl J Med* 2007; 356(26): 2713-9. [PubMed: 17596606]

16. Hobgood C, Tamayo-Sarver JH, Elms A, Weiner B. Parental preferences for error disclosure, reporting, and legal action after medical error in the care of their children. *Pediatrics* 2005; 116(6): 1276–86. [PubMed: 16322147]
17. Black B, Silver C, Hyman D, Sage WM. Stability, Not Crisis: Medical Malpractice Claims Outcomes in Texas, 1988–2002. *Journal of Empirical Legal Studies* 2005; 2(2): 207–59.
18. Black B, Hyman DA, Silver C, Sage WM. Defense Costs and Insurer Reserves in Medical Malpractice and Other Personal Injury Cases: Evidence from Texas, 1988–2004. *American law and economics review* 2008; 10(2): 185.
19. United States General Accounting Office. *Medical Malpractice: Characteristics of Claims Closed in 1984*. Washington, DC,; 1987.
20. Sowka e M. *Malpractice Claims: Final Compilation*. Brookfield, Wisconsin,: National Association of Insurance Commissioners, 1980.
21. Studdert DM, Mello MM, Gawande AA, et al. Claims, errors, and compensation payments in medical malpractice litigation. *The New England Journal of Medicine* 2006; 354(19): 2024–33. [PubMed: 16687715]
22. Cohen TH, Hughes KA. *Medical malpractice insurance claims in seven states, 2000–2004: US Department of Justice, Office of Justice programs*; 2007.
23. Jena AB, Seabury S, Lakdawalla D, Chandra A. Malpractice risk according to physician specialty. *N Engl J Med*; 365(7): 629–36. [PubMed: 21848463]
24. Seabury S, Chandra A, Lakdawalla D, Jena AB. Defense costs of medical malpractice claims. *N Engl J Med*; 366(14): 1354–6.
25. To access the Appendix, click on the Appendix link in the box to the right of the article online.
26. Chandra A, Nundy S, Seabury SA. The growth of physician medical malpractice payments: evidence from the National Practitioner Data Bank. *Health Aff (Millwood)* 2005; Suppl Web Exclusives: W5–240–W5–9.
27. Jena AB, Chandra A, Lakdawalla D, Seabury S. Outcomes of medical malpractice litigation against US physicians. *Archives of Internal Medicine* 2012; 172(11): 892–4. [PubMed: 22825616]
28. Studdert DM, Mello MM. When tort resolutions are “wrong”: predictors of discordant outcomes in medical malpractice litigation. *J Legal Stud.*2007; 36 : S47–78
29. Kesselheim AS, Studdert DM. Characteristics of physicians who frequently act as expert witnesses in neurologic birth injury litigation. *Obstet Gynecol.* 2006; 108 : 273–9. [PubMed: 16880295]
30. Localio AR, Lawthers AG, Brennan TA, Laird NM, Hebert LE, Peterson LM, et al. Relation between malpractice claims and adverse events due to negligence. Results of the Harvard Medical Practice Study III. *N Engl J Med.* 1991; 325: 245–51. [PubMed: 2057025]
31. Kachalia A, Kaufman SR, Boothman R, et al. Liability claims and costs before and after implementation of a medical error disclosure program. *Ann Intern Med* 2010; 153(4): 213–21. [PubMed: 20713789]

Figure 1:
Time to resolution of malpractice claims according to severity of alleged patient injury

Figure 2:

Estimated proportion of a physician's career spent with an outstanding malpractice claim according to physician specialty. Notes: The proportion of a physician's career spent with an open malpractice claim was computed by first estimating a multivariate regression of the number of days in a year with an open claim as a function of physician age and specialty. We next predicted the number of days with an open claim as a function of physician age and specialty and then summed the predicted time with a claim across all ages. This resulted in

the expected number of months during a physician's career spent with an open claim, according to specialty.

Author Manuscript

Author Manuscript

Author Manuscript

Author Manuscript

Table 1.Characteristics of Malpractice Claims (N=26,853)¹

Time from claim filing to resolution	
Time to resolution, months, mean ²	20.3
Time to resolution, months, 25th percentile	7.0
Time to resolution, months, 75th percentile	28.3
Resolution time based on incident date	
Time from incident to report, months, mean	22.8
Time from incident to resolution, months, mean	43.1
Physician Age	
30 to 39	2,832 (10.6 %) ³
40 to 49	9,546 (35.6)
50 and over	14,471 (53.9)
Physician specialty	
Anesthesiology	2,699 (10.1)
Cardiology	526 (2.0)
Dermatology	289 (1.1)
Diagnostic radiology	616 (2.3)
Emergency medicine	123 (0.5)
Family general practice	2,032 (7.6)
General surgery	1,736 (6.5)
Gynecology	368 (1.4)
Internal medicine	2,690 (10.0)
Nephrology	163 (0.6)
Neurology	353 (1.3)
Neurosurgery	628 (2.3)
Obstetrics	1,809 (6.7)
Oncology	136 (0.5)
Ophthalmology	509 (1.9)
Pathology	1,339 (5.0)
Pediatrics	382 (1.4)
Plastic surgery	2,868 (10.7)
Psychiatry	707 (2.6)
Pulmonary medicine	457 (1.7)
Cardio-thoracic surgery	833 (3.1)
Urology	350 (1.3)
Gastroenterology	616 (2.3)
Orthopedic surgery	2,827 (10.5)

Time from claim filing to resolution	
Other specialties	1,797 (6.7)
Severity of alleged injury	
Fatality or permanent injury	16,966 (63.2)
Temporary injury	8,901 (33.2)
Emotional injury only	986 (3.7)
Year claim closed	
1995–1997	7,138 (26.6)
1998–2000	7,266 (27.1)
2001–2003	7,586 (28.3)
2004–2005	4,863 (18.1)

¹. All numbers indicate number (%) of observations unless otherwise indicated.

². Mean, 25th percentile and 75th percentile calculated using sampling weights, all other values are unweighted.

³. Categories may not sum to 100% because of rounding error.

Table 2:Mean time to resolution of malpractice claims according to claim characteristics¹

	Unadjusted Months	Adjusted ² Months	p-value for difference from reference category ³
<i>Physician Age (Years)</i>			
30 to 39	15.0	16.4	
40 to 49	19.5	20.4	(<0.001)
50 or Older	21.8	21.1	(<0.001)
<i>Specialty</i>			
Anesthesiology	16.5	19.5	
Cardiology	19.9	21.1	(0.545)
Dermatology	12.6	18.4	(0.309)
Diagnostic Radiology	16.6	19.1	(0.696)
Emergency Medicine	16.7	15.4	(0.157)
Family General Practice	18.0	20.6	(0.367)
General Surgery	18.1	20.1	(0.514)
Gynecology	18.4	21.2	(0.265)
Internal Medicine	21.8	22.1	(0.021)
Nephrology	11.6	13.5	(0.000)
Neurology	15.7	17.9	(0.186)
Neurosurgery	22.3	19.4	(0.923)
Obstetrics	21.2	22.7	(0.002)
Oncology	17.3	15.1	(0.185)
Ophthalmology	17.0	20.1	(0.533)
Pathology	25.3	20.6	(0.388)
Pediatrics	24.1	24.5	(0.050)
Plastic Surgery	20.4	21.0	(0.154)
Psychiatry	18.7	19.0	(0.762)
Pulmonary Medicine	16.5	16.3	(0.034)
Cardio-Thoracic Surgery	16.9	17.2	(0.042)
Urology	19.4	22.1	(0.050)
Gastroenterology	19.1	20.1	(0.795)
Orthopedic Surgery	21.1	21.9	(0.019)
Other Specialties	14.9	16.1	(0.000)
<i>Severity</i>			
Fatality or permanent injury	22.3	21.8	
Temporary injury	16.8	18.1	(<0.001)
Emotional injury only	13.5	12.9	(<0.001)

	Unadjusted Months	Adjusted ² Months	<i>p</i> -value for difference from reference category ³
<i><u>Year Claim Closed</u></i>			
1995 to 1997	19.9	17.9	
1998 to 2000	21.1	20.6	(<0.001)
2001 to 2003	19.6	20.7	(<0.001)
2004 to 2005	20.7	22.9	(<0.001)

¹. All calculations were made using sampling weights.

². Adjusted data are predicted based on multivariate regression of time to resolution as a function of physician age, specialty, alleged injury severity, and state and year fixed effects. Predictions were made holding other characteristics at mean values.

³. Reference category is the first category in all cases.