JUDICIAL POLICY AND QUANTITATIVE RESEARCH: INDIANA'S STATUTE OF LIMITATIONS FOR MEDICAL PRACTITIONERS

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INTRODUCTION

More than twenty years after the Indiana General Assembly enacted comprehensive medical malpractice reform in 1975,[1] the Indiana Supreme Court heard oral argument in four cases[2] challenging the constitutionality of Indiana's special occurrence-based statute of limitations for medical liability.[3] In deciding whether medical malpractice claims should be subjected to a more stringent statute of limitation than all other tort claims, the supreme court has been asked to consider numerous historical and constitutional claims, but little empirical evidence, either about the problems that precipitated reform or the results that it produced.

This Article attempts to fill in these gaps. We sketch the history of empirical information on medical malpractice issues (Part I), present new information about pre-reform patterns of malpractice claiming and the likely effects of the reform (Part II), and consider the implications for judicial policy (Part III). We conclude that a sizable block of late-discovered claims against physicians and hospitals may have been barred by Indiana's statute of limitations. We argue that the judiciary should create for itself better data systems with which to manage its cases and evaluate future controversies about dispute resolution.

Medical malpractice reform remains an active concern in many other states as well, despite the absence of anything like the insurance "crisis" that drove

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1. Act of Apr. 17, 1975, No. 146, 1975 Ind. Acts 854 (codified as amended at IND. CODE §§ 27-12-1 to 27-12-18 (1993)).

2. Johnson v. Gupta, 682 N.E.2d 827 (Ind. Ct. App. 1997), *petition for transfer filed*, Aug. 13, 1997; Harris v. Raymond, 680 N.E.2d 551 (Ind. Ct. App. 1997), *petition for transfer filed*, July 11, 1997; Martin v. Richey, 674 N.E.2d 1015 (Ind. Ct. App. 1997), *petition for transfer filed*, July 10, 1997; Jordan v. Read, No. 49A04-9606-CV-256 (Ind. Ct. App. Mar. 18, 1997), *petition for transfer filed*, April 16, 1997.

3. IND. CODE § 27-12-7-1 (b) (1993).

reforms in the mid-1970s and 1980s. Liability reform in its own right has been kept on legislative agendas by defense and insurance interest groups, with medical practitioners in a lead role, as well as by general proposals for health systems reform, including malpractice.[4] Over time, numbers have played an increasingly large role in the public debates, particularly evidence on insurance premiums and defensive medicine. In practical policy making, however, anecdote and personal experience continue to dominate perceptions, and large policy arguments turn on very small amounts of quantitative evidence.[5] This Article blends empirical research with legal policy analysis and argument.

I. POLICY-MAKING AND QUANTITATIVE INFORMATION

A. The First Medical Malpractice Crisis: Policy-Making in an Information Vacuum

Medical liability first came to public prominence during the insurance crisis of the mid-1970s. At this time, especially in the media centers of New York and California, liability insurers awoke to a sharp upward trend in the number of claims for professional liability and the number and amount of verdicts. In response, some insurers exited the market, while others demanded very large premium increases,[6] some quitting the market after not getting as much as they thought they needed. The first round of "tort reform" occurred at that time.[7]

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4. Active tort-reform-promoting groups include the Health Care Liability Alliance, 1130 Connecticut Ave, N.W., Suite 800, Washington DC 20036 and the American Tort Reform Association, 1212 New York Ave., N.W., Suite 515, Washington, DC 20005. The latter's website tracks state enactments <http://www.aaabiz.com/ATRA>. Tort reform has also figured in many proposals for health systems reform in the early 1990s, from both executive and Congressional sources and under both Republican and Democratic administrations. *See* Eleanor D. Kinney, *Malpractice Reform in the 1990s: Past Disappointments, Future Success?*, 20 J. HEALTH POL. POL'Y & L. 99, 112-19 (1995) (thorough review of legislative proposals through mid 1994) and Randall R. Bovbjerg, *Promoting Quality and Preventing Malpractice: Assessing the Health Security Act*, 19 J. HEALTH POL. POL'Y & L. 207 (1994) (Clinton proposals in particular). Tort reform for medical providers, though not of the statute of limitations, also comprised part of Congressional Republicans' 1994-95 "Contract with America," has since been added as an amendment to budget bills (unsuccessfully), and as this Article is being edited has been proposed for the House Republicans' version of a "patient bill of rights;" *see, e.g.*, American Health Line, National Journal's Daily Briefing, *Politics & Policy—House Republicans: Unveil Patients' Rights Bill* (visited June 25, 1998) <http://cloakroom.com>.

5. *See generally* Stephen Zuckerman et al., *Information on Malpractice: A Review of Empirical Research on Major Policy Issues*, 49 LAW & CONTEMP. PROBS. 85 (1986).

6. *See generally* James R. Posner, *Trends in Medical Malpractice Insurance, 1970-1975*, 49 LAW & CONTEMP. PROBS. 37, 38-39 (1986) (noting some states had premium increases of up to 500%). *See also infra* note.

7. *See generally* Randall R. Bovbjerg, *Legislation on Medical Malpractice: Further Developments and a Preliminary Report Card*, 22 U.C. DAVIS L. REV. 499 (1989). Fig. 1, *id.* at

Compared with other states, Indiana's response came faster, its reforms were more comprehensive, and the provisions were more stringent. In January 1975, Governor Otis Bowen, M.D., called for action in his State of the State message; and the General Assembly enacted comprehensive reform in April of the same year. The key provisions of the 1975 Medical Malpractice Act were (1) a comprehensive cap on all damages, (2) mandatory medical review before a panel of health care providers before filing suit, (3) a state-run insurance fund to pay large claims, and (4) a two-year, *occurrence-based* statute of limitations for adults and a longer statute of repose for children.[8] The reform clearly created a new and shorter period of limitations for children, running to a maximum of age eight. For adults it restated the pre-existing occurrence-based rule, evidently intending to prevent the judicial development of a "discovery rule" allowing long delays before lawsuit.[9]

Nationally, the widespread 1970s legislative debates were marked by a significant absence of broad-based, relevant, objective information about trends

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505, shows that for several medical specialties, national average premiums doubled or tripled in "real" terms, i.e., inflation-adjusted, between 1974 and 1975.

8. *See supra* note 1; *see also* Geoffrey Segar, *Background of, Preparation of, and Passage of the Indiana Medical Malpractice Act, in* HOOSIER HOSPITAL ECONOMICS AND PUBLIC POLICY: A COLLECTION OF HISTORICAL ESSAYS 69 (Ind. Hosp. Ass'n ed., 1995); Otis R. Bowen, *Medical Malpractice Law in Indiana*, 11 J. LEGIS. 15, 19-21 (1984); Eleanor D. Kinney et al., *Indiana's Medical Malpractice Act: Results of a Three-Year Study*, 24 IND. L. REV. 1275, 1277-78 (1991).

Nationally, malpractice reforms can be categorized as aiming at (1) insurance (such as giving notice of claims, joint underwriting associations, patient compensation funds, and other efforts to attempt to deal with the problem of availability and affordability of liability insurance), (2) medical quality (such as promoting peer review by immunizing it from legal claims of defamation, increasing disciplinary board powers, and creating the National Practitioner Data Bank and state analogs), and (3) tort law (addressing mainly(a) the number of claims, as through statutes of limitation and arbitration, (b) the amounts of payouts, notably through caps on awards and collateral source offset provisions, (c) plaintiffs' likelihood of winning, as through expert witness requirements and *res ipsa loquitur* restrictions, and (d) the functioning of judicial process, including new pre-calendar conference requirements and preferred scheduling for malpractice cases). *See generally* Bovbjerg, *supra* note 7, at 513-32.

9. The 1975 reform aimed mainly at suits on behalf of children. The Indiana Supreme Court had just ruled that the statute of limitations was tolled until the age of majority, Chaffin v. Nicosia, 310 N.E.2d 867 (Ind. 1974), thus allowing up to 23 years for a claim arising from childbirth. A 1941 malpractice reform had created the basic, two-year statute, running from the time of the "act, omission or neglect complained of," ch. 116, § 1 (Acts 1941), now codified at IND. CODE § 34-4-19-1 (1993). Indiana had to 1975 not developed a "discovery rule," although tolling the statute was relatively easy under a broadly conceived doctrine of "fraudulent concealment" by physicians, until termination of the physician-patient relationship. Guy v. Schuldt, 138 N.E.2d 891 (Ind. 1956); Toth v. Lenk, 330 N.E.2d 336 (Ind. App. 1975). The 1975 reformers were concerned to pre-empt further judicial creativity. The 1975 statute essential repeated the 1941 starting point for limitation of malpractice claims, the "alleged act, omission or neglect" of a health care provider, but oddly did not repeal the prior law or address the existing concealment doctrine.

in injuries, claims, awards, and other effects of the liability system.[10] At the time, the federal Secretary's Commission had just done the first-ever series of studies on medical liability issues, nationwide, and one of the conclusions of the individual components of that study was that relatively little was known.[11]

In Indiana, just what problems legislators perceived, and with what basis in legislative evidence, is not reliably known. Indiana does not maintain formal legislative histories or even transcripts of committee hearings or floor debates on any proposed bills. Amid the general concern over availability of liability coverage, however, particular problems of late-filed litigation or changes in the discovery rule do not appear to have loomed large.[12]

Courts were soon called upon to consider the validity of some of the reforms. In upholding the constitutionality of many aspects of the 1975 Act five years after its passage, the Indiana Supreme Court noted the increase in the number of malpractice claims and large judgments at the time the Act was passed: "[T]he Legislature was undoubtedly moved because of its appraisal that the services of health care providers were being threatened and curtailed contrary to the health interests of the community because of the high cost and unavailability of liability insurance." The discussion of the statute of limitations was short and focused upon the shortening of time for children to bring suit. Medical providers were noted to be at "unique" risk of long-delayed claims, which was noted to confound the search for truth, and medical professionals were noted to be licensed, from which the legislature may have deemed them "entitled to a special degree of trust."[13]

Data slowly began to trickle into the information vacuum in which legislatures and courts were functioning. In the wake of the 1970s crisis, insurance regulators for the first time began to require carriers to report on malpractice as a line of coverage separate from general liability. Also begun were two notable empirical efforts. One was the major study of medical injury and negligence in hospital medical records undertaken by Don Harper Mills and colleagues with support from the California Medical and Hospitals Associations.[14] The other was a three-year effort by the National Association of

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10. *See generally* Zuckerman et al., *supra* note 5, at 87.

11. U.S. DEPT. OF HEALTH, EDUCATION, AND WELFARE, REPORT OF THE SECRETARY'S COMMISSION ON MEDICAL MALPRACTICE & APPENDIX (1973).

12. Reform proponents' legislative intent was indicated by ten proposed findings contained in an earlier version of House Bill 1460. It set out ten findings about the effect of insurance crisis on Indiana health care providers, patients, and citizens. None was directly relevant to the statute of limitations. *See* section 1 of H.R. 1460, 99th Gen. Assembly, 1st Sess. (Ind. 1975) (version of the bill as printed on March 6, 1975), reproduced in Appendix, *infra*. These findings were included in the version of the bill that was favorably reported out of the House Committee on Labor and the Economy (March 5, 1975), but were removed before engrossment by the Senate (April 2, 1975).

13. Johnson v. St. Vincent Hosp., Inc., 404 N.E.2d 585, 594, 604 (Ind. 1980).

14. Project results appear in an out-of-print book, DON H. MILLS ET AL., REPORT ON THE MEDICAL INSURANCE FEASIBILITY STUDY (1977). More accessible is a project summary, Don Harper Mills, *Medical Insurance Feasibility Study: A Technical Summary*, 128 WEST. J. MED. 360

Insurance Commissioners (NAIC) to gather and tabulate information on nearly every medical liability claim closed by all but the country's smallest medical liability insurers.[15] The availability of these data attracted the attention of empirical researchers, notably Patricia Munch Danzon, whose path-breaking studies from the Rand Corporation in the late 1970s and early 1980s first analyzed the effects of tort reform, among other issues.[16] Despite these advances, most information in public arenas and legislative debates came from the same proprietary sources that had dominated debate at the time of the mid-1970s crisis, namely, medical societies, insurers, and the plaintiffs' bar.

B. The Second Crisis: Further Reforms and More Research

The second nationally noticed crisis in liability insurance arose in the mid-1980s. Problems in liability insurance this time were more general than malpractice-specific. In great measure because medical and hospital professionals had founded their own insurance companies, the problem of securing malpractice coverage was not significant in the mid-1980s.[17] The problem was instead a rapid increase in premiums—less sharp a rise than in the 1970s, but starting from a higher base level—to putatively unaffordable levels.[18] In the 1980s, moreover, the need for premium increases became apparent much more quickly, so that there was much less disruption to insurers' continued participation in the market.

This crisis also prompted tort reform—often for all personal injuries rather than just malpractice—as well as further development of empirical research. As in the 1970s, a series of state-specific and national task forces or commissions wrote reports,[19] and the attention of additional empirical and other researchers was drawn to the area.

Nonetheless, legislative debates continued to be quite contentious, in a kind of adversary legislative process which echoed the adversarial nature of the courtroom, and which continues to this day. Plaintiffs and their lawyers argued

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(1978).

15. NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, MALPRACTICE CLAIMS: FINAL COMPILATION (M. Patricia Sowka ed., 1980) [hereinafter NAIC].

16. Professor Danzon's work of this era is well summarized in her book. *See* PATRICIA M. DANZON, MEDICAL MALPRACTICE: THEORY, EVIDENCE, AND PUBLIC POLICY (1985).

17. *See generally* Posner, *supra* note 6, at 39; Bovbjerg, *supra* note 7 at 503.

18. *See* Posner, *supra* note 6, at 47; Bovbjerg, *supra* note 7 at 502-06 (Fig. 1 at 505 shows approximate doubling of five medical specialties' premiums in "real" terms, i.e., inflation-adjusted, between 1982 and 1985).

19. *See, e.g.*, GOVERNOR'S TASK FORCE ON MEDICAL MALPRACTICE INSURANCE, REPORT OF THE GOVERNOR'S TASK FORCE ON MEDICAL MALPRACTICE INSURANCE—STATE OF COLORADO (1988); ACADEMIC TASK FORCE FOR REVIEW OF THE INSURANCE AND TORT SYSTEMS, PRELIMINARY REPORT ON MEDICAL MALPRACTICE AND MEDICAL MALPRACTICE RECOMMENDATIONS (1987); REPORT AND RECOMMENDATIONS OF THE GOVERNOR'S TASK FORCE ON MEDICAL MALPRACTICE (1986).

passionately on one side, doctors and their insurers on the other.[20] The 1980s legislative response followed the lines set in the 1970s, and states like Indiana that had enacted major reforms in the 1970s generally enacted only minor ones in the 1980s. The entire "wave" of 1980s reform was rather broader than that of the 1970s, in several ways. Many provisions applied not just to malpractice but to all personal injuries or all torts. For the first time, moreover, there was federal action on insurance and medical quality. Finally, some tort reforms departed further from traditional tort principles. Most notably, Virginia and Florida enacted an entirely new approach to medical injury, a limited "no fault" system for handling very severely neurologically impaired newborns.[21]

What explains the presence or absence of reliable empirical evidence? To paraphrase realtors, the three most important things about empirical research are data, data, and data. It is clearly not possible to do empirical research without some numbers. Furthermore, systematically gathered and carefully processed numbers are necessary for good work, and most of the basic statistics reside in proprietary rather than public databases. For issues of medical utilization, even by the early 1970s, there were enough public databases to allow the issuance of health care data books. But not for medical liability or liability insurance, where there are no such public data on medical injury, medical liability insurance, or medical litigation. Most people new to these issues are astonished to learn that it is not even reliably known how many claims of medical liability are made each year.[22]

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20. The legislative combatants naturally also take opposing positions in the *Martin* litigation challenging the legislation. The polarity of the contending views is well-illustrated by two of the amicus briefs filed in the case, which are reproduced in this symposium. *See* Brief of Amicus Curiae Indiana Trial Lawyers Association (in opposition to petition to transfer), Martin v. Richey, 674 N.E.2d 1015 (Ind. Ct. App. 1997), *reprinted in Appendix 1*, 31 IND. L. REV. 1089 (1998) [hereinafter ITLA brief]; Brief of Amicus Curiae Indiana State Medical Association (in support of petition to transfer), Martin v. Richey, 674 N.E.2d 1015 (Ind. Ct. App. 1997), *reprinted in Appendix 2*, 31 IND. L. REV. 1099 (1998) [hereinafter ISMA brief]. The opposing points of view are also discussed in *infra* notes 43-46 and accompanying text.

21. Reforms addressed insurance, law, and quality of medical care, as discussed in greater detail in Bovbjerg, *supra* note 7, at 532-40. For the no-fault statutes, see VA. CODE ANN. § 38.2-5000 to -5002 (Michie 1994); FLA. STAT. ANN. § 766.301 to -.316 (West 1997). For empirical information on no-fault performance, see Randall R. Bovbjerg & Frank A. Sloan, *No Fault for Medical Injury: Theory and Evidence*, 67 U. CIN. L. REV. (forthcoming 1998) (policy overview from major study that includes information from study's five other empirical publications); Jill Horwitz & Troyen A. Brennan, *No-Fault Compensation for Medical Injury: A Case Study*, HEALTH AFF., Winter 1995, at 164.

22. Data from the Insurance Services Offices were considered nationally representative in the 1970s, *see infra* notes 47, 49 and accompanying text, but no longer. Studies of claims trends since have required data collection. Even the word "claim" can be misunderstood. Claims are files opened by insurers concerned with whether they need to investigate and potentially defend an ultimate legal action. They may be opened because of a report from an insured, for example, a doctor or hospital staffer, or are based on other information. In one very large database in Florida,

If data are the main prerequisite, the second pillar of empirical research is researchers, whose presence presupposes research support or funding. Since the mid-1980s, far more scholars from different disciplines have addressed medical liability issues, usually as an offshoot of some other interest. Some have come from health economics, others from jury-verdict research, general interest in the phenomena of law and society, and the conventional disciplines of law or medicine.

Major studies have examined the universe of hospital treatment, medical injuries, and legally cognizable negligence. One used 1974 hospital records in California[23] and the other 1984 hospital records in New York.[24] In each case it was found that about 4% of hospital charts contained evidence of bad outcomes that the researchers were confident were caused by medical care, one percentage point by negligent medical care.[25] Far fewer cases were brought as liability insurance claims or lawsuits.[26]

The General Accounting Office studied a national sample of claims closed in 1984.[27] Other studies have considered the resolution of these cases by the legal system and the almost total lack of standards and information for juries and judges acting as factfinders to draw upon in determining damages.[28] Finally, numerous attempts have been made to document "defensive medicine."[29]

Medical malpractice policy today can draw upon research and researchers, much more than at the time of even the second crisis. There is objective information available on many malpractice issues, and research has become more sophisticated. Researchers have moved beyond mere legal writing and limited descriptive research to more useful—and more difficult to perform—generalizable descriptive research and analysis, nationally and in Indiana.[30]

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about 40% of claims files closed have been found to consist of these notice type claims in which no claimant actually came forward with a request for money and the insurer spent no significant amount of money on investigation. Randall R. Bovbjerg & Kenneth R. Petronis, *The Relationship Between Physicians' Malpractice Claims History and Later Claims: Does the Past Predict the Future?*, 272 JAMA 1421, 1423 (1994).

23. The California Medical Association study is discussed in considerable detail in DANZON, *supra* note 16, at 19-29.

24. A. Russell Localio et al., *Relation Between Malpractice Claims and Adverse Events Due to Negligence*, 325 NEW ENG. J. MED. 245 (1991); Troyen A. Brennan et al., *Incidence of Adverse Events and Negligence in Hospitalized Patients*, 324 NEW ENG. J. MED. 370 (1991).

25. Brennan et al., *supra* note 24, at 371; DANZON, *supra* note 16, at 20.

26. DANZON, *supra* note 16, at 24; Localio et al., *supra* note 24, at 249.

27. U.S. GAO, CHARACTERISTICS OF CLAIMS CLOSED IN 1984 (1987).

28. *See generally* Randall R. Bovbjerg et al., *Valuing Life and Limb in Tort: Scheduling Pain and Suffering*, 83 NW. U. L. REV. 908, 912 (1989).

29. *See generally* U.S. CONGRESS, OFFICE OF TECHNOLOGY ASSESSMENT, DEFENSIVE MEDICINE AND MEDICAL MALPRACTICE (1994); Randall R. Bovbjerg et al., *Defensive Medicine and Tort Reform: New Evidence in an Old Bottle*, 21 J. HEALTH POL. POL'Y & L. 267 (1996).

30. Professor Danzon's use of multivariate regression to assess the effect of various tort

At the time that the Indiana and other early reforms were enacted, their likely effects were simply not known. Today, however, in considering the constitutionality of certain malpractice reforms, courts may have a body of objective empirical evidence available for their consideration. This Article next explores—and expands upon—empirical evidence relating to the occurrence-based statute of limitations whose constitutionality is presently before the Indiana Supreme Court.

II. ASSESSING INDIANA'S OCCURRENCE-BASED STATUTE OF LIMITATIONS

A. The Policy Balance to Be Struck

Lengthening a statute of limitations through a discovery rule increases perceived fairness to arguably injured patients unable to discover their injuries quickly and arguably increases deterrence for medical practitioners by making them pay for negligent care no matter when it comes to light.[31] A shorter, occurrence-based statute increases perceived fairness to defendant doctors at risk of erroneous liability findings based on stale evidence and hindsight medical testimony, while encouraging *patients* allegedly injured by malpractice to act decisively, rehabilitate themselves to the extent possible, and generally "get on with their lives."[32] A fixed time limit is a rule of judicial economy as well. Having to argue out the freshness or staleness of evidence in each case would make judicial process slower and more costly.

There is also a more subtle cost of longer statutes of limitations. They increase the cost of liability insurance by even more than the actuarially expected

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reforms is a good example of sophisticated analysis across the United States. *See, e.g.*, Patricia M. Danzon, *The Frequency and Severity of Medical Claims: New Evidence*, 49 LAW & CONTEMP. PROBS. 57 (1986). A three-year study addressed many empirical issues about the performance of reform in Indiana, though not including the statute of limitations. *See, e.g.*, William P. Gronfein & Eleanor D. Kinney, *Controlling Large Medical Malpractice Claims: The Unexpected Impact of Damage Caps*, 16 J. HEALTH POL. POL'Y & L. 411 (1991); Kinney, *supra* note 8 (reprinting Eleanor D. Kinney & William P. Gronfein, *Indiana's Malpractice System: No-Fault By Accident?*, 54 L & CONTEMP. PROBS. 167 (1991)). The entire study is reviewed by Professor Kinney's article in this Symposium, Eleanor D. Kinney, *Indiana's Medical Malpractice Reform Revisited: A Limited Constitutional Challenge*, 31 IND. L. REV. 1043, 1047-49 (1998).

31. Thus, by hypothesis, doctors should more readily change their practice to meet recognized standards because any mistakes will not go unrecognized just because they are old ones. One problem with this accurately applying expert testimony to older cases. *See infra* notes 125 and accompanying text. Another is that, if substandard care is not reliably discovered until years later, the deterrent "signal" may do no good if medical practice has already changed.

32. In the full universe of medical care and resulting injury, the problem of stale evidence seems even-handed: The passage of time could hurt either plaintiff or defense, as lost records or witnesses might hurt either side. However, where pro-plaintiff evidence is lost, an injury is unlikely to be discovered or a lawsuit brought. Accordingly, in the universe of legal claims actually seen by judges, older evidence is likely to disfavor defendants.

costs of defending and paying additional claims from older incidents because delay increases uncertainty and hence risk. To raise capital, insurers have to pay not just the normal rate of return required to finance a risk-free investment but also an added "risk premium" related to the variability of expected future claims (and hence the likelihood that capital will be lost).[33] Analogously, interest levels are higher for corporate bonds than for government securities, and higher still for lower-rated, riskier investments. The longer the statute of limitations, the more likely that actuaries will mis-predict social or medical-legal trends underlying future rates of claims.[34]

For example, if the Indiana statute of limitations is judicially altered, then claims will rise and insurance rates already set may prove to be inadequate (the state Patient Compensation Fund would be especially affected, as it covers the biggest claims, which are slowest to arise and be resolved, as considered below). Errors can also be made predicting the amounts of awards, including the likelihood that claimants will prevail in litigation, as well as inflation of wages and medical prices, along with changes in technology of medical treatment for injuries and disabilities.[35]

That this risk is large in malpractice is shown by the general shift in malpractice insurance markets since the early 1970s from "occurrence" coverage to "claims made" policies, which shorten the "long tail" of malpractice payouts.[36] Under occurrence coverage, premiums must be set to fund all claims arising from incidents occurring in the policy year, so insurers must predict both the rate of future claims and the amounts likely to be paid under them. Under claims made insurance, as the name implies, premiums cover only those claims made in the policy year. Thus, claims risk needs to be predicted only for a year in advance, only payout risk for longer, and the tail of delay to resolution of claims is shortened by the time between incident and report of claims.

There is an additional cost to shortening a statute of limitations as well. A very short statute may encourage concealment of negligent injuries by medical practitioners because it decreases the likelihood that independent evidence will be found during the shorter period and hence that they will be penalized for concealment. It is hard to see why the law should ever accept intentional concealment.[37]

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33. *See generally* FRANK A. SLOAN ET AL., INSURING MEDICAL MALPRACTICE (1991).

34. Professor Danzon's argument about this "sociolegal risk" is quite persuasive, if somewhat jargon-laden. *See* DANZON, *supra* note 16, at 175-78.

35. There is sociolegal risk in claims payments, as well as claims rates. *Id.* Legal doctrine may change unexpectedly as may jury attitudes about payment.

36. *See, e.g.*, Posner, *supra* note 6, at 44-45.

37. *See, e.g.*, Martin v. Richey, 674 N.E.2d 1015, 1027 (Ind. Ct. App. 1997).

> The doctrine of fraudulent concealment operates to estop a defendant from asserting a statute of limitations defense when that person has concealed material facts from the plaintiff by deception or a violation of duty. This equitable doctrine was adopted in the case of *Guy v. Schuldt*, as a method of ameliorating the harshness of the stringent occurrence based statute.

Setting the length of a statute of limitations thus calls for striking a balance. Someone will be disadvantaged whichever way the statute is set, and there is no objectively "right" length. A legislature setting a statute to begin with or a court considering whether to hold it unconstitutional or to craft a judicial exception for a certain class of cases would therefore benefit from having information about the number and nature of people hurt as well as about the extent of the damage.

Clearly, the few claimants in *Martin v. Richey* and consolidated cases[38] have been hurt by the Indiana tort reform. If they were the only people in the state so hurt, one suspects that there would be no occasion to write this Article. The claimants' constitutional argument draws force from the implication that they represent a class of other similarly situated people likewise denied a legal remedy. But, unlike a class action, there is no indication here of the size or attributes of the class.[39]

A related policy issue is whether the balance is different for different classes of lawsuits, which has implications for "equal privileges and immunities" analysis in Indiana (equal protection elsewhere). Common sense supported the common law distinction drawn by the statute of limitations between actions primarily based on a written contract and those based on witnesses' memories. Indiana law maintains the classic dichotomy between contract and tort.[40] Currently before the Indiana Supreme Court is the issue of whether the 1975 legislature could constitutionally conclude that actions based on medical malpractice need a different, shorter statute of repose than other types of tort action.[41] For non-malpractice torts, the discovery rule still applies, evidently

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In cases of deception, that is active concealment, the estoppel lasts as long as the concealment; in cases of violation of fiduciary duty to disclose, that is passive concealment, termination of the physician-patient relationship terminates the duty, and the statute of limitations begins to run, without estoppel. *See* Guy v. Schuldt, 138 N.E.2d 891 (Ind. 1956); Toth v. Lenk, 330 N.E.2d 336 (Ind. App. 1975); *see also* discussion of concealment in DANZON, *supra* note 16, at 180. To understand better just how much delay could be excused by the concealment doctrine, it would be necessary to understand just how Indiana trial judges determine when a medical-professional relationship ends. It may be that the doctrine mainly helps plaintiffs avoid demurrer or a motion for summary judgment, getting to the jury on this and all other issues combined. We owe this last insight to Professor Lawrence P. Wilkins, of the Indiana University School of Law—Indianapolis.

38. *See supra* note 2.

39. The only conjecture as to the size of this group comes from the following sentence from *Martin v. Richey*: "the statute as it stands completely forecloses the opportunity to be heard to potentially a *very large percentage* of those plaintiffs within the class." 674 N.E.2d at 1023 (emphasis added).

40. Certain contract actions may be brought for up to 20 years. IND. CODE § 34-1-2-2(6) (1993). Tort claims, however, must be brought within two years after the cause of action accrues. *Id.* § 34-1-2-2(1). This accrual has been interpreted to mean "when the plaintiff knew, or in the exercise of ordinary diligence, could have discovered that an injury had been sustained as a result of the tortious act of another." Wehling v. Citizens Nat'l Bank, 586 N.E.2d 840, 843 (Ind. 1992).

41. The general statute of limitations for torts is two years from the date of discovery. IND. CODE § 34-1-2-2(1) (1993). The statute of limitations for medical malpractice torts, however, is

including actions arising out of medical care but brought against pharmaceutical companies or manufacturers of medical equipment or supplies.[42]

Unfortunately for careful weighing of the factors in the balance, arguments in Indiana have proceeded on a somewhat less broadly based basis. In support of the statute, it is argued that it was necessitated by a crisis in availability of liability insurance and hence in the delivery of medical care—and by implication that crisis-like adverse effects would return under a less stringent statute.[43] In opposition, it is argued that one particularly appealing set of claimants has been harmed by a statute enacted in response to a crisis which did not really exist or does not continue to exist.[44] Neither contention answers the policy questions about the actual magnitude of the reform's effects,[45] especially given that the 1975 reform appears not to have changed the two-year, occurrence-based nature of the statute of limitations as enacted by 1941 malpractice reform.[46]

B. Relevant Prior Research

1. The Extent of Mid-1970s Crisis Nationally and in Indiana.—The early 1970s were a time of rapid increase in malpractice claims rates and significant

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two years from the date of occurrence. *Id.* §§ 27-12-7-1(b) (1975 version) & 34-4-19-1 (1941 version). *See also supra* note 9.

42. The Indiana statute is not phrased in terms of the types of tort or factual situations involved but rather in the class of defendant, namely "[licensed] health care provider." *Id.* § 27-12-7-1(b).

43. *See, e.g.*, ISMA brief, *supra* note 20, at 1099. Evidence on the extent of crisis appears at *supra* note 12 and *infra* notes 47-53, 96-111 and accompanying text.

44. *See, e.g.*, Reply Brief of Appellant at 8, Martin v. Richey, 674 N.E.2d 1015 (Ind. Ct. App. 1997); *see also* ITLA brief, *supra* note 20.

45. Even informed speculation as to the likely practical impact of a longer statute of limitations is notably absent from the briefs of the parties and *amici*. Martin does, however, offers some quantitative evidence (on malpractice premiums, number of claims, effect of damage caps, etc.) in support of her contention that there is no longer—if there ever was—a malpractice "crisis." Brief of Appellant at 23-27, Reply Brief of Appellant at 7-10, Martin v. Richey, 674 N.E.2d 1015 (Ind. Ct. App. 1997). Dr. Richey and *amici* do not offer empirical support for their side, but rather focus on the desirability of deference to legislative judgment on the issue. *E.g.*, ISMA brief, *supra* note 20. We suspect that the medical tort reformers saw themselves as the little Dutch child putting a finger in the hole in a dike. They did not much know or care how much water might be on the other side, just so long as they could keep it out of their side.

46. The statutory posture of *Martin v. Richey* is confusing. The briefs attack and defend the occurrence-based reform of 1975, along with the severity of insurance problems that prompted the reform, *see* references cited in *supra* notes 43-45. However, the 1941 reform used nearly identical language for the starting point of the statute of limitations—the "act" complained of rather than the "accrual" of a cause of action. *See supra* note 9. "Accrual" is a more common statutory term, *see supra* note 40, and has often facilitated interpreting the law to include a "discovery" exception. The ISMA brief, *supra* note 20, mentions the 1941 Act; but no brief appears to address the oddly bipartite nature of statutory support for the occurrence basis of the Indiana malpractice law.

change in the insurance industry, as already noted. Nationwide, claims rates for physicians and surgeons coverage grew slowly from 1966 through 1970, then doubled by 1973.[47] In Indiana, the increase in claims frequency was 42% for 1970-75.[48] Claims "severity," that is, average payout per claim, also rose sharply.[49] Rises in claims frequency and severity led malpractice insurers to seek much higher insurance premiums, 410% higher from 1970-75 in Indiana.[50] Premiums rose sharply all across the country, for some physician specialties more than for others.[51] In some states, notably including Indiana, many carriers even withdraw wholly or partly from offering coverage.[52] Despite the rapid rates of change in Indiana claims and premiums, there are some indications that the state was not high compared with national norms.[53]

In response, physicians declared a national crisis, and almost all legislatures

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47. DANZON, *supra* note 16, at 61 (Figure 4.1—national data from the Insurance Services Office).

48. U.S. GAO, MEDICAL MALPRACTICE: CASE STUDY ON INDIANA (1986) (citing without reference a report from the Indiana Medical Malpractice Commission).

49. DANZON, *supra* note 16, at 62 (Figure 4.2—noting that severity tripled from 1969-75, according to national data from the Insurance Services Office); U.S. GAO, *supra* note 48, at 8 (noting that average awards in Indiana almost tripled, from $13,000 to $34,000).

50. U.S. GAO, *supra* note 48, at 8.

51. One project tracked five specialties' premiums on a consistent basis, using data gathered by the Health Care Financing Administration for different purposes. During 1974-75 (the earliest available data), premiums doubled for obstetricians, nearly tripled for anesthesiologists, even after adjusting for inflation, *see* Bovbjerg, *supra* note 7, Fig. 1, at 505. Over a longer time period the largest increase was that for obstetricians, nearly 300% in 1975-86. *See* SLOAN ET AL., *supra* note 33, at 8 (Figure 1.1).

52. In Indiana, 7 of 10 insurers stopped writing new policies, canceled policies, or limited new business. U.S. GAO, *supra* note 48, at 8-9. According to a compilation from the American Medical Association, some 550 practitioners, mainly physicians, were insured by the state's joint underwriting association in 1976, the year after Indiana's malpractice reforms authorized a JUA. This means that a small share of doctors (under 7%) could not get coverage from a conventional carrier at normal premiums. *See Indiana*, *in* STATE BY STATE REPORT ON THE PROFESSIONAL LIABILITY ISSUE (Am. Med. Ass'n Taskforce on Prof'l Liab.), Oct. 1976 (duplicated report, not consecutively paginated) [hereinafter REPORT].

53. Indiana's relative cost of physician coverage in 1972 was only 55.6% of the national average, having declined steadily from 70.7% in 1960, according to data from the then-leading "rating bureau" for the industry, the Insurance Services Office. *See* Mark Kendall & John Haldi, *The Medical Malpractice Insurance Market*, *in* U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE, REPORT OF THE SECRETARY'S COMMISSION ON MEDICAL MALPRACTICE & APPENDIX 539 (1973) (California was highest at 252.2%, Wyoming was lowest at 29.9%.). An almost identical pattern was found for surgeons and for hospital coverage. *Id.* at 540, 543. The leading carrier for Indiana, however, was Medical Protective, which may not have contributed its data to ISO nor used ISO rates. At least one smaller carrier did use ISO rates. *See* REPORT, *supra* note 52. The findings of the NAIC claims census, *supra* note 15, are discussed *infra* at notes 92-122 and accompanying text.

enacted some form of tort reform, with Indiana the first to act.[54] The extent of crisis was somewhat in the eye of the beholder,[55] but physicians fervently believed that their medical practice was at risk,[56] and legislatures found the concerns legitimate.[57] Physicians and hospitals in most states not only lobbied for tort reform but also invested effort and capital in their own insurance reform, by forming their own insurance companies in order to assure continued availability of coverage and fair premium rates.[58] Another private insurance reform also helped stabilize insurance—a general shift from "occurrence" to

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54. Bovbjerg, *supra* note 7, at 514-32; Glen O. Robinson, *The Medical Malpractice Crisis of the 1970s: A Retrospective*, 49 LAW & CONTEMP. PROBS. 5, 18-26 (1986). The Indiana reforms were signed into law on April 24, 1975, the first comprehensive malpractice statute in the country. U.S. GAO, *supra* note 48, at 9.

55. *Compare* SYLVIA LAW & STEVEN POLAN, PAIN AND PROFIT: THE POLITICS OF MALPRACTICE (1978) (crisis overstated, driven by insurers), *with* George L. Priest, *The Current Insurance Crisis and Modern Tort Law*, 96 YALE L.J. 1521 (1987) (severe crisis arising from legal developments). *See also* Frank A. Sloan & Randall R. Bovbjerg, *Medical Malpractice: Crises, Response and Effects*, RESEARCH BULLETIN (Health Ins. Ass'n of Am., Washington D.C.), May 1989. Because "crisis" is not objectively defined nor its existence agreed, this Article might have put every use of the term in quotation marks, but we have spared readers such typological overload.

56. The flavor of the times is captured in A LEGISLATOR'S GUIDE TO THE MEDICAL MALPRACTICE ISSUE (David G. Warren & Richard Merritt eds., 1976). Section two, "Case Studies from Five States," is especially illuminating. *Id.* at 27-85 (chapters authored by state legislators, not including Indiana). Crisis concerns in California were so strong and devotion to physician insurers so persistent, that the physician insurers today continue to tout their role in ending the crisis. *See, e.g.*, NORCAL Mutual Insurance Company, *About NORCAL* (visited June 16, 1998) <http://www.norcalmutual.com/norcal/norcal.htm> (self-description begins: "For many of our policyholders, the memories of practicing medicine in California in the early 1970's remain all too vivid.").

That these perceptions influence commercial insurers' sales was also supported by the first author's personal interviews conducted with insurance-industry participants and observers in California during April and May 1998 for a different purpose (unpublished, confidential information).

57. *See supra* note 12 and accompanying text. Quite apart from how severe any crisis may have been, using "crisis" as the key argument justifying reform has the classic problem that it "proves too much." That is, there appears to be no way to set any boundary on how much reform is needed. *See also* text following *supra* note 125.

58. *See* Posner, *supra* note 6, at 39-40; SLOAN ET AL., *supra* note 33, at 5. Indiana did not get a home-grown physician mutual insurer, possibly because the state already had a physician-owned company, Medical Protective, the state's largest insurer. U.S. GAO, *supra* note 48, at 7. Medical Protective was chartered at the turn of the century. Although physician owned, it is a for-profit stock company, unlike the physician mutuals and similar entities formed in the 1970s. *See* The Medical Protective Company (home page, visited June 16, 1998) <http://www.medicalprotective.com>. Availability of coverage in Indiana was also aided by the JUA created by the state, *see supra* note 52.

"claims made" policies.[59]

One reason for the steep rise in claims in the early 1970s, though not the only one, was the liberalization of judicial doctrine.[60] Professor Danzon's analysis found that states adopting four pro-plaintiff changes by 1970 averaged 53% higher claims frequency per capita and 26% higher severity (per insured payout) and thus 86% higher claims cost per capita.[61] Longer statutes of limitations were also found to raise claims rates, but not by a large amount.[62]

However, insurance crises appear to a great extent to be cyclical, rooted in the difficulties of predicting the future, the tendency of insurance competition to drive prices below actuarially expected losses in good times, and the reactions of insurance investors to unexpected losses.[63] Legal developments can certainly precipitate or exacerbate problems, as the unanticipated run-up of claims did in the early 1970s. And tort reform (not just of the statute of limitations) probably helped to moderate insurance swings, as well as to reduce reform states' insurance premiums relative to others.[64] It is notable that insurance claims dipped in the late 1970s after almost all states enacted some malpractice reform and dipped again in the late 1980s, after most states enacted more tort reforms, often general ones applicable to all torts or all personal injuries. However, the crises ebbed nationwide in the late 1970s and 1980s, both in states with strong tort reform and in those with only weak legislation. And the enactment of strong 1970s reform did not prevent the occurrence of 1980s claims rises, in Indiana or elsewhere.[65] Claims are on the rise again in the 1990s,[66] even though tort reforms

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59. *See supra* note 36 and accompanying text.

60. Many other social and medical reasons are sometimes cited, but are seldom able to be tied directly to observed claims trends. *See generally*, Robinson, *supra* note 54, at 11-18, and sources cited therein (noting "intuitive" nature of most assessments, *id.* at 18). The pioneering work of Professor Danzon is an exception. *See supra* notes 34-35, 61-62 and accompanying text.

61. DANZON, *supra* note 16, at 76-77. The doctrines were abolition of the locality rule and of charitable immunity, expansion of informed consent and of *respondeat superior*, as tabulated by Stephen C. Dietz et al., *The Medical Malpractice Legal System*, *in* 2 MEDICAL MALPRACTICE: REPORT OF THE SECRETARY'S COMMISSION ON MEDICAL MALPRACTICE, APPENDIX (1973).

62. DANZON, *supra* note 16, at 78. However, this analysis evidently did not account for non-statutory discovery rules that extend the basic statute of limitations. *Id.* at 245 n.25.

63. *See generally* SLOAN ET AL., *supra* note 33; Ralph A. Winter, *The Liability Crisis and the Dynamics of Competitive Insurance Markets*, 5 YALE J. ON REG. 455 (1988).

64. Indiana started low in premiums and stayed low. California's premium history is more remarkable; it enacted even more comprehensive reform than did Indiana, though with slightly less stringent individual provisions (longer statute of limitations and cap on only the non-pecuniary element of awards). In the wake of its reforms, California has gone from the highest-premium state, *see* Kendall & Haldi, *supra* note 53, to the low middle range, *see* Stephen A. Norton, *The Medical Malpractice Premium Costs of Obstetrics*, 34 INQUIRY 62 (full data in underlying Working Paper 06559-01, Urban Institute, Washington, DC, June 1996).

65. *See generally* U.S. GAO, *supra* note 48; Bovbjerg, *supra* note 7.

66. *See, e.g.*, Health Care Liability Alliance, *Health Care Lawsuits, Claim Payments on Upswing* (visited June 16, 1998) <http://www.wp.com/hcla/hcla426.htm>.

have continued to be enacted, and few have been repealed or invalidated. More potent causes and factors are likely at work here, including social attitudes about medicine and about litigation.[67] Other ameliorative factors also helped in the late 1970s, notably the entry of new insurers run by medical providers and the change to claims-made coverage.[68]

2. One Legislative Response to Crisis: The Balance Struck in Other States' Reforms of Statute of Limitations.—The specific element of Indiana tort reform under attack in *Martin v. Richey* is Indiana's statute of limitations for medical malpractice cases. The two-year basic statute of limitations on both tort and malpractice filings is not challenged. This is understandable, even though a two-year cut-off almost certainly denies access to the courts for some potential claimants[69]—for two years is the national norm. Presumably this arbitrary time limit reflects widely shared qualitative perceptions about the ready discoverability of personal injury in the usual case and the desirability of forcing plaintiffs and their attorneys not to drag their feet before bringing suit. Indiana is also typical in allowing children more time to sue. Where it differs is in the stringency of its denial of extra time for discovery of latent injuries to adults.

Indiana was one of a majority of states that legislated changes in their statutes of limitation either in the mid-1970s round of tort reform, or in the similar changes of the mid-1980s.[70] Frequently these changes applied only to malpractice cases, which ironically had sometimes previously had special enactments to lengthen the basic statute.[71] Most commonly enacted were "statutes of repose" that set outer limits on the length of time that reasonable non-discovery of a cause of action could toll the basic statute of limitations. These ranged from three to ten years, sometimes allowing an exception for foreign substances left in a patient or fraudulent concealment by potential defendants.[72] Indiana appears to be one of only a few states to reject any evolution of the discovery rule entirely by legislative action.[73] A number of states, like Indiana, enacted special statutes for children—setting the bar lower

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67. A plausible argument can be made, however, that the publicity and lobbying that promoted tort reform in the 1970s and 1980s probably also affected social attitudes. We have not reviewed any evidence from public opinion polls.

68. *See supra* notes 58-59 and accompanying text.

69. Changes in the length of the statute of limitations have been found to reduce claims frequency. *See supra* note 62 and accompanying text.

70. Bovbjerg, *supra* note 7, at 524, 542 (Table 3).

71. *Id.* at 524 n.111.

72. *See* Robinson, *supra* note 54, at 22.

73. *Id.* at 21 n.88. Robinson cites Delaware, New Mexico, and South Dakota along with Indiana as having moved to occurrence-based statutes, but his description of Delaware enactment suggests that it incorporates a discovery rule of into the statute. South Dakota was more stringent than Indiana, allowing only two years, without exception for minors. New Mexico, like Indiana, makes an exception to the basic statute for children under six, but is less stringent in allowing three years from injury rather than two. Indiana appears to have pre-empted any evolution of a discover rule through its 1941 statute. *See supra* notes 9, 46.

than the traditional age of majority but higher than would result from applying the basic statute of limitations.[74] These appear to subsume the discovery rule; the minority statutes give newborns the longest time for discovery, the least to children nearing the maximum age less the basic statutory period—age six, in Indiana's case (age eight less two years).

3. Differences between Medical and Other Forms of Liability.—Given Indiana's decision to set different rules for medical liability than for other torts, one may ask how different medical liability is from other torts. Reliable, objective information is scarce with regard to medical liability even standing alone, as argued above.[75] Information that compares medical with other forms of liability is even rarer, but it is possible to note several documented differences.

One salient difference between medical professional liability and other liability is the extent of the "long tail" of claims brought long after "occurrence-policy" premiums were set and collected to pay for them. This difference is the most relevant to reform of statutes of limitation. States like Indiana enacted reforms and insurers adopted "claims made" policy forms in an attempt to shorten this tail.[76] The tail is the far right end of the distribution of claims reporting and disposition times. For medical malpractice, it extends very far out into the future. Malpractice cases are slow to be reported to insurers and also to be resolved once reported, as is considered in more detail below.[77]

How different is this pattern from other coverages, however? One comparison tracked cumulative insurance payouts over time in officially reported insurance data from different lines of coverage, which has the advantage of being tabulated on a consistent basis across lines. Compared with auto personal injury, workers compensation, and other liability coverage, malpractice insurance took a full year longer to reach the median dollar payout of a ten-year total than auto, the most common type of personal injury claim.[78]

Another difference, according to conventional wisdom among insurers, is that malpractice is a "low frequency-high severity" line. Claims are brought relatively infrequently, but when claims are made, average payments per paid claim are high.[79] In contrast, automobile liability features relatively high claims frequency but low severity.[80] This medical liability claims pattern makes medical liability rates more volatile in responding to shifts in claimants' propensity to sue or in the generosity of legal payment rules or juries' application of them.

Finally, there is some evidence that juries make higher awards in malpractice cases than in auto and other cases of similar observed severity of injury.[81] Some

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74. *See, e.g.*, COLO. REV. STAT. ANN. §13-80-102.5(d)(I) (West 1997); Robinson, *supra* note 54, at 22 n.91.

75. *See supra* notes 10-11 and accompanying text.

76. *See supra* notes 8-9, 36 and accompanying text.

77. *See infra* notes 102-07 and accompanying text.

78. SLOAN ET AL., *supra* note 33.

79. *Id.* at 24.

80. *Id.*

81. *See* Randall R. Bovbjerg et al., *Juries and Justice: Are Malpractice and Other Personal*

of this difference may be attributable to inherent differences among types of tort, some to the effect of defendants with "deep pockets," and some to the selection of cases for trial by attorneys. Attorneys may proceed disproportionately with more severe cases because malpractice claims also seem to be more difficult, time consuming, and costly for attorneys than are otherwise similar personal injury cases.[82] This difference in awards seems least relevant to the statute of limitations, which does not target award size.

It is notable that in the 1970s, state legislatures enacted tort reforms that were almost exclusively specific to medical malpractice, like those in Indiana, whereas in the 1980s, general tort reforms were more prominent.[83] This suggests that legislatures were more driven by the nature and extent of immediate insurance-market problems than by any inherent differences between different forms of tort liability.

4. The Impact of Reformed Statutes of Limitations.—A number of studies have examined the extent to which reductions in statutes of limitation reduce malpractice claims rates or premiums,[84] which is what they were intended to do. The most carefully done are those by Patricia M. Danzon and by Frank A. Sloan and colleagues, which examine effects of tort reforms by state and over time, holding other influences constant through multivariate statistical analysis.[85] Neither found any effect of statutes of limitations reforms when examining data from the 1970s,[86] but both found effects when looking at a longer time period.

Danzon found that over 1975-84, the average effect of a one-year reduction in the statute of limitations was a cut in claims frequency of 6% to 7%.[87] Sloan and colleagues found for 1975-86 premiums that cutting a basic statute of limitations by one year can be expected to cut premiums in the long-run by over 10%; shortening the discovery period has about half as much impact.[88]

Injuries Created Equal?, 54, LAW & CONTEMP. PROBS. 5 (1991).

82. *Id.* at 16-17. An early 1970s large national survey of plaintiff and defense lawyers also found almost unanimous agreement that malpractice claims are more time consuming, about four times more time, according to respondents. *See* Dietz et al., *supra* note 61, at 101.

83. *See* Bovbjerg, *supra* note 7.

84. *See, e.g.*, OFFICE OF TECHNOLOGY ASSESSMENT, EFFECT OF LEGAL REFORMS ON MEDICAL MALPRACTICE COSTS 67 (1993) (summarizing available studies, including those cited at *infra* note 85).

85. DANZON, *supra* note 16; Patricia M. Danzon, *The Frequency and Severity of Medical Malpractice Claims: New Evidence*, 49 LAW & CONTEMP. PROBS. 57 (1986); Frank A. Sloan, *State Responses to the Medical Malpractice Insurance "Crisis" of the 1970s: An Empirical Assessment*, 9 J. HEALTH POL. POL'Y & L. 629 (1985); Frank A. Sloan et. al., *Effects of Tort Reforms on the Value of Closed Medical Malpractice Claims: A Microanalysis*, 14 J. HEALTH POL. POL'Y & L. 663 (1989); Stephen Zuckerman et al., *Effects of Tort Reforms and Other Factors on Medical Malpractice Insurance Premiums*, 27 INQUIRY 107 (1990).

86. DANZON, *supra* note 16, at 78; Sloan, *supra* note 85, at 643.

87. Danzon, *supra* note 85, at 71-72. The effect is measured at the mean of pre-reform statutes, about five years, scoring an unlimited discovery rule as 10 years.

88. Zuckerman et al., *supra* note 85, at 175. The companion analysis of frequency produced

Of particular interest for the statute of limitations was an analysis comparing individual claims closed in different states before and after tort reforms, which could examine detailed characteristics of individual cases.[89] It found that reducing the basic statute of limitations by a year lowered the average time to filing by one third of a month, with no effect on size of payment.[90] Allowing a long discovery period, however, was found to increase the probability that filed claims would be paid; states with an unlimited period of discovery had a 15% higher rate of paying claims than states with a two-year maximum (paralleling the statute of limitations in Indiana for adults).[91]

All such statistical studies examine the aggregate impact that reforms by estimating the average impact of similar reforms across states. They have little to say about how the reforms achieve the effect that they do or what types of cases are affected by reform.

C. "New" Evidence from the NAIC Closed-Claims Census of 1975-78

There exists a unique data source for considering the environment in which the 1975 Indiana reforms were legislated, as well as the potential impact of maintaining a two-year, occurrence-based statute of limitations for adults. Fortunately for this Article, these data are accordingly not "stale" but rather appropriately contemporaneous to the twenty-three-year-old statute now under attack.

In July 1975, the National Association of Insurance Commissioners began its landmark collection of data from virtually every medical malpractice claim closed in the entire country from then through 1978.[92] The resulting compilation of insurance information illustrates the nature of malpractice claims arising almost wholly during the period before reform, as claims take some time to be filed and resolved. During the three and one-half years of the study, the NAIC compiled information on 62,097 incidents of potential injury from medical malpractice, leading to 71,782 claims.[93] This information was not published until September 1980, although a first-year report was issued in December 1975.[94] Such broad-based and independently compiled information was not available to

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anomalous results. *Id.* at 178-80.

89. Sloan et al., *supra* note 85.

90. *Id.* at 674. The basic statutory time period was set at the adult or minor level, depending on the age of each case's claimant.

91. *Id.* at 675, 677. Unlimited discovery was coded as 10 years, following Danzon's convention.

92. NAIC, *supra* note 15. The commissioners' mandate to submit data applied to all 128 medical malpractice insurers writing over one million dollars in premiums in any year since 1970. *Id.* at 4. The NAIC book includes data from all claims files closed between July 1975 and December 1978, that is, a period of 3 1/2 years.

93. *Id.* at 13, 36.

94. 1 NATIONAL ASSOCIATION OF INSURANCE COMMISSIONERS, MALPRACTICE CLAIMS (1975).

the Indiana legislature in considering its malpractice provisions. The following information comes from the published record of that census.[95]

1. The Indiana Claims Rate.—How big a problem did Indiana face in 1975, according to this contemporary claims record? Indiana ranked one fifth above the national average in rate of closed claims per physician, according to NAIC calculations,[96] even without correcting for some apparent under-reporting by insurers in Indiana.[97] The state did not rank above national norms in incidents per population[98] or per hospital bed, however.[99] This higher ranking in claims per physician than per population presumably reflects the state's low physician-population ratio, given the relatively low litigiousness of Indiana's population.[100] Indiana ranked below the national average in average indemnity paid.[101]

2. Indiana's Average Speed of Filing.—Legislating a short, occurrence-based statute of limitations is meant to reduce the "age" of claims being filed relative to allowing later-discovered injuries to be litigated. It is thus appropriate to ask how Indiana's speed of filing ranked relative to other states. Table 1 shows that Indiana closed claims were very similar to those of the nation as a whole in average time from incident to insurance claims report. The average speed of discovery was 17 months in Indiana, versus 16 months in the United States as a whole (slightly longer for cases ultimately paid). It is quite surprising that Indiana's speed of reporting is so close to that of the nation as a whole, for most states by this time applied a discovery rule, but not Indiana.[102]

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95. Resources for the preparation of this Article were not sufficient to allow use of the automated, primary data tape whose information underlies the NAIC publication. NAIC, *supra* note 15. This Article is accordingly based solely upon the publication, a secondary source of already-tabulated information.

96. NAIC, *supra* note 15, at 124 (Table 3.3). The national average was 3.83 claims per 100,000 active physicians as reported by the American Medical Association. *Id.* at 116. Indiana's rate of 4.65 was thus comfortably higher than average, though slightly lower than neighboring Michigan's 4.90 rate and well below the level of "crisis" leader California (6.81). *Id.* at 124. Indiana was also somewhat above average in paid claims and in large paid claims (over $100,000) per physician. *Id.*

97. The NAIC found that three companies seemed to have under-reported claims during portions of the study. States affected included Indiana. *See* NAIC, *supra* note 15, at 116.

98. NAIC, *supra* note 15, at 121 (Table 3.2).

99. NAIC, *supra* note 15, at 127 (Table 3.4).

100. In 1975, Indiana's physician-population ratio was one third below the national average. *See* Randall R. Bovbjerg, *Lessons for Tort Reform from Indiana*, 16 J. HEALTH POL. POL'Y & L. 465, 483 (1991) (appendix Table 1).

101. NAIC, *supra* note 15, at 124 (Table 3.3: $20,158 vs. $25,161).

102. In the pre-reform era, 24 states applied a discovery rule, according to Comment, *Malpractice Statute of Limitations in New York: Conflict and Confusion*, 1 HOFSTRA L. REV. 276, 292 n.73 (1973). Indiana applied only its broad doctrine of fraudulent concealment, *see supra* note 9, which uses discoverability only to end the constructive fraud of physicians' failure to disclose material information to their injured patients. *See, e.g.*, Toth v. Lenk, 330 N.E.2d 336 (Ind. App. 1975). According to the review of state law done for Dietz et al., *supra* note 61, Table III-62, at

Table 1
Speed of Discovery, Indiana vs. National*
Incidents from claims closed July 1975 - December 1978

	average times elapsed from incident to reporting**						percentages	
	total cases		paid cases		unpaid cases			
	average months	*number of cases*	*average months*	*number of cases*	*average months*	*number of cases*	*share of cases paid, by area*	*share of total cases, by age*
all ages								
Indiana	17	1,281	19	596	16	685	46.5%	100.0%
U.S. total	16	61,390	17	25,406	16	35,984	41.4%	100.0%
minors								
Indiana	26	184	34	96	17	88	52.2%	14.4%
U.S. total	23	7,660	25	3,449	21	4,211	45.0%	12.5%
adults								
Indiana	16	1,097	16	500	16	597	45.6%	85.6%
U.S. total	16	53,730	16	21,957	16	31,773	40.9%	87.5%

source: NAIC, *supra* note 15, Table 3.1, at 115
notes: * Indiana reporting of data was slightly less comprehensive than national;
reference presents minors and all ages, paid and unpaid -- other values are calculated

All of the difference between Indiana and national speed derived from the difference in delays for minors, 26 months for Indiana, versus 23 nationally.[103] Delay for children came mainly from paid cases, which took twice as long as unpaid to be discovered in Indiana, compared to only a small difference in the United Sates. For adults, times to report were identical in Indiana and the United States, both for paid and unpaid cases. Indiana was also similar to the United States in the share of cases involving minors versus adults, 14.4% and 85.6% for Indiana, and 12.5% and 87.5% for the United States. Indiana cases were more likely to be paid at resolution than were U.S. cases, with a larger difference for children than for adults. (All data from Table 1)

These insurance data present time to claims report, not to litigation, whereas the statute of limitations sets the maximum time to filing of a lawsuit. This discrepancy does not affect the comparisons drawn, however. For one thing, the average time to lawsuit would be somewhat longer but perhaps not much, as malpractice insurers very often get notice of an incident only when they hear from a claimant's lawyer, near the time of litigation. Moreover, the Indiana and national times are tabulated on the same basis, so these comparisons remain valid.

The NAIC noted that the time to reporting was increasing during their study, though their publication does not present average report times by year. For cases

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134, 36 states including the District of Columbia liberalized their statutes of limitations with one or the other of these two doctrines.

103. Where more than one claim arose from one incident, the earliest report was taken as the time of claim, the last payment or other closure as the time of disposition. Minors were claimants under 18 years old at the time of incident. *See* NAIC, *supra* note 15, at 22.

closed during 1975, 81% of all cases had been reported within two years; for 1978, the figure was 74%.[104]

3. The Extent of the "Long Tail" for Discovery.—How many claims, of what types, were potentially affected by the Indiana reform of the statute of limitations? The NAIC data provide some indications. Consider first Table 2.

Table 2

Speed of Discovery for Minors and Adults (national data)

Time elapsed from incident to report in claims closed July 1975-December 1978

time in years	age at time of report: minors		adults		all ages	
	number of cases	*percentage of cases*	*number of cases*	*percentage of cases*	*number of cases*	*percentage of cases*
0-2	5,513	71.7%	41,876	77.6%	47,389	76.9%
2-4	1,353	17.6%	9,924	18.4%	11,277	18.3%
4-6	323	4.2%	1,094	2.0%	1,417	2.3%
6-8	154	2.0%	339	0.6%	493	0.8%
8-10	85	1.1%	100	0.2%	185	0.3%
10-20	146	1.9%	162	0.3%	308	0.5%
20+	115	1.5%	439	0.8%	555	0.9%
total	7,689	100.0%	53,935	100.0%	61,624	100.0%

Dollars of indemnity and percentages by time from incident to reporting

years	*millions of dollars*	*percentage of dollars*	*millions of dollars*	*percentage of dollars*	*millions of dollars*	*percentage of dollars*
0-2	$115.1	54.8%	$497.9	75.4%	$613.0	70.4%
2-4	$55.9	26.6%	$137.4	20.8%	$193.3	22.2%
4-6	$16.6	7.9%	$14.8	2.2%	$31.3	3.6%
6-8	$8.6	4.1%	$3.6	0.5%	$12.2	1.4%
8-10	$2.5	1.2%	$1.8	0.3%	$4.4	0.5%
10-20	$7.4	3.5%	$1.4	0.2%	$8.7	1.0%
20+	$4.0	1.9%	$3.8	0.6%	$7.8	0.9%
total	$210.1	100.0%	$660.6	100.0%	$870.7	100.0%

source: NAIC, *supra* note 15, Table 1.1, at 24

notes: data represent all reported cases, paid (slightly slower to be reported) and unpaid (slower); multiple claims from one incident are consolidated; dollars are nominal; table omits <1% of cases that lack relevant date(s); minors were <18 at incident

It shows speed of discovery as a distribution of closed claims by time elapsed between incident and report:[105] For minors, 71.7% of closed claims had been reported within two years, compared to 77.6% for adults. Large paid claims had taken longer to be reported; after two years, reporting reflected only 54.8% of the

104. *Id.* at 22.

105. The data provide a tabular illustration of the "long tail" of the malpractice claims distribution. Half of cases closed (51.5%) were filed within a year of incident. It took over 20 years for all of the other half to be reported. *Id.* at 24 (Table 1.1).

eventual payments for minors, 75.4% for adults.[106] For minors, 95.5% of cases had been reported within eight years of incident, involving 93.4% of the dollars ultimately paid. For adults, 98.7% of cases had been reported within eight years of incident, involving 98.9% of the dollars ultimately paid. These data are national; state-specific distributions were not given. For adults, Indiana's long-tail pattern may well be similar to the national one, based on the similarity of the average; for minors, more than the national 4.5% of cases would remain unreported after eight years, given the state's higher average delay.[107]

These figures may indicate the general order of magnitude of cases potentially affected by a rigidly applied occurrence-based statue of limitations like Indiana's two or eight-year statute—5% or more of the total. Just how much more cannot be directly estimated, however. As already noted, it is not known how close together insurance and lawsuit filings are. Moreover, two additional, countervailing phenomena must be noted. First, closed-claims data *underestimate* the speed of discovery and the number of cases in the "long tail" during a period when the claims rate is rising, as it was in the 1970s. Second, pre-reform data *overestimate* the extent of cases foreclosed because the behavior of claimants and their attorneys can be expected to change in response to the reform: To the extent that they can accelerate filings, they will. That is, the reforms will make some number of claimants and their attorneys simply move faster with their discovery and decision making so as to file their claim within the new statutory period.

The second bias is easy to understand, but the first takes some explanation. The problem is that a statutory reform affects all cases going *forward* from its effective date. In contrast, the NAIC study looked *backward* from a limited period of closures to much earlier times of incident and report (more than twenty years earlier, as shown by the longest time period of Table 2).[108] The "long tail" observed in the NAIC data is that of incidents occurring many years before. As observed from the vantage point of 1975-78 closures, information on twenty year old cases comes from incidents of 1955-58. In contrast, information on one year old cases comes from 1974-77, on two year old cases from 1973-76, and so on. If the rate of claims were constant, this would not matter, as a closed-claims study contains information on the complete time distribution of cases—those closed in every year after incident, first, second, third, and so on—even though the incident year differs for each "vintage" of case closed.

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106. It is not clear why paid claims take longer to be reported. It may be that a larger share of them are found by claimants and brought by a lawyer, whose investigation would add time, whereas unpaid cases may come disproportionately from reports by insured physicians or hospital staff, who may more quickly appreciate the nature of an event.

107. *See supra* note 103 and accompanying text. The figure would also be higher because the minors' limitation is based on claimants' age, not the injury "age" shown in the tables. A maximum of eight years could elapse in the case of a newborn injured at birth, entitled to sue any time until age eight. A child injured the day before her sixth birthday, however, would have an effective time of two years and a day, also until her eighth birthday.

108. The oldest case evidently arose 25 years before closure. NAIC, *supra* note 15, at 14.

However, the claims rate was not constant but rose dramatically over the twenty plus years.[109] So the NAIC calculation of average times is biased downward (though the comparison of Indiana versus United States times still holds). Claims arising in 1955 and closed in 1975 could have been reported within one year, two years, any length of time up to twenty years. The larger number of claims arising in 1975 could only have been reported within one year. Mixing these all together on an unadjusted basis makes the overall "population" average of Table 1 too short, and similarly for the distribution of Table 2.

How big is the bias? NAIC actuaries re-estimated the claims distribution as though closures had been observed for a population of claims all occurring in a current incident year.[110] Table 3 compares those re-estimates by incident year to the closed-claims data underlying Tables 1 and 2. Five years from incident, the closed claims data show 8.5% of paid cases unresolved, versus 29% on an incident-year basis.[111] So the downward bias of closed-claim tabulation may be quite large.

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109. NAIC estimated an annual increase in the rate of claims of 5% starting from 1970. *Id.* at 106. Other sources showed larger rates of increase.

110. *Id.* at 82-83.

111. It is not possible to correct Tables 1 or 2 directly because the NAIC publication does not present sufficient information to do so. The cases estimated are paid claims and total dollar payouts (which are most important for premium rate making) only, not including unpaid claims. Moreover, the corrected times presented are to closure (not to report). Further, the times are calculated from the beginning of the incident year rather than from precise date of incident. Finally, the revised distribution used less differentiated time intervals than those used for the "raw" data. Therefore, the times in Table 3 do not match those of Table 2.

Table 3

Claims Resolution by Year of Closing vs. Year of Incident

time from start of incident year	proportion of claims paid			
	in closed claims data		estimated for incident year	
	by count	by dollars	by count	by dollars
3 years	65.8%	44.3%	43%	6%
5 years	91.5%	82.9%	71%	18%
10 years	99.2%	99.2%	91%	56%
15 years	99.4%	99.6%	96%	79%
20 years	99.4%	99.6%	99%	95%
20+ years	100.0%	100.0%	100%	100%

Source: data on disposition from incident from NAIC, *supra* note 15, Table 1.3, at 29 (estimated as of start of incident year by adding six months, average for 12 months of claims each year); incident-year projections from id. at 83. See also discussion of claims development, *id.* at 105-09

Notes: Closed claims data report actually observed closures during 3.5 year period; cases arose from many different incident years; pattern by "occurrence" or incident year is actuarially estimated

4. Characteristics of Slow-filed Cases.—Just what types of cases are the slow-filed incidents at risk of being foreclosed by a shorter statute of limitations? The slower claims "development" of cases involving minors has already been noted (Table 1).[112] It may be due to minors' early stage of physical and mental development, or to variability in expectations for development, which may mask the occurrence of an injury readily noted in a fully developed adult accustomed to a certain level of functioning. And, of course, adults can more readily communicate problems they perceive than can infants or children.

The next most salient single attribute is severity of injury. More serious injuries are slower to be reported (Table 4). The overall average time to report is sixteen months (Tables 1 & 4), for temporary injuries two months less, for permanent ones other than death eight months more (Table 4).

112. *See supra* notes 102-03 and accompanying text. It is not known from the published data how patterns differ for 0-6-year-olds (least affected by the new limitation) and those 6-21 (most affected).

Table 4
Severity of Injury and Speed of Resolution
(U.S. Total, in closed claims 1975-78*)

severity of injury		time from incident to report to disposition (average months elapsed)						
		total incidents		paid incidents			unpaid incidents	
no.	category, description	*incident to report*	*report to close*	*incident to report*	*report to close*	*average $000's***	*incident to report*	*report to close*
1	*emotional only*, no physical damage	15.1	15.5	16.0	19.3	$4.7	14.9	14.5
	temporary	14.0	18.4	14.4	21.3	$9.4	13.7	16.4
2	*insignificant*, *e.g.*, laceration, no delay in recovery	11.6	13.8	11.9	15.3	$2.6	11.4	13.0
3	*minor*, *e.g.*, misset fracture, recovery delayed	13.6	18.3	13.8	21.2	$7.1	13.4	16.5
4	*major*, *e.g.*, surgical material left, recovery delayed	16.8	22.0	16.7	24.5	$16.8	17.0	19.4
	permanent	23.9	26.8	23.6	30.9	$75.6	24.2	22.6
5	*minor*, *e.g.*, loss of fingers, includes non-disabling injuries	20.6	25.4	20.0	28.8	$27.6	21.3	21.9
6	*significant*, *e.g.*, loss of eye, kidney, or lung	23.2	28.1	23.5	32.0	$72.9	22.8	23.8
7	*major*, *e.g.*, blindness, brain damage	39.5	29.5	38.9	36.9	$178.2	40.0	22.8
8	*grave*, *e.g.*, quadraplegia, lifelong care or fatal prognosis	29.6	30.3	30.9	35.5	$292.8	28.0	24.4
9	*death*	14.2	25.2	15.0	32.4	$56.7	13.6	19.8
	*total***	16.2	21.0	17.0	25.5	$34.1	15.7	17.8

Source: data on disposition from NAIC, *supra* note 15, Table 1.3, at 29, on indemnity id., Table 2.7, at 53; severity definitions *id.*, Table 5.6, at 304

Notes: * Disposition includes claim payment, settlement or other resolution; ** dollar values are nominal; *** total includes cases of no injury, of legal issues only, and of unspecified severity, which are excluded from severity categories, < 2% of total

This is counterintuitive, as most serious injuries should be more readily recognizable (with the exception of delayed diagnosis of a serious condition). A plausible hypothesis is that more serious cases are more likely to be taken to attorneys for investigation, which adds delay before reporting by claimants or their representative. Data on source of claims report are not given. Delay in resolution after report is also longer for more serious cases, which is more understandable, as disputation is apt to be more protracted when more is at stake. Paid cases take somewhat longer than unpaid to be reported, much longer to be resolved.

The time to report is also longer for larger paid cases. Full data are not presented, but it is noted that the average time to report is 33 months when weighted by dollars paid, versus 25 months simple average (all paid incidents equally weighted, as in Tables 1-5).[113]

Common sense as well as commentary on statutes of limitation also suggest that reporting/discovery delay should also be common in cases of foreign bodies left at an operative site and of delay in diagnosis. The NAIC publication does not present times to report or disposition by type of injury. The data do indicate that 1,844 cases involved foreign bodies (3% of total incidents).[114] Proof of substandard care and causation of injury are presumably simpler for these cases, and indeed 1,028 were paid, a rate of 56%, compared with 41% for all cases (Table 1). Payment amounts were low, however, averaging $18,157 (well under the $34,091 average indemnity for all cases).[115] As for delay in diagnosis, there were 7714 cases (12% of the total), of which 3265 were paid (a win rate of 42%,

113. NAIC, *supra* note 15, at 22.
114. *Id.* at 179-80.
115. *Id.* at 185.

which is quite average), with an average indemnity of $44,180 (one-third higher than for all cases).

There are indications that both categories have continued to be important nationally, even after tort reform.[116] In the 1990s, failure to diagnose has become the leading allegation in physician malpractice claims nationally. It would be interesting to compare today's Indiana experience, with no discovery exception for the statute of limitations, with the nation's, where discovery rules typically apply. This could be done with consistently compiled, proprietary claims data—or with public information on litigation, if states maintained such data files.

5. Another Long Tail: Time from Report to Disposition.—Another part of the long tail of malpractice claims is the delay from report to resolution, which is actually longer than that from incident to report. This post-report delay is 21 months on average for all cases, 25 months for paid cases (Table 5, national data)—compared with 16 and 17 months delay to report (Table 1 above).[117]

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116. The information most comparable to NAIC data comes from a GAO survey of claims closed countrywide in 1984. There, retained foreign bodies accounted for an estimated 1,051 claims, delayed diagnosis for 12,289—between them about 17% of an estimated total of 73,472 closed claims nationwide. *See* U.S. GAO, *supra* note 27, at 78 (Tables V.1 and V.2). These estimates are very similar to the combined 15% in the NAIC data, though the GAO estimates were made by claim, the NAIC census by incident.

117. A report on a smaller study of claims closed during July-October 1976 also noted this phenomenon. *See* HEALTH CARE FIN. ADMIN., U.S. DEP'T HEALTH, EDUC. & WELFARE, MEDICAL MALPRACTICE CLAIMS: SYNOPSIS OF THE HEW/INDUSTRY STUDY OF THE MEDICAL MALPRACTICE INSURANCE CLAIMS 61 (J. Cooper ed. 1978).

Table 5
Speed of Resolution (national data)
Time from report to disposition in claims closed 1975-78

time elapsed	all reported cases	paid cases	
years	*percentage of cases*	*percentage of cases*	*percentage of dollars*
0-2	66.7%	54.7%	32.0%
2-4	24.2%	32.8%	43.7%
4-6	6.6%	9.4%	18.1%
6-8	1.2%	1.8%	4.2%
8-10	0.4%	0.5%	1.2%
10-20	0.1%	0.2%	0.4%
20+	0.8%	0.6%	0.4%
total	100.0%	100.0%	100.0%
average (months)	21	25	–

source: NAIC, *supra* note 15, Table 1.2, at 27
notes: see notes following table 4

Two years after report, one-third of cases remain unresolved, including 45% of dollars ultimately paid (Table 5). It is not possible to disentangle just what fraction of this delay is attributable to time spent in litigation. To begin with, the report date to the insurer is not the same as the date of filing of litigation, as already noted, although it is probably close for the claims that go to litigation. It is clear that dispositions by court action take longer to achieve than those by voluntary settlement or simple non-prosecution or abandonment of a claim.[118]

Note that the time to disposition is also longer for larger paid cases, as for the time to report. At each time period of Table 5, a lower percentage of the dollars is resolved than of cases.[119] More severe cases also take much longer than average to resolve, just as they took longer to report (Table 4).

Death cases are an interesting category in terms of times to report and to disposition. They are reported relatively fast, somewhat sooner than the average for all cases and substantially faster than for other serious injuries, for paid cases 15 months, versus 17 and 24 months (Table 4). This pattern is consistent with injury's being more recognizable for serious than for lesser injuries, where new harm is less clearly distinguishable from problems associated with the normal course of the underlying disease or condition under medical treatment. However,

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118. NAIC, *supra* note 15, at 73. Among paid claims, court dispositions take an average of 25 months to achieve, settlements only 18 months. These figures are faster than the disposition time shown for paid cases in Table 5, evidently because the latter is tabulated on an incident basis, and for incidents disposition is the time to resolution of the last claim involved, whereas the former reports on each claim by itself.

119. Full data on speed of resolution by size of case are not presented. The average time from report to disposition is 36 months when weighted by dollars paid, versus 25 months simple average (all paid incidents equally weighted). NAIC, *supra* note 15, at 25.

death cases, once reported, take extra long to resolve, fully thirty-two months for paid cases—or seven months longer than average. This is consistent with having difficult disputes over damages under special legal rules associated with wrongful death and survivorship cases. Disputes over causation and negligence are probably less difficult for death cases than for lesser injuries, as there is evidence from other sources that medical reviewers are more apt to find causation and negligence for more severe injuries.[120]

Finally, cases that are complex in terms of the number of defendants involved also experience substantial delays in resolution. Cases with only one defendant take only about two years to resolve from incident to resolution (25 months for unpaid cases, 32 months for paid). Cases with five or more defendants take about twice as long (50 or 51 months for unpaid cases, 56 to 58 for paid).[121]

Another national closed claims study done in the mid-1980s, after numerous 1970s reforms had taken effect, also found that claims take longer to resolve than to report.[122] This was so, even though most state reforms of statutes of limitations left in place a relatively long discovery allowance, unlike Indiana.

CONCLUSION

The Indiana legislature has twice enacted a short, two-year, occurrence-based basic statute of limitations for medical malpractice, implicitly rejecting a longer, discovery-based regime. In 1941 the legislature acted to clarify that medical liability sounds in tort rather than contract. In 1975, given acute problems in the markets for liability insurance, the legislature acted to shorten the tolling-to-majority period for minors just created by Indiana Supreme Court decision in 1974.[123] The constitutionality of denying tort recourse to claimants with late-discovered cases is now being reconsidered by the Court. In essence, the key arguments in favor of conserving a strict approach are that the law is well settled, that crisis required a stricter rule, and that allowing stale claims would harm the administration of justice. The arguments for liberalization are that there is and was no crisis or at least none sufficient to justify a rule that wreaks substantial harm upon claimants.

This Article's review of the historical and empirical record found that Indiana faced similar mid-1970s problems to other states, which were used to

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120. *See, e.g.*, Robert A. Caplan et al., *Effect of Outcome on Physician Judgments of Appropriateness of Care*, 265 JAMA 1957 (1991); Steven A. Schroeder & Andrea I. Kabcenall, *Do Bad Outcomes Mean Substandard Care?*, 265 JAMA 1995 (1991).

121. NAIC, *supra* note 15, at 68-69 (Table 2.10). Multidefendant cases also have higher defense costs, rising in step with the number of defendants.

122. For 1984 closures, the GAO survey found that claims took an average of 16.4 months to be reported (versus the average for NAIC incidents of 16 months) and an average of 25.0 months to be disposed of (versus the NAIC average of 21). *Compare* U.S. GAO, *supra* note 27, at 32, 82 (Table V. 13), *with* Table 1 *infra*.

123. On the status of children and the two reforms, see *Chaffin v. Nicosia*, 310 N.E.2d 867 (Ind. 1974) and its discussion at *supra* note 9 and accompanying text.

justify the nationwide wave of malpractice reform. Most notably for the statute of limitations, at the time of Indiana's reforms, the state faced the same average delay in reporting of adult claims as the rest of the country and unusually long delay for minors (Table 1) in Indiana. Like other parts of the country, however, Indiana was experiencing rapid growth in malpractice claims and premiums as well as sudden reductions in availability of liability coverage for medical practitioners. Indiana's occurrence-based statute of limitations was similar to many other states' reforms for children, but went beyond other states in the stringency of its legislative rejection of the discovery rule for adults.

This Article also analyzed the published empirical record to estimate the extent to which a strict rule may eliminate claims. The number of people affected surely goes beyond the few sympathetic plaintiffs in the instant cases. How far beyond? That can be argued two ways, based on the law and the facts as we have found them. On one hand, Indiana's occurrence-based statute looks much stricter than the provisions of sister states. Other states sometimes have a longer basic statute of limitations and often allow liberal tolling of the statute for undiscoverable injury, whereas Indiana applies only its version of the doctrine of fraudulent concealment. The parties and *amici* to *Martin v. Richey* and consolidated cases imply that there are large differences between Indiana's current regime and the more liberal allowances already available to other tort claimants in Indiana—and malpractice claimants in other states.

The facts about the 1970s long tail of cases nationally, which go well beyond Indiana's basic two-year adult limit, can be read to support this view, as shown in our review of published data from the NAIC's near-census of malpractice claims closed in 1975-78: Incidents with slow reporting in the reform era constituted at least 5% of the total for children, potentially as much as 15% or more for adults (Tables 2 and 3). It is impossible to tell with certainty just what circumstances allowed long-tail claimants to delay claims in the various states, and many claimants of the type who had longer reporting times under liberal rules surely could accelerate their claim filings under stricter rules. If stricter rules had actually foreclosed 15% or more of incidents, studies of the effect of reform on claims frequency and premiums would have found a larger effect than the 5% to 10% diminution actually estimated.

On the other hand, a closer reading of the law suggests that Indiana's occurrence-based statute is less stringent as applied than as written, given rather broad application of the doctrine of fraudulent concealment in Indiana. Moreover, except for the new 1975 limitation on children's late filing of suits, which offset the 1974 judicial liberalization, the legislative reform appears to have made little change in Indiana. For adults, the basic two-year, occurrence-based period was evidently the same before and after reform, the concealment doctrine was not legislatively reformed, and its judicial application seems to have continued unchanged after reform.

The facts about Indiana's pre-reform average delay to reporting of claims tend to support this view. The average time to report for adult claimants in Indiana was exactly the same as for the nation as a whole, in which about half the states applied a discovery rule (Table 1). For children, the delay in Indiana observed in the mid-1970s was actually over half a year longer than the national

average. At 26 months, the children's delay even exceeded the nominal allowance of the then two-year, occurrence-based statute of limitations; longer delays for children had been definitively allowed only in 1974, too late to have affected very many claims closed in the observation period.

In contrast with these ambiguities, it can be said with confidence that the impact of Indiana's occurrence-based statute fell disproportionately on cases of relatively severe injury, which predominated among long-tail cases nationally (Table 4). Thus, like "caps" on awards, reform of the statute of limitations seems to achieve its undoubted savings at the high end of the injury distribution. Of course, that is where a disproportionate amount of systems cost occurs. A final empirical finding, also unambiguous, is that delay after report is just as big a cause of "staleness" in claims resolution as delay before report (Table 5).

Policy makers in Indiana would be well served by more information, both about the law and the facts. Just how has the law actually been applied in courtrooms, before the 1975 reform and today? The record before the Supreme Court does not seem to answer these questions. Just what is the time distribution of actual claims? Neither the record nor readily available other data can answer. For the 1970s, learning more requires accessing the data underlying the NAIC's published report, and for the 1990s it means acquiring new data.

With regard to the "staleness" of foreclosed claims, we can observe empirically that the "long tail" of malpractice claims was indeed very long prior to reform nationally, given discovery rules and other exceptions applied in most states—a minimum of 3% of cases from the pre-reform era were ten to twenty-five years old at resolution. These are not likely to qualify as fresh cases by anyone's definition.

The aphorism that Indiana's statute of repose "declare[s] the bread stale before it is baked"[124] has a fine ring to it. But it uncritically accepts that the asserted legal *cause of action* is the "bread" in danger of becoming stale. This seems erroneous. A cause of action has no inherent freshness nor staleness. Indeed, it has no independent existence. An action springs into being when a claim is filed and judges allow it to go forward. A legal assertion has no measurable attribute apart from what judges allow it to have within the confines of a courtroom or deposition chamber.

Thus, we appreciate the "lawsuit as bread" metaphor for its value in provoking discussion. But it seems to us that a more apt policy formulation is whether the baker's proposed *ingredients* are so stale that any resulting confection will be unsafe for consumption.

What can be fresh or stale is thus not the legal assertion of a claim but rather the claim's underlying evidence, which is of two types. One is factual testimony about particular real-world events. Ordinary factual testimony can certainly go stale. Witnesses can forget (or reinvent), move out of state, or die. Written records can be lost or routinely destroyed. The second and more subtle type of staleness relates to expert opinion. Expertise is time sensitive (partly explaining why experts charge so much per hour). Accepted wisdom of one era is normally

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124. Martin v. Richey, 674 N.E.2d 1015, 1027 (Ind. Ct. App. 1997) (citation omitted).

overwritten with new and improved expertise, never again to appear truly expert. So, in an oddly reverse way, the "staleness" problem with medical opinion is that it can be inappropriately fresh for an old case.

Is any factual testimony delayed over two years old stale? This seems implausible. Medical records are the basic stuff of medical lawsuits. They can be maintained indefinitely. Medically, it is notable that good medical practice requires cumulating evidence on a patient's medical history, including, for example, whether patients still have their appendices or any history of allergic reactions even if discovered long before.[125] Legally, it is notable that the Indiana legislature accepted that evidence about treatment of children could remain acceptably fresh for up to eight years. Physical records and human memories surely do not differ in their ability to retain freshness according to the age of the patient being remembered. (Nor does it seem that medical expertise about childhood care changes more slowly than that for adults.)

Consider the not uncommon case where a mother and her infant are both injured in childbirth, perhaps by the same mis-administered anesthesia for a cesaerian or the same slip of a scalpel. We see no "freshness" reason that mom should have two years to sue in her own right but eight on behalf of her daughter. The reason for allowing children longer (yet not to age of majority) is to allow more time for discovery because their developmental circumstances merit the extension. Injury to adults that is hidden for other reasons seems very similar.

What then of expert testimony? Unlike medical records, medical wisdom from one era cannot readily be preserved on file, particularly not given that textbook wisdom must be modified for courtroom presentation in light of circumstances and actual medical custom The problem is that medical practice and hence legal standards, improves over time. In the real world this is a very good thing. But in the courtroom, continuous improvement creates difficulty in accurately recapturing practice standards and hence legal duties from many years before, both in expert testimony and in the minds of factfinders at trial. Common sense, though no empirical evidence, suggests that good medical practice changes much more over a decade, say, than does good driving practice—or, for that matter, good bread-baking practice.

Accordingly, a shorter malpractice statute than auto tort period seems justified. But that still does not address the discovery rule. There, the key issue seems to be the balance between factual facts and medical facts. Consider the two paradigm cases of "foreign object" and "delay in diagnosis." A foreign

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125. Empirically, one would like to have expert medical assessments of medical records and claims files to assess the relative accuracy of results in new versus old cases. A growing number of studies have undertaken such difficult and expensive data collection, most but not all finding relatively good agreement between legal results and independent expert opinion. *See, e.g.*, Mark I. Taragin et al., *The Influence of Standard of Care and Severity of Injury on the Resolution of Medical Malpractice Claims*, 117 ANNALS OF INTERNAL MED. 780 (1992) (noting that 62% of malpractice claims are justifiable and that doctor's conduct did not conform to standard of care). *But see* Localio et al., *supra* note 24; Brennan et al., *supra* note 24. Unfortunately, vintage of the case when legally determined has not been a subject of such inquiries.

object is a physical thing, injury results from active misfeasance, and proof of causation and substandard care will turn on relatively factual testimony. A missed diagnosis is a cognitive error of omission, and proof of malpractice is crucially dependent on the level of expertise applicable at the time and under the circumstances. Accordingly, a preferable discovery exception would distinguish late discovery of real-world facts from late application of virtual-world medical expertise.

We end with a comment and a plea. It is an interesting commentary on public decision- making that legislatures and judiciaries combine to set policy on statutes of limitations. There is an astonishing difference between policy-making attributes in the two arenas. Legislatures can gather facts about whole populations affected by a phenomenon or social system, consider budgetary implications, and generally do a broad cost-benefit analysis across all types of cases to be affected in light of perceived popular and political opinion and pressures—though they cannot foresee all implementation problems or unexpected consequences of their decisions.[126]

Judiciaries often have to deal with particularized anomalies of implementation, but they also set general policy through common law adjudication and constitutional litigation. They do so by resolving a single case or controversy, typically a test case carefully selected by the party or parties seeking change—which is very unlikely to be representative of the broad class to be affected by a decision.[127] Not only do appellate judges see atypical cases, but they are also handicapped in informing themselves about general phenomena in any individual case. Legal practice assures good presentation of the specific facts of individual cases, but no presentation about how typical a test case is or about what countervailing other cases may exist.

Amicus briefs are the classic way that courts can receive a broader perspective. In this instance, though, none of the *amici* takes a broad perspective, either. Instead, they are simply the parties writ large—and with deeper pockets: One side represents potential defendants and their insurers; the other, injured people whose cases are strong enough and whose injuries are severe enough to interest a contingent-fee attorney. No one represents the whole universe of

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126. *See* JEFFREY L. PRESSMAN & AARON WILDAVSKY, IMPLEMENTATION: HOW GREAT EXPECTATIONS IN WASHINGTON ARE DASHED IN OAKLAND (3d. ed. 1984) (providing the classic statement of this in the policy literature).

127. Only difficult and atypical controversies go to trial to begin with; more typical, straightforward cases are typically settled. Even after trial begins, many cases settle before submission to jury or entering of judgment; others settle on appeal before any appellate decision. The proportion of cases reaching appellate decision is minuscule, but they are the raw material from which are made all common law rules and constitutional determinations. In the national survey of claims closed in 1984, 6.8% reached trial, 5.2% reached verdict, and 2.0% reached appeal (including settlements before appellate decision). U.S. GAO, *supra* note 27, at 37 (Table 2.20) (omitting a small share of cases going to arbitration or otherwise not in the conventional process). NAIC, *supra* note 15, at 75 (Table 2.11), does not present its information on disposition so as to allow a similar calculation.

patients, who are at only potential risk of injury under medical care, but whose medical fees and health insurance premiums must fund the whole liability system.

One wishes for a better way for each type of public decision maker to partake of the strengths of the other.

Finally, our plea is for further advances in public record keeping in support of judicial management. A widely acclaimed management axiom is that if you can't measure it, you can't manage it.[128] The judicial system generates and files innumerable reams of paper, but almost no routinely abstracted data. Both students of malpractice litigation and lobbyist/lawyers are driven to insurance records in the absence of systematic, accessible, and relevant official judicial information.[129] Even simple record keeping could help courts set better benchmarks to aid in ongoing administration and management—and thus partake of broader information in more legislative fashion.

All Indiana trial judges are currently required to submit quarterly statistical reports to the Division of State Court Administration. These reports contain only very general data presented on an aggregated basis, however. Information presented includes such matters as the numbers of new case filings, of cases by method of disposition (jury trial, bench trial, dismissal, etc.), and of cases currently pending. The categories of civil cases are especially general, such as civil plenary, civil tort, domestic relations, and so on. State-wide statistics are then generated, compiled into an annual report, and distributed rather widely.[130]

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128. The first author originally saw this point made in GORDON CHASE & ELIZABETH C. REVEAL, HOW TO MANAGE IN THE PUBLIC SECTOR (1983), though it appears to be widespread. *See, e.g.*, H. JAMES HARRINGTON, BUSINESS PROCESS IMPROVEMENT—THE BREAKTHROUGH STRATEGY FOR TOTAL QUALITY, PRODUCTIVITY, AND COMPETITIVENESS (1991). One suspects that the original source is Sir William Thomson, Lord Kelvin, 1824-1907, Baron Kelvin of Largs, scholar of thermodynamics, originator of Kelvin absolute temperature scale, and father of the first successful transatlantic telegraph cable: "If you cannot measure it, you cannot improve it." *See, e.g.*, Workgroup for Electronic Data Interchange, *1998 National Conference HIPAA Implementation: The Role of NCVHS* (visited June 16, 1998) <http://www.wedi.org/htdocs/membersonly/Detmer/Wedi98/sld007.htm>.

129. An important distinction must be made between *data* and *information.* Data is accessible, manipulable, and re-analyzable. The best form is micro-data, meaning that the unit of observation is the recording of individual cases with entries for everything which happens to it. This input can then be retrieved for generations to come and analyzed in the context of whatever issue confronts future administrators. The possibilities are only limited by the detail of the original input.

Information, on the other hand, is usually a hard copy report. It is inaccessible for almost any use other than the very specific one envisioned at the time the information was created and collected. Even a detailed set of published tables, as in the NAIC information used for this Article, inevitably leaves many questions unanticipated and unanswered. *See, e.g.*, *supra* notes 15, 95, 111-12.

130. *See, e.g.*, DIVISION OF STATE COURT ADMINISTRATION, 1996 INDIANA JUDICIAL REPORT (1997).

This approach makes for a good snapshot of status and for good history.

But good analysis and management call for more. The problem is twofold: First, the current statistical reporting does not ask enough questions—or, for that matter, sufficiently focused and detailed questions. For example, policy makers need to know how many cases there are by subtypes of tort (e.g., personal injury, including medical malpractice, products liability), how long they take to reach each step to resolution, and how often problems of various types arise along the way. Second, the information is kept as reports rather than as *data*, that is, specific information kept for each case (quantitative and qualitative) and hence re-analyzable in the future. Given only a hard-copy, statewide report, a future manager can know only what a prior compiler chose to include. She cannot break out data more finely or in different categories—for example by urban/rural location, number of senior judges by district, or in any other way.

Two recent Supreme Court initiatives illustrate the feasibility and desirability of expanding data collection and improving its archiving for at least some projects. The first of these initiatives addressed a troublesome backlog in cases involving children.

> The Supreme Court spent all of 1996 assembling the most comprehensive data ever collected about how Indiana's courts handle cases involving abused or neglected children. Hundreds of juvenile judges and magistrates, office of family and children directors and case-workers, guardians and court-appointed special advocates, parents, and practitioners contributed toward this effort.[131]

The second initiative involved the development of a weighted caseload measuring system. For 18 months, nearly one-third of Indiana judges and magistrates kept logs and made thousands of entries to determine how much time each sort of case requires on average. The result was a "measuring stick" which legislators can use in assessing requests for new courts and which the judiciary can use in making the most of existing courts.[132] While these initiatives necessitated a great deal of special data collection, they also facilitated making substantial improvements.

If done regularly, other straightforward reporting and maintenance of judicial information might help inform policy making—and also help make advocates' arguments better informed in cases like this one. For example: What proportion of torts arise from medical care? How many of these involve licensed providers as against drug companies and medical manufacturers not protected by reform? How often do issues of discovery arise? Such judicial information would not answer questions about the number and types of potential cases deterred by current judicial practice, but it would make a major contribution to understanding.

The systematic collection of such detailed data could impose new costs, at

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131. Chief Justice Randall T. Shepard, State of the Judiciary Address, *in* 1 DIVISION OF STATE COURT ADMINISTRATION, 1996 INDIANA JUDICIAL REPORT 3 (1997).

132. *Id.* at 5.

both the trial court level where it would be collected and at the central level where it would be entered and compiled. Economies could be achieved by having a smaller set of routinely reported information, with special samples or studies done each year on one area of interest, or done retrospectively as deemed appropriate.[133] Start-up costs would be highest, maintenance costs lower. However, the benefits—for the judiciary, other policymakers, and academic analysts—would continue to accrue forever.

Substantial help in data matters might come from academia, certainly from the public universities that are a sister branch of state government. Social scientists crave social data. Many graduate students spend many unpaid hours building data bases of less import than this. One can envision useful collaborations between courts and researchers with appropriate safeguards for confidentiality, though most court data are public. Researchers would also gravitate toward more complex, longer term analyses than policy makers typically need, but such efforts could be separately funded, as research is today. Some institutional creativity and core funding would be needed to create and nurture such a symbiotic relationship over time, but it could be done.

In *Martin v. Richey* and associated cases, the Supreme Court of Indiana has been asked to steer the constitutional ship of state between the Scylla of insurance crisis and physician flight and the Charybdis of denial of access to the courts. As the parties and *amici curiae* have structured the dispute, the justices have been well informed about the horrible nature of each prospective peril. But the Court remains wholly uninformed about the likelihood of either crash given any particular adjustment of course or speed—or about the number of casualties likely to be sustained.

Let us hope that in the future the waters will be better charted.

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133. The two studies just noted are example of special studies. *See supra* notes 131-32. Attributes reported on all cases filed would be the basic data. For the story of one productive social-medical data set, see Christopher R. Blagg et al., *Here Are (Almost All) the Data: The Evolution of the U.S. Renal Data System*, 14 AM. J. KIDNEY DIS. 347 (1989).

Appendix

PROPOSED LEGISLATIVE "FINDINGS" NOT PART OF FINAL ACT[134]

SECTION 1. The general assembly finds that:

(a) The number of suits and claims for damages arising from professional patient care has increased tremendously in the past several years and the size of judgments and settlements in connection therewith have increased unreasonably.

(b) The effect of such judgments and settlements, based frequently on new legal precedents, have [sic] caused the insurance coverage [sic] to uniformly and substantially increase the cost of such insurance coverage.

(c) These increased insurance costs are being passed on to the patients in the form of higher charges for health care service and facilities.

(d) The increased costs of providing health care services, the increased incidents [sic] of claims and suits against health care providers, and the unusual size of such claims and judgments, frequently out of proportion to the actual damage sustained, has [sic] caused many liability insurance companies to withdraw from the insuring of high risk health care providers.

(e) The rising number of suits and claims is forcing health care providers to practice defensively, viewing each patient as a potential adversary in a lawsuit, to the detriment of both the health care provider and the patient. Health care provides [sic] for their own protection, are often required to employ excessive diagnostic procedures for their patients, unnecessarily increasing the cost of patient care.

(f) Another effect of the increase of suits and claims and the costs thereof is that some health care providers decline to provide certain health care services which in themselves entail some risk of patient injury.

(g) The cost and difficulty in obtaining insurance for health care providers discourages young physicians from entering into the practice of medicine in the state of Indiana, resulting in the loss of physicians to other states.

(h) The inability to obtain or the high cost of obtaining insurance affects the medical and hospital services available in the state of Indiana to the detriment of its citizens.

(i) Some health care providers have been forced to curtail the practice of all or a part of their profession because of the non-availability or high cost of liability

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134. *See supra* note 12 and accompanying text.

insurance.

(j) The cumulative effect of suits and claims is working both to the detriment of the health care providers and to the citizens of this state.