



Public Medical Malpractice Insurance

Frank A. Sloan

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Printed in the United States of America.

ISBN 0-9741239-3-5

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Key Features of Florida and Virginia No-Fault Plans



Acknowledgments

The author wishes to thank William Sage, Columbia Law School, for his helpful comments on earlier drafts, Carrie Mathews, Center for Health Policy Law and Management, Duke University for assistance in assembling material for this article from numerous unpublished sources, and Justin Sadowsky, Columbia Law School, for updating a table of characteristics of Patient Compensation Funds based on a table in a report by Pinnacle Actuarial Resources.

The opinions stated in the paper are the author's and not necessarily those of The Pew Charitable Trusts.



Executive Summary

This report focuses on medical malpractice reforms adopted by individual states in which the state participates as an organizer of insurance pooling arrangements or as a liability insurer. In each malpractice crisis since the mid-1970s, these changes have complemented the creation of new organizational forms for liability insurance (e.g., physician-sponsored carriers) and laws affecting the costs and benefits of filing legal claims and receiving payment from litigation (tort reforms).

Government intervention in medical liability insurance has been directed at two objectives:

- Assuring the short-term availability of medical liability coverage despite market withdrawal by private insurers
- Promoting long-term stability and affordability by dealing with the highest cost claims, which increase both the mean and the variance of losses

GOVERNMENT-SPONSORED POOLING ARRANGEMENTS

Joint Underwriting Associations

Many states authorized Joint Underwriting Associations (JUAs) in the mid-1970s to close the gap in coverage that arose when private insurers withdrew from the market. Like Patient Compensation Funds (see below), JUAs are public organizations that require participation by all medical malpractice insurers in the state and, in some states, all property-liability insurers. JUAs are designed to be insurers of last resort; i.e., to serve providers who are unable to obtain coverage from other sources. If a JUA's premium income is insufficient to cover losses and administrative expense, each member company is assessed a pro rata share of the shortfall.

Public Policy Considerations:

- JUAs may “crowd out” private medical malpractice insurance. Because JUA costs are passed on to private policyholders, commercial insurance becomes relatively more expensive than JUA coverage.
- Providing coverage through a JUA may conflict with deterring medical injury. JUAs cover health care providers who cannot get private insurance, often because they have adverse claims histories. When physicians with many past claims are able to obtain coverage at standard rates, subsidized by physicians with better track records, they lack incentive to improve (or leave practice).

Guaranty Funds

Guaranty funds provide a mechanism for assessing financially healthy insurers in order to pay the obligations of insolvent insurers to their policyholders. In the context of medical liability, guaranty funds protect physicians and other health care providers who purchase insurance, and indirectly keep compensation available for injured patients.

Public Policy Considerations

- By insulating managers from the consequences of insurer bankruptcy, guaranty funds reduce market pressure on insurers to be prudent in their business decisions.
- Because the guaranty fund will honor claims in the event of insolvency, providers who have a choice among primary insurers may not consider financial strength an important attribute.

GOVERNMENTS AS INSURERS

Patient Compensation Funds

State Patient Compensation Funds (PCFs) assume liability above pre-specified threshold amounts that are covered by the insured's primary insurance policy or qualified self-insured primary insurance plan. Participation in PCFs may be mandatory—in which case all health care providers fitting the statutory definition must obtain excess coverage through the PCF—or voluntary, with providers enrolling at their option. PCFs were initially created during the crisis of 1975-76 to assure availability of medical malpractice insurance by paying for the few cases that generate large losses. Losses in the upper tail of the distribution curve are often very volatile, making it difficult for private insurers to achieve adequate diversification. The underlying rationale for PCFs is that the private sector is an insufficiently reliable source of reinsurance for primary insurers or excess insurance for large provider organizations such as hospitals. When private reinsurers or excess insurers experience a few large claims, it is difficult for them to determine whether a change is a random occurrence or a true shift in risk. For this reason, they raise premiums appreciably or refuse to underwrite coverage.

Some PCFs collect funds adequate to pay all losses and associated expenses from claims arising during the current policy year, no matter when those amounts are actually spent. Others, as in Pennsylvania or until recently South Carolina, are funded on a pay-as-you-go basis. Under the latter approach, the PCF limits its assessments to amounts anticipated to be spent on claims and expenses in the following year. This approach has practical appeal, particularly in an unpredictable, “long-tail” line of insurance such as medical liability insurance, and helps solve short-term crises in availability of excess coverage without imposing the immediate pain of high premium assessments. However, its long-term consequences may be problematic.

Public Policy Considerations

- PCFs may improve insurance availability but nevertheless be expensive for policyholders. The programs typically are funded from premium income and investment returns, not from state subsidies. Providers therefore pay premiums to the state PCF as well as to private primary insurers. In addition, because most states with PCFs have established upper limits on liability, health care providers still remain vulnerable to very high dollar claims.
- State-sponsored excess coverage creates moral hazard for primary insurers. Without a PCF, a primary insurer should defend claims up to the point at which the last dollar spent on prevention equals the saving in payments to claimants. With a PCF, primary insurers have less incentive to defend claims that exceed their policy limits.
- In the first few years of a pay-as-you-go PCF's lifespan, losses tend to be low because most claims have not yet been resolved, allowing assessments to be low as well. Later, however, losses mount, and PCFs often must raise premiums sharply, incurring the wrath of premium-payers and precipitating political pressures for reform.
- In states where participation is voluntary, a provider can avoid a full assessment by not renewing after the PCF becomes expensive. Providers who are at low risk for future claims will drop out of the PCF at that point, leaving only high-risk providers enrolled—the classic adverse selection problem.
- Pay-as-you-go financing inevitably involves intergenerational transfers. The pool of health care providers in practice in a given assessment year may differ substantially from the pool that existed at the time the original losses were incurred. The desire to avoid these obligations arguably deters younger providers from

entering practice in the state, and induces older providers to retire early or move elsewhere.

“No-Fault” Injury Compensation Programs

The essence of a no-fault system is to replace the existing tort system – in which compensation is based on a case-by-case determination of fault – with a system in which injuries are compensated as long as they were caused by medical care. The chief advantage of no-fault is in reducing the administrative expense of dispute resolution, including payments to lawyers, as well as the lengthy time involved in resolving such claims. Sweeping no-fault programs in other countries, such as New Zealand and Sweden, leverage these savings in order to distribute compensation broadly to injury victims. Proponents of medical no-fault in the U.S. also emphasize the possibility of improved injury deterrence through more systematic case identification, more expert resolution of claims, better monitoring and education, and greater incentives to exercise precaution if no-fault is combined with some form of experience rating.

The only no-fault programs operating in the U.S. are Virginia and Florida’s birth injury compensation funds, which offer alternatives to the tort system for malpractice cases involving newborn children. The two state programs were implemented as tort reform initiatives during the medical malpractice crisis of the 1980s, and have as their main objective keeping the cost of medical liability affordable for obstetricians. In both states, no-fault was part of a broader package of statutory changes aimed at improving availability of medical malpractice insurance at affordable rates. In contrast to the design advocated by proponents of no-fault generally, efficiency in claims resolution and improved compensation of injury victims were secondary objectives. There is no provision in either statute for raising premiums, and in neither state do the no-fault programs have access to

general state revenues (although they may assess liability insurers of all sorts up to one quarter of one percent of net premiums to cover overruns). The eligibility criteria therefore were designed only to include cases which otherwise would have a high probability of being paid in tort and result in large monetary awards.

Public Policy Considerations

If eligibility for no-fault is limited to a narrow subset of claims, plaintiffs' lawyers will divert the most lucrative cases to litigation. In Virginia and Florida, eligibility criteria for program benefits were narrowly defined in order to keep assessments on physicians and hospitals low. As a result, participating physicians continue to pay medical malpractice insurance premiums, and most potential claims have remained in the tort system.

No-fault programs require support from the public and the medical profession. In Virginia and Florida, neither participating hospitals nor physicians notified patients about the programs during the course of prenatal care. Given their limited funding, the programs themselves were also averse to publicizing availability of benefits.

Limited funding has constrained the ability of no-fault programs to compensate less severe injuries that seldom give rise to tort claims. No-fault cannot support many more claims than tort without relying on a much broader financing base, either general revenues or a dedicated tax funded from a much larger group than health care providers.

A positive effect of the programs' small size has been that it has been possible to manage benefits on an individualized basis. The programs have carefully managed their expenditures, often securing price concessions from suppliers, and questioning the need for elaborate and unconventional therapies.

SUMMARY AND IMPLICATIONS

There is a convincing case for government involvement in providing insurance for high-cost claims. The shortcomings of existing PCFs, such as Pennsylvania's, derive not from the concept but from the way it has been implemented. Government sponsorship of no-fault systems also seems desirable. However, experience with the two existing programs suggests a broader no-fault program would be more expensive than the current tort system because it would compensate a greater number of patients.

Several themes recur frequently in government malpractice insurance programs. One is the existence of implicit cross subsidies among health care providers and between the health care system and larger insurance pools. If assuring the availability of medical care is the central objective of government involvement, the financing base should be as broad as possible, and those who are forced to contribute should understand the taxes they pay.

A second theme is uncertainty about whether traditional principles of insurance apply to a public insurer. Experience demonstrates that experience rating, risk classification, loss reserving, and prudence in investing reserves are as important for public as for private insurers. The main difference is one of mission.

A third theme is the need for public oversight. Many current programs operate for years without formal evaluation. Lack of oversight should be the exception rather than (almost) the rule. Some public insurers also could benefit from structured technical assistance, which could be financed in part by the agencies receiving it. Research would be facilitated by the establishment of data clearinghouses, which exist in other fields.

A final theme is the need for clearer criteria to gauge program success. Saving money is an appropriate social objective, but it is not the only one. Improving the well-being of patients and their families is another.



Introduction

Before 1970, medical malpractice was a small line in a much larger business – property-casualty insurance – and received little public attention. Since then, there have been three malpractice crises: the mid-1970s; the mid-1980s; and early 2000s. Associated with each crisis has been a marked increase in medical malpractice premiums, widespread

Most policy actions fall somewhere in the middle between patchwork solutions and meaningful reform, a blend of a promising idea and a short-term fix to satisfy the demands of the most politically influential stakeholders.

publicity about unaffordability and unavailability of coverage, threats by physicians to leave the profession or discontinue high-risk procedures, and associated complaints about the adverse effects of tort liability on medical practice. In the first and third crises, but not the second, insurers exited from medical malpractice in large numbers (Mello et al. 2003a). Parallel scenarios have occurred in some other lines of liability insurance (Harrington and Litan 1988). After the onset of each crisis, legal reforms have been enacted, followed (thus far at least) by lengthy periods during which medical malpractice was rarely discussed.

Limiting public policy debates to episodes of crisis has had an unfortunate result. Under such circumstances, politicians feel tremendous pressure to do something. Ideology often dominates evidence of effectiveness. Implementation and evaluation issues receive little attention. Data systems to track the effects of policy changes are exceptions rather than the rule. Most policy actions fall somewhere in the middle between patchwork solutions and meaningful reform, a blend of a promising idea and a short-term fix to satisfy the demands of the most politically influential stakeholders.

For medical liability, these changes have involved (1) new types of private insurance organizations, the best example being “single-line” mutual or reciprocal

Government intervention in medical liability insurance has been limited to assuring availability of medical liability coverage despite market withdrawal by private carriers, and inducing private carriers to remain in or re-enter the market by dealing with the highest cost claims.

companies sponsored by physician groups, (2) restrictions on filing legal claims and receiving damages, collectively known as tort reforms, and (3) state-mandated risk-pooling mechanisms (e.g., joint underwriting associations) and state-run insurance arrangements (e.g., patient compensation funds and medical no-fault plans) (Cornell 2002).

This report focuses on the third category of changes, in which individual states assume responsibility as liability insurers or as organizers of insurance pools. Government intervention in medical liability insurance has been limited to achieving two broad objectives: assuring availability of medical liability coverage despite market withdrawal by private carriers, and inducing private carriers to remain in or re-enter the market by dealing with the highest cost claims. Other potentially important public policy goals, such as assuring that injury victims have adequate levels of compensation, have not figured

substantially in the debates over these measures.

Government Oversight of Insurance Markets

Governments have been actively involved in insurance markets for decades. All

states regulate insurance in some fashion (Sloan et al. 1991; Klein 1995).

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Insurance Market Interventions by State Governments

- Regulation of solvency, premiums, policy forms, underwriting practices
- Creation of new forms of private insurance, such as mutual and reciprocal companies, as an alternative to conventional stock insurers
- Authorization of pooling arrangements, such as joint underwriting associations, to provide coverage to physicians who experience difficulty in obtaining medical malpractice insurance from other sources
- Temporary insurance funds established by the state to permit physicians to purchase medical malpractice insurance when there is no other carrier in the market
- State patient compensation programs, which provide state-issued medical malpractice insurance above specified dollar thresholds or for persons who have experienced particular types of medical injuries
- State subsidies to health care providers for the purchase of private medical malpractice insurance
- State-funded indemnity coverage for physicians and other providers who have an employment relationship with the state, either through a state university hospital or another type of public system

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Traditional insurance regulation responds to a few basic concerns. Insurers collect premiums by promising future payouts. Therefore, preventing and responding to financial insolvency is “job one” for government. This includes assuring that premiums are adequate and that insurers do not take undue financial risks with their investments. Government also keeps insurers from renegeing on their promises by making sure that complex insurance contracts are understandable to consumers and do not take unfair

advantage of them. Similarly, consumers may be unable to force insurers to process and pay claims on a timely basis, providing a rationale for “market practice” regulation. Lack of affordability is addressed by verifying that premiums are neither inadequate nor excessive. Access to coverage is maintained by imposing rules guaranteeing insurability and creating special risk pools for parties that have difficulty obtaining coverage. In particular areas where it is deemed important that parties causing harm be able to compensate victims – such as automobile accidents – state law may also require the potentially responsible party to purchase minimum amounts of insurance.

Although the provision of insurance is fundamentally a private activity in the United States, there is also a long history of both federal and state government serving as

Reasons for government participation in insurance markets include residual markets, speed, efficiency, mandated coverage, and various collateral social purposes.

insurers (Greene 1976). The federal government has taken on the largest obligations, such as covering losses from natural disasters and insolvent banks, but state governments provide workers’ compensation coverage, hail insurance, unemployment insurance, and coverage plans for uninsured motorists, to name a few.

Reasons for government participation in insurance markets include residual markets, speed, efficiency, mandated coverage, and various collateral social purposes (Greene 1976).

Residual markets serve customers regarded as undesirable by private insurers, such as high-risk persons likely to incur substantial losses. Speed in organizing an insurance market may be an overriding consideration (e.g., in times of war). When there is a natural monopoly, a government-run enterprise may be

more efficient than a private insurer. Also, some aspects of insurance may defy private contracting, justifying a larger role for public insurers that do not have maximizing profit as an organizational goal (Hart et al. 1997). In the context of medical malpractice insurance, for example, the quality of the legal defense supplied to the policyholder by the insurer may be difficult to specify contractually. In some cases, government provision of coverage is combined with an insurance mandate; e.g., Social Security. In addition to fears of adverse selection if coverage is left to voluntary market choices, society may have redistributive objectives for lodging the insurance function in a government enterprise.

Differences between Medical Malpractice and Other Forms of Property-Casualty Insurance

Medical liability insurance is a form of property-casualty insurance. Property-casualty insurance covers the obligation that an insured individual or business incurs by negligently causing personal injury to, and/or property loss by, another person. The most common loss covered by property-casualty insurance is fault-based automobile liability.

To explain why medical liability insurance is unique, a comparison with automobile liability insurance is instructive. First, automobile liability insurance pays many claims per insured individual (“claims frequency”), but for low amounts per claim (“claims severity”).

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Characteristics of Medical Liability Insurance and Institutional Responses

- Low claims frequency, high claims severity
- Lengthy delays from date of injury to date claim filed to claim resolution
- Voluntary purchase (mostly), but purchase deemed essential by most health care providers

- Substantial dissatisfaction with system among policyholders
- High premiums
- Class-rated premiums
- Private reinsurance
- Public policies to deal with high-cost claims

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 High claims frequency means that insurers receive frequent signals, not only about their policyholders' behavior but also about how judges and juries determine liability and award damages. This in turn allows insurers to classify insured individuals according to their risk of loss, while low claims severity makes overall payouts by insurers highly predictable.

Medical liability insurance is a low frequency/high severity line of coverage. It is therefore difficult to classify individual physicians according to risk, and total losses to the insurer may be unduly affected by a few large legal decisions.

Medical liability insurance, by contrast, is a low frequency/high severity line of coverage. It is therefore difficult to classify individual physicians according to risk, and total losses to the insurer may be unduly affected by a few large legal decisions, which increases volatility in the price of coverage.

Second, in automobile liability, the delay from the date of an accident to the date a claim is paid is relatively short. This is particularly true of property (as opposed to personal injury) claims. By contrast, many years may pass between the date of

injury and the date a medical malpractice claim is finally resolved. As a result, a medical

A medical malpractice insurer (on the basis of relatively few claims) must estimate the likelihood that a jury far in the future would hold the defendant liable, and the amount that jury would award in damages.

malpractice insurer (on the basis of relatively few claims) must estimate the likelihood that a jury far in the future would hold the defendant liable, and the amount that jury would award in damages.

Third, minimum amounts of automobile liability insurance are compulsory in most states to make it more likely that injurers will be able to compensate those they injure. (States without mandatory insurance use other mechanisms to accomplish the same objective.) Without insur-

ance, many individual drivers are “judgment proof” after being involved in a major traffic accident (i.e., have insufficient assets to fully compensate the injury victim). Unlike automobile insurance, states generally do not require that health care providers purchase minimum amounts of medical malpractice insurance coverage. With some exceptions — Pennsylvania and Kansas, for example — medical malpractice insurance is not legally required, although hospitals and physician groups may make affiliation conditional on a physician’s purchase of adequate coverage. Because physicians tend to have substantial personal assets, however, few are willing to risk their career earnings on the outcome of a single claim by “going bare” (i.e., forgoing insurance). Instead, physicians faced with rapidly rising insurance costs may leave practice, change their scope of practice to reduce premiums, or move to another state where premiums are lower.

Fourth, although there are periodic complaints about automobile liability and insurance – such as delays in payment, high legal fees, and the ambiguity of fault (see e.g.,

Trebilcock 1989) – there is widespread acceptance of the overall litigation and insurance system by drivers and voters generally. By contrast, medical malpractice has very few defenders in the physician or health provider community.

Special Features of Medical Liability Insurance Markets

The market for malpractice insurance consists of three broad categories of insurers. First are traditional “multiple-line” insurance companies, such as the St. Paul Group of Companies, which historically was the largest stock insurer selling medical liability coverage but stopped writing new policies in 2000. Second are “single-line,” physician-sponsored mutual companies, many of which were chartered during the “crisis of availability” of the 1970s. Third are alternative forms of coverage such as joint underwriting associations (JUAs), self-insurance vehicles, captive insurance companies, and risk retention groups, in which individuals, trade organizations, or existing insurers reduce their exposure by creating and operating their own insurance company. In general, these alternative insurers emphasize providing stable coverage rather than maximizing profits; they structure their finances so that they are less likely to exit due to adverse market conditions.

Self-insured organizations such as large hospitals assume their own risk and set aside appropriate reserves, typically insuring large losses above a high deductible. A large hospital might also use a captive insurer, a wholly owned subsidiary that keeps formal insurance accounts but is usually chartered abroad and therefore exempt from domestic insurance regulation. Risk retention groups are analogous to a buyers’ cooperative. Limited-purpose insurers that operate under federal rather than state law, they generally represent members of a single physician specialty or hospitals in a particular geographic region that decide to share risk. JUAs (discussed in greater detail below) are cooperative ventures of existing insurers that are mandated by states to supply insurance to individu-

als who, in principle, are unable to obtain insurance from other sources.

The special features of the medical malpractice insurance market described above have prompted equally unusual institutional responses. The combination of low claims frequency, high severity, and delayed resolution (the “long tail) has been a source of instability in both premiums and availability of coverage.

High premiums. One consequence of low claims frequency in liability insurance is that it increases correlation among high-severity losses when they occur, which affects

Publicity about one large judgment or settlement may affect claims frequency and claims severity over a large area if juries become more (or less) generous and plaintiffs and their lawyers revise upwards (or downwards) the likely gains from litigation.

premiums. In general, insurers diversify risk by selling insurance to many individuals. For purposes of setting premiums, insurers care about both the level and the variance of expected losses. If losses among individual policyholders are not highly correlated, adding policyholders reduces the variance of expected loss. In a low-frequency, high-severity line such as medical malpractice, publicity about one large judgment or settlement may affect claims frequency and claims severity over a large area if juries become more (or less) generous and plaintiffs and their lawyers revise upwards (or

downwards) the likely gains from litigation. Also, a single judicial decision, such as a finding that a particular state law is unconstitutional, may influence the amounts paid on many medical malpractice claims in that state. To compensate for bearing these systematic risks, which cannot be reduced by adding policyholders, insurers charge higher premiums.

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How Correlated Risks Affect the Variance of Expected Loss

The following illustration of how correlated risks affect the variance of expected loss is taken from a National Academy of Sciences study of insurance against natural disasters in the U.S., a context in which losses are highly correlated.

“To illustrate the impact of correlated risks on the distribution of losses, assume that there are two policies sold against a risk, where [the probability of loss] $p=.1$, and [the amount of loss] $L=\$100$. If the actuarial losses are perfectly correlated, then there will be either two losses with probability of $.1$, or no losses with a probability of $.9$. On the other hand, if the losses are independent of each other, then the chance of two losses decreases to $.01$ (i.e., $.1 \times .1$), with the probability of no losses being $.81$ (i.e., $.9 \times .9$). There is also a $.18$ chance that there will be only 1 loss (i.e., $.9 \times .1 + .1 \times .9$).

The expected loss for both the correlated and uncorrelated risks is \$20. [For the correlated risk the expected loss is $(.9 \times \$0) + (.1 \times \$200) = \$20$. For the independent risk the expected loss is $(.81 \times \$0) + (.18 \times \$100) + (.01 \times \$200) = \20 .] However, the variance will always be higher for correlated than uncorrelated risks if each has the same expected loss. Thus, risk-averse insurers will always want to charge a higher premium for the correlated risk” (Kunreuther 1998: 38.)

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If insurers cannot find customers willing to pay these premiums (or regulators willing to approve them), and/or if insurers cannot accurately forecast their losses, they often exit the market.

Lack of experience rating. Another problem is that both “good” and “bad” doctors pay similar malpractice premiums. Preserving a connection between tort liability and

quality of care is a major goal of the medical malpractice system. In a theoretical study now two decades old, Shavell showed that insurance does not necessarily interfere with the deterrence function of malpractice liability if premiums are perfectly experience-rated (Shavell 1982). Experience-rating is less common in malpractice insurance than in other lines; e.g., automobile insurance or workers' compensation (Danzon 2000). The widespread view among physicians that determining liability is a haphazard process has been

Another problem is that both “good” and “bad” doctors pay similar malpractice premiums.

a barrier to setting premiums according to individual physicians' claims history (Sloan 1990). Low claims frequency makes it even harder to experience rate premiums, even though claims against a few physicians account for a major part of overall losses to malpractice carriers (Sloan et al. 1989; Hickson et al. 2002). This perpetuates a

vicious cycle, in which lack of acceptance of a constructive role for tort in advancing medical quality is an impediment to meaningful structural reform of the malpractice system. Reinsurance. The total risk of an insurer's portfolio affects the likelihood it will become insolvent. Facing high underwriting risk from issuing insurance policies, insurers may reduce bankruptcy risk by increasing the amount of surplus or equity they hold (in essence supplying less coverage even though they are charging higher prices). They may also seek protection from a second insurer or reinsurer. In contrast to primary medical malpractice insurers dealing with policyholders, commercial reinsurers do set premiums charged to primary insurers on an experience-rated basis, and require additional compensation for backstopping coverage in the presence of high variance in expected loss.

The current malpractice insurance crisis is partially attributable to strains on pri-

The current malpractice insurance crisis is partially attributable to strains on private reinsurance markets.

vate reinsurance markets. Part of the problem involves shocks to reinsurance reserves from non-medical catastrophes, including the events of September 11, 2001 and their aftermath (Doherty et al. 2003; Bovbjerg and Bartow 2003: 21). Another part may reflect a perception among reinsurers that the volatility of medical malpractice loss has increased.

Moreover, reinsurers face solvency risks of their own. Reinsurers domiciled in the United States are subject to the solvency regulation of their domiciliary state (Klein 1998: 176), but many if not most private companies reinsuring medical liability are foreign, and therefore essentially unregulated. In property-casualty insurance generally, foreign companies

Because a relatively small number of high-cost claims can have such a dramatic effect on the overall market for malpractice insurance, reformers often look for policy solutions that remove the influence of those claims.

hold two-thirds of the reinsurance that is issued for risks occurring within the United States (Kunreuther 1998: 47).

High-cost claims. Because a relatively small number of high-cost claims can have such a dramatic effect on the overall market for malpractice insurance, reformers often look for policy solutions that remove the influence of those claims. Commonly discussed proposals involve limiting the right to sue and the size of awards; e.g., placing a dollar ceiling on “non-economic damages” such as pain and

suffering. These reforms, which do not fundamentally alter either the tort system or the insurance system, are not evaluated in this report.

More fundamental reform of insurance markets may involve government provision of insurance for large losses, perhaps by obligating the public sector to indemnify all claims above a dollar threshold (in essence substituting public for private reinsurance). A possible disadvantage of this approach is that providing excess coverage may reduce primary insurers' incentives to minimize loss. A second option is to replace the tort system with alternative dispute resolution. For example, the government might compensate particular types of high-cost claims through a public no-fault program instead of the tort system. Operational no-fault programs include funds for neurologically impaired infants in Virginia and Florida, a federal vaccine compensation program, no-fault automobile insurance, and accident compensation systems in New Zealand and Scandinavia. Other alter-

Since physicians as a group tend to have high incomes, direct public subsidies have not generally been considered politically desirable. However, some physicians have lobbied for subsidies as an immediate fix in the current malpractice crisis.

native dispute resolution proposals, most of which exist only in concept, include arbitration programs, a fault-based administrative system, an early offer and rapid recovery model, and enterprise liability. A third option is to create a public risk pool to assure availability of coverage for physicians unable to secure coverage in the market. Since physicians as a group tend to have high incomes, a fourth option – direct public subsidies – has not generally been considered politically desirable. However, some physicians have lobbied for subsidies

as an immediate fix in the current malpractice crisis.

The remainder of this report reviews the evidence regarding these programs. How were their goals defined, and did they achieve them? Consider, for example, the no-fault birth injury compensation funds adopted in Virginia and Florida. Did no-fault programs indeed substitute for tort, or was no-fault simply an add-on? What fraction of children in the target group was actually compensated? Did families receive greater or quicker compensation (net of attorneys' fees) under no-fault? How did implementation of no-fault affect the supply of obstetrical services? Why do no-fault programs appear to be chronically underfunded?

Summary and Implications

Availability of professional liability insurance is a necessary condition for maintaining public access to medical services. Governments therefore have implemented various policies to keep medical liability insurance available and make it more affordable. This most often has been accomplished by enacting laws that affect tort liability and by regulating the practices of private liability insurers. Governments have also organized residual markets to provide insurance when it is not available from other sources and have had limited roles as suppliers of insurance themselves. The purpose of government intervention is not to compete with the private sector, but rather to assure availability of coverage when and where private insurers find market conditions unattractive.

Government-Sponsored Risk Pooling Arrangements

Joint Underwriting Associations (JUAs) and guaranty funds are publicly created entities that provide insurance as a last resort. In this role, state governments facilitate transactions within the private insurance sector that alter risk pools in order to serve the

In response to the medical malpractice insurance crisis of the mid-1970s, many states authorized the formation of Joint Underwriting Associations to fill the gap in coverage that arose when private insurers withdrew from the market.

public objectives of assuring availability of coverage and protecting consumers against insurer insolvency. Without state action, it seems unlikely that insurers would coordinate their activities in order to establish high-risk pools. These pools would be unprofitable.

Joint Underwriting Associations

In response to the medical malpractice insurance crisis of the mid-1970s, many states authorized the formation of Joint Underwriting Associations or JUAs. At the time, legislators saw a need to fill the gap in coverage that arose when private insurers withdrew from the market (Nutter 1985). In New York, for example, one of the two largest companies writing medical malpractice insurance coverage withdrew in the fall of 1973. The state medical society reached the conclusion that there was a distinct possibility that it would not be able to find another carrier. Without some action to assure availability of coverage, most of the state's physicians would be without insurance. Forming a JUA was part of the solution (New York Department of Insurance 1997).

Unlike mutual insurers with ties to medical societies, which also were created in many states in the 1970s, JUAs and Patient Compensation Funds (described below) are

public organizations. Under typical legislation establishing JUAs, all companies writing liability insurance of any kind are required to participate. JUAs are sometimes conceived as temporary measures, but some JUAs established in the 1970s remain active (Robinson 1986; New York Department of Insurance 1997; Council of State Governments 2003). Moreover, there have been proposals to form JUAs for medical malpractice as recently as 2002 (Morton 2003).

JUAs are designed to be “insurers of last resort”; that is, to cover providers who are unable to obtain insurance from other sources. The Kansas JUA is representative. Providers in Kansas are required to have medical malpractice insurance coverage. The Kansas statute imposing this requirement also implemented an Availability Plan for back-up basic coverage and an excess coverage plan. These plans are supported by a Health Care Stabilization Fund, which is financed by a surcharge on providers (Kansas Health Care Stabilization Fund 2002). The basic coverage sets premiums in excess of those charged by private insurers and is only available to providers able to demonstrate that they cannot obtain private coverage.

If the JUA’s premium income is insufficient to cover losses and administrative expense, each member company is assessed a pro rata share of the shortfall. In competitive insurance markets, owners of companies demand a reasonable rate of return on the capital they supply. The only way to earn this return is for companies that subsidize the JUA (either all malpractice insurers or all property-casualty insurers) to increase premiums to their policyholders. As a result, privately obtained medical malpractice insurance becomes more expensive relative to JUA coverage, leading more physicians to substitute JUA-obtained coverage for private coverage.

Pooling arrangements therefore may “crowd out” private medical malpractice insurance, as occurred in some states with JUAs in the 1980s (Kenney 1988). At that time,

JUAs dominated the market in Massachusetts and Rhode Island, which like other New England states lacked physician-sponsored medical malpractice insurers (Sloan et al.1991). Moreover, both JUAs were in substantial financial trouble (Nutter 1989), in large part because the political process by which they set premiums underestimated the actuarial value of their loss exposure.

During the current crisis in Pennsylvania, hospitals and physicians have increasingly relied on coverage through the state’s JUA and on other alternative coverage sources such as risk retention groups. In 2002, it was estimated that Pennsylvania’s JUA had 1,700 physician policies in force, up from 351 in 2001 (Hospital & Healthsystem Association of Pennsylvania 2002b). Between 1999 and 2002, the number of health care providers in Pennsylvania obtaining coverage through the JUA increased by more than a factor of seven (Bovbjerg and Bartow 2003). In 2002, 12% of hospitals in Pennsylvania had their primary coverage through the Pennsylvania Joint Underwriting Association (Hospital & Healthsystem Association of Pennsylvania 2002a). These increases occurred even though coverage from the JUA tends to be relatively expensive (Eskin 2003; Mello et al. 2003b). In Florida, there also has been a substantial increase in the number of physicians enrolled in the state’s JUA, but it still represents only a small fraction of physicians in the state (State of Florida 2003).

Although JUAs have the ability to provide coverage when private insurance does not, they also have deficiencies. Some weaknesses are common to all JUAs, while others are unique to particular states.

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Strengths and Weaknesses of JUAs

Strengths

- Provide backstop medical liability insurance coverage

Weaknesses

- May cover health care providers who cannot get insurance from private sources because they have adverse claims histories
- Underpricing/implicit tax on property-casualty insurance policyholders
- Some risk of overpricing to avoid competing with private insurers

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Providing coverage through a JUA may conflict with deterring medical injury. Although some physicians who experience difficulty in obtaining coverage may have clean records – particularly during a generalized insurance crisis – others lack access to private coverage because of repeated prior claims. When physicians with many past claims are able to obtain coverage at standard rates, subsidized by physicians with better track records, they lack incentive to improve (or leave practice). In addition, there is rarely any mention of loss prevention in the literature on JUAs. The major focus is on insuring physicians, not on developing programs to reduce the probability of claims. One exception is legislation introduced in Missouri requiring the JUA administrator to formulate, implement, and monitor a risk management program for all policyholders (State of Missouri 2002, 2003).

Some states have recognized that pricing should reflect underlying risk and offer premiums matching the insured's expected loss. For example, Pennsylvania's JUA now includes a provision for premium surcharges based on prior claims and claim expense, or based on regulatory actions suggesting poor provider quality taken by licensing boards, hospitals, Medicare or Medicaid, the federal Drug Enforcement Administration, or Pennsylvania's controlled substance act (Pennsylvania Professional Liability Underwriting Association 2003). This is clearly a step in the right direction. However, underpricing has occurred in well-publicized cases. Overpricing is also a risk for some JUAs, because of pressure from private insurers to assure that the JUAs do not compete with them. Like

Providing coverage through a JUA may conflict with deterring medical injury. ...

When physicians with many past claims are able to obtain coverage at standard rates, subsidized by physicians with better track records, they lack incentive to improve (or leave practice).

underpricing, this is to be avoided lest providers not buy JUA coverage in situations in which using it would be socially optimal.

State Guaranty Funds

In addition to promoting insurer solvency directly, insurance regulation protects policyholders' ability to collect on future claims by mandating guaranty funds. Between 1969 and 1981, all states enacted laws to establish guaranty funds (Downs and Sommer 1999). These laws cover all types of property-casualty insurance (not just medical malpractice insurance), as well as life-health insurance. Guaranty funds provide a mechanism to assess surviving insurers after the fact for losses incurred by insolvent insurers.

A similar system applies to banks, with even more dramatic consequences than for insurance (Merton 1977).

Almost all states guarantee that valid property-casualty claims will be paid, if necessary, by these state-overseen funds. When an insurer is in receivership and management cannot meet its obligations to policyholders, the receiver can draw against the state's guaranty fund (Sloan et al. 1991: 55-6). The guaranty fund raises money to cover these payments by assessing property-casualty insurers who do business in the state. Except for the New York fund, they are all post-insolvency assessment funds. Members are assessed a fixed percentage of premium volume to pay claims that exceed the assets of the insol-

vent insurer (Lee et al. 1997). Thus, guaranty funds are mechanisms for taxing all property-liability policyholders to cover losses of a particular firm in a particular line, such as a seller of medical liability insurance.

Guaranty funds offer physicians and other health care providers who purchase medical liability insurance the ultimate in protection from insurer insolvency. A physician whose insurer goes bankrupt before indemnifying an injury victim does not risk his or her personal assets. As with JUAs, however, consumers of other types of liability insurance may be required to subsidize the losses of physicians (of course, the opposite may occur as well if auto liability insurers fail.) These redistributive effects are real, but are not transparent to consumers of health care or to citizens as voters.

There are consequences for economic efficiency as well. There is a frequent trade-off in insurance between risk protection and efficiency. Guaranty funds offer protection

Because the guaranty fund will honor claims if the provider's primary carrier becomes insolvent, providers who have a choice among primary insurers may not consider financial strength an important attribute.

against loss, but at a cost. Because the state guaranty fund will honor claims against a health care provider if the provider's primary carrier becomes insolvent, providers who have a choice among primary insurers may not consider financial strength an important attribute (Hofflander et al. 2001). This in turn creates an incentive for insurers to engage in risky underwriting and investment practices (Cummins 1988; Lee et al. 1997). This effect is exacerbated by the fact that guaranty fund assessments are not based on the riskiness of an insurer's business strategy (Downs and Sommer 1999). On the other hand,

a guaranty fund may induce insurers to monitor each other and alert regulators when a competitor takes on too much risk (Hall 1998), but it seems unlikely that this would apply to a small line such as medical liability insurance.

Summary and Implications

When medical liability insurance becomes unavailable or unaffordable, government may create mandatory systems for pooling risks and paying claims. JUAs are designed to serve as insurers of last resort on a going forward basis for policyholders whose existing coverage is no longer available. Guaranty funds protect policyholders in the event insurers become insolvent after covered losses have been incurred. Although the purposes of both types of organizations are well understood, there is very little information on their actual performance, which explains in large part why there is virtually no scholarly research on either government risk-pooling mechanism.

For both JUAs and guaranty funds, tradeoffs exist between assuring availability of coverage and other social objectives, such as deterring injuries by making policyholders bear the cost of the losses they are likely to cause. While it is the function of insurance to repay policyholders after a loss is occurred, the government insurance pooling arrangements described in this section often involve shielding policyholders from avoidable as well as unavoidable losses. This occurs when guaranty funds pay claims incurred by insurers who became insolvent because they assumed excessive business risk, or when JUAs insure health care providers at less than actuarially fair premiums. In the latter case, admittedly, there may be situations in which charging actuarially fair malpractice premiums conflicts with assuring that medical care is available in an area underserved by physicians. But it is preferable to isolate these specific situations and provide explicit subsidies, rather than to redistribute resources *sub rosa* to the group of providers and insurers who seem to be at highest risk of business failure.



Governments As Insurers

Overview

There are two important ways in which state governments have actually supplied insurance for loss from medical injuries: patient compensation funds (PCFs) and medical no-fault programs. In contrast to JUAs and guaranty funds, which require pooling of resources among private insurers, PCFs and no-fault programs involve direct public pro-

The underlying rationale for Patient Compensation Funds ... is that the private sector is an insufficiently reliable source.

vision of insurance. In the case of PCFs, the underlying rationale – often not stated explicitly at the time the PCFs are created – is that the private sector is an insufficiently reliable source of reinsurance to protect against losses from large claims. Such claims occur infrequently. Predicting losses at the high end of the claims distribution is particularly difficult. When private reinsurers experience a

few large claims, it is difficult for them to determine whether a change is a random occurrence or a true shift in claiming. As a consequence, reinsurers understandably raise premiums appreciably or refuse to underwrite coverage. Thus, to assure adequate liability coverage at affordable rates, one can argue that public provision of “excess” coverage is needed.

The rationale for public provision of medical no-fault coverage is somewhat different and arguably more complicated. No-fault attempts to stabilize insurance costs by making the most severe claims more predictable, and also to reduce the stigma for physicians of having severely injured patients seek compensation. In principle, medical no-fault could be offered by private insurers, as is auto no-fault for motor vehicle accidents. Public provision of medical no-fault may be justified on grounds medical no-fault is an untested

product, which private firms may be unwilling to offer. Also, provision may be unprofitable at the level that the state no-fault programs operate.

Excess Coverage Patient Compensation Funds

State Patient Compensation Funds (PCFs) offer insurance for liability that exceeds specified threshold amounts that are covered by the insured provider's primary insurance policy or qualified self-insured plan. A recent report defined PCFs to include medical no-fault programs that cover a specific type of injury, notably the birth injury compensation plans that have been implemented in Florida and Virginia (Pinnacle Actuarial Resources 2003b). Because no-fault plans actively engage in care management, however, this report will discuss them separately.

PCFs were initially created during the crisis of 1975-1976 as components of comprehensive malpractice reform legislation. Their goal was to assure availability of medical malpractice insurance by paying for large losses incurred in a few cases. As discussed above, it is difficult for medical liability insurers to achieve adequate diversification against the adverse financial consequences of the most severe cases. In fact, for some single-line carriers (insurers that sell medical liability insurance but no other type of coverage), a single very large claim could result in insolvency. The same applies to hospitals that self-insure much of their potential losses, but need insurance in very large claims.

PCFs are often packaged with limits on non-economic damages, limits on attorney contingent fees, modification of the collateral source rule, and other statutory changes that fall under the general rubric of "tort reform." Not surprisingly, the risk assumed by PCFs is sensitive to the effects of these provisions, especially damage caps that place a ceiling on an excess insurer's dollar exposure per claim.

As of early 2003, 11 states had established PCFs: Florida (1975), Indiana (1975), Kansas (1976), Louisiana (1975), Nebraska (1976), New Mexico (1978), New York

(1986), Pennsylvania (1975, 2002), South Carolina (1976), Wisconsin (1975), and Wyoming (1977). Florida's program closed in 1983, having underpriced coverage (Sloan et al. 1991: 123), but was still paying claims as of April 2003. Pennsylvania passed legislation in 2002 that schedules a phase-out of its program by 2009. Ohio is in the process of developing a PCF (Pinnacle Actuarial Resources 2003a).

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Non-Use of a PCF: Wyoming's Experience

The Wyoming legislature established a PCF in response to the crisis of the mid-1970s. At the time, there were no medical malpractice insurers remaining in the state. Immediately after passage of the legislation, New Mexico Physicians Mutual entered the Wyoming market. As a result, no Wyoming physicians enrolled in the PCF. In 1980, the legislature realized that funds it had earmarked for the program were unused, and reclaimed them. In the mid-1980s, New Mexico Mutual pulled out of Wyoming, but several other insurers were by this time participating in the market, including the Doctors' Company and the St. Paul. In 1997, the legislature considered dropping the PCF program, but one legislator persuaded the state legislature to update it instead. As of mid-2003, the PCF was still not being utilized (Phone Interview with Charlie Hartman, Wyoming Insurance Department, July 16-17, 2003).

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PCFs are created by state law and organized as either a state agency or a trust fund. PCF operations are monitored by the state's Department of Insurance or by a special Board of Governors. Administration – actuarial reviews, claims processing, defense of claims, asset management, etc. – is performed by a dedicated staff and/or by outside organizations retained by the PCF.

Major PCF Provisions

State	Enabling Legislation	Financial Structure	Participation	Eligibility	Required Primary Coverage	Coverage Limits	Funding Approach	Reserves Authorized?
FL	Fla. Stat. § 766.105	Non-Governmental Trust Fund	Physicians Voluntary, Hospitals Mandatory	Phys/Hosp	\$250K/claim, \$500K/occurrence (1990 levels adjusted for CPI)	Phys: \$1M/\$3M or \$2M/4M; Hosp: \$2.5M/claim	Annual, Semi-annual, or quarterly assessments paid to fund	Yes, but maximum collection of \$17.5M per year
IN	Burns Ind. Code Ann. § 34-18-1-1 - 18-2	Separate Trust Account	Voluntary	Phys/Hosp	Phys: \$250K/\$750K Hosp: \$250K/\$5M or \$7.5M	\$1.25M per occurrence	Decided using actuarial principles, collected by primary insurer	Yes
KS	K.S.A. § 40-3401 - 3419	State Treasury Trust	Mandatory	Phys/Hosp	\$200K/\$600K	Purchaser's option of \$100K/\$300K, \$300K/\$900K, or \$800K/\$2.4M	Decided using actuarial principles, collected by primary insurer	Yes
LA	La. R.S. § 40:1229.41 - 49	State Treasury Fund	Voluntary	Phys/Hosp	\$100K/\$300K	\$500K + future medical expenses - primary coverage	Decided using actuarial principles, collected by primary insurer	Yes, but surcharge must be reduced if fund exceeds \$15 million in excess of the required 50% of exposures
NE	R.R.S. Neb. § 44-2801 - 2855	Trust Account	Voluntary	Physicians	Phys: .200K/\$600K Hosp: \$200K/\$M	\$1.05M per occurrence	Assessments as percentage of underlying premiums through insurer	Yes
NM	N.M. Stat. Ann. § 41-5-1 - 29	State Treasury Trust	Voluntary	Phys/Hosp	\$200K/\$600K	unlimited medical + \$600K noneconomic	Decided using actuarial principles, collected by primary insurer	Yes
NY	N.Y. C.L.S Ins. § 5502	Excess Liability Pool	Voluntary	Phys, Dentists w/Hospital Privileges	\$1M/\$3M	\$1M per occurrence	State General Fund	Not Applicable

State	Enabling Legislation	Financial Structure	Participation	Eligibility	Required Primary Coverage	Coverage Limits	Funding Approach	Reserves Authorized?
PA	40 P.S. § 303.101 – 910 P.L. 154, No. 13	State Treasury Fund	Mandatory	Phys, Hosp, HC practitioners	Phys:\$500K/\$1.5M, Hosp:\$500K/\$2.5M	\$500/\$1.5M	Based on primary premium collected by insurer	No
SC	S.C. Code Ann. § 38-79	State Treasury Fund	Voluntary	Phys/Hosp	\$200K/\$600K	unlimited medical + noneconomic	Annual member fees and default assessments to fund	Yes
WI	Wis. Stat. § 655.27	Trust Fund	Mandatory w/ Exceptions	Phys/Hosp	\$1M/\$3M	Unlimited (limits on wrongful death)	Assessments determined by board billed to H.C. providers	Yes
WY**	Wyo. Stat. § 26-33-101, 105	Trust Fund	Voluntary	Physicians	\$50K/occurrence	\$1M in excess coverage	Decided using actuarial principles, collected by primary insurer	\$4M maximum
NC*	N.C. Gen. Stat. § 58-47-1 - 50	Trust Fund	Voluntary	Physicians	\$100,000/yr	\$2M/yr	Assessments determined by board, paid to fund	Yes
OR**	ORS § 752.005 – 055	Trust Fund	Voluntary	Physicians	\$200,000/yr	Unstated	Assessments determined by board, paid to fund	Undetermined: Fund must be set up by Executive Branch
* Repeated								
** Fund never enacted by executive								

Alabama is considering creating a patient compensation fund for nursing homes as part of a larger bill that would cap damages at \$250,000. Nevada Governor Kenny Guinn stated his support for a patient compensation fund as part of a larger medical malpractice overhaul in a policy briefing in Roll Call ("The Health of our Nation" Policy Briefing, Roll Call, July, 2003). West Virginia's House of Representatives has passed H.B. 2122, a plan which, among other things, would create a patient injury compensation study board to design and implement a patient compensation fund.

Based on "Preliminary Report on the Feasibility of an Ohio Patients Compensation Fund" produced for the Ohio Department of Insurance by Robert J. Walling, FCAS, MAAA of Pinnacle Actuarial Resources, Inc. Thanks to Justin Sadowsky of Columbia Law School for updating this table.

Participation may be mandatory—all health care providers fitting the statutory definition must obtain excess coverage through the PCF—or voluntary, with providers enrolling at their option. Eligibility for PCF coverage is triggered at levels that range from \$100,000 to \$1,000,000 per occurrence. Some PCFs offer unlimited excess coverage, but

most cover only an incremental layer of \$500,000-\$1,000,000 per occurrence.

The programs typically are funded from premium income and investment returns, not from state subsidies. ...

Accordingly, PCFs may improve insurance availability but nevertheless be expensive for policyholders.

The programs typically are funded from premium income and investment returns, not from state subsidies. Providers therefore pay premiums to the state PCF as well as to private primary insurers. Accordingly, PCFs may improve insurance availability but nevertheless be expensive for policyholders. Assessments are generally structured as a fraction of the premium paid for primary coverage, and may be paid separately to the PCF or collected and passed along by the primary insurer. PCF assessments are not experience

rated except to the extent that prior experience is reflected in the insured's primary insurance premiums. PCFs do vary premium contributions by specialty, either mirroring physicians' primary insurance classification (as in Pennsylvania) or establishing a few specialty-based risk classes (e.g., four in Wisconsin). Some PCFs act like insurers and maintain reserves on unpaid claims. Others are financed on a pay-as-you-go basis, assessing premiums as funds are expended. Like JUAs, moreover, PCFs often have the authority to assess insured physicians retroactively to cover unanticipated losses (Sloan et al. 1991: 6).

Structural Features of PCFs. There are four main differences between private liability insurers and state PCFs: (1) public sponsorship, which ensures availability of coverage when commercial insurers find other lines of insurance or locations more attractive; (2) mandatory participation in some states, though generally with a choice of private insurer; (3) lack of regulatory oversight in some states to assure adequacy of rates; and (4) pay-as-you-go financing in some states. Depending on how the program is structured, PCFs either promote or impede “crowd out” of private competitors.

PCFs do not reduce medical liability exposure, unless they undertake specific loss prevention actions. Rather, they transfer costs to a different funding mechanism.

Public Sponsorship. State governments operate PCFs. Public sponsorship has an important advantage: assuring availability of coverage. Like JUAs and unlike private insurers, PCFs do not withdraw from the market during crisis periods. Demand for private reinsurance by primary medical malpractice insurers is directly related to the volatility of loss (Hoerger et al. 1990). Because they cover large, infrequent losses, private reinsurance is itself volatile in terms of availability and pre-

miums. By contrast, a PCF can keep excess coverage available because its decision to supply coverage is not guided by prospective rates of return.

However, financing generally comes entirely from premiums paid by physicians and hospitals and investment income. Neither state general funds nor revenue from a dedicated tax source are typically used to support PCFs. In addition, PCFs do not reduce medical liability exposure, unless they undertake specific loss prevention actions. Rather, they transfer costs to a different funding mechanism (Pinnacle Actuarial Resources 2003b).

Primary malpractice insurers have an incentive to defend claims because current losses are likely to be reflected in future reinsurance premiums. This incentive is attenuated when a PCF is involved, particularly if it has the power to assess insured providers for losses in excess of those initially projected.

Primary malpractice insurers that purchase private reinsurance have an incentive to defend claims—even those that clearly exceed the primary policy limits—because current losses are likely to be reflected in future reinsurance premiums. This incentive is attenuated when a PCF is involved, particularly if the PCF has the power to assess insured providers directly for losses in excess of those initially projected. In a competitive market, a commercial insurer cannot assess policyholders for past losses, only for those it expects to incur in the future. No rational purchaser will pay for one insurer’s miscalculations, assuming its competitors did not make similar mistakes.

Mandatory Participation. Voluntary insurance markets are vulnerable to adverse selection if premiums do not precisely match risk. As noted, medical malpractice insurance is not usually experience-rated. Compulsory participation in a PCF can avoid adverse selection, which is otherwise likely to occur if high-loss physicians or hospitals are able to obtain coverage at average rates. However, requiring low-risk participants to subsidize high-risk participants may be viewed as unfair.

Lack of Regulatory Oversight. Many arguments for regulatory oversight of insurers are thought not to apply to PCFs. Because PCFs are public organizations, they plausibly lack incentive to exploit their dominant market position by charging monopoly-level

premiums. Nor are they driven by the profit motive to engage in risky financial decisions that may lead to insolvency. PCF assets also may be managed by a well-staffed, politically accountable unit of state government that has responsibility for several state agencies. On the other hand, problems do arise in practice. Political pressures often lead to risky behavior. Because of budgetary constraints, for example, the PCF may itself not be well staffed, and civil service rules may limit its ability to compete with the private sector for personnel.

Pay-As-You-Go Financing. PCFs may collect funds adequate to pay all losses and associated expenses from claims occurring during the current policy year, whenever those amounts are actually spent, or they may be funded on a pay-as-you-go basis. Under the latter approach, the PCF limits its assessments to amounts anticipated to be spent on claims and expenses in the following year. This approach has practical appeal, particularly in an unpredictable, “long-tail” line such as medical liability insurance, and helps solve short-

In the first few years, losses tend to be low because most claims have not yet been resolved, allowing assessments to be low as well. Later, however, losses mount, and PCFs often must raise premiums sharply.

term crises in availability of excess coverage without imposing the immediate pain of high premium assessments. In the first few years of a PCF’s lifespan, losses tend to be low because most claims have not yet been resolved, allowing assessments to be low as well. Later, however, losses mount, and PCFs often must raise premiums sharply, incurring the wrath of premium-payers and precipitating political pressures for reform.

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Strengths and Weaknesses of Pay-As-You-Go Financing

Strengths

- Helps solve a crisis in availability of medical liability insurance without requiring large initial premium assessments
- Loss reserving by a public entity (not done under pay-as-you-go financing) tempts the political process to raid those reserves for other purposes
- Pay-as-you-go financing may simplify PCF administration

Weaknesses

- Imposes a financial penalty on physicians who remain in practice in the state or enter practice in the state
- Inadequate loss reserving in the presence of growing claims frequency and severity eventually results in large premium increases

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Structural Weaknesses of PCFs. PCFs also have several structural weaknesses, although there is heterogeneity among plans.

Continued Provider Vulnerability. Because most statutes have not established upper limits on liability, health care providers remain vulnerable to very high dollar claims. Philadelphia juries, for example, commonly award amounts exceeding \$1 million (Bovbjerg and Bartow 2003). The amount of private reinsurance purchased in states with PCFs is unknown. In Pennsylvania, the presence of a PCF has not eliminated hospital demand for private excess coverage (Hospital & Healthsystem Association of Pennsylvania 2002a).

Reduced Incentives for Loss Prevention. The existence of a PCF may reduce incentives for loss prevention: improving patient safety, reducing the probability that a

claim is filed, and managing claims to reduce the amount of indemnity, legal fees, and other expenses incurred by defendants. State-sponsored excess coverage also creates moral hazard for primary insurers. Without a PCF, a primary insurer should defend claims up to the point at which the last dollar spent on prevention equals the saving in payments to claimants. An insurer with foresight is also likely to assess the effect of its current defense strategy on future claims (Nalebuff 1987; Sieg 2000). When a PCF exists, however, the primary insurer's incentive to fight large claims may be substantially reduced because savings from effort it expends near the dollar threshold of excess coverage will accrue not to itself, but to the PCF or to all insured providers in the state as a group.

PCFs do not surcharge primary insurers based on their loss experience, which could moderate this effect. By contrast, private reinsurers do engage in experience rating. A primary insurer with a poor loss history is likely to be at a disadvantage in the market for reinsurance, and this will likely translate into higher premiums for its customers. A parallel argument applies to hospitals. If hospitals can obtain excess insurance that is not experienced rated, they have an reduced incentive to be conscious about patient safety and avoid large claims.

Voluntary PCFs and Adverse Selection. In some states, participation in the PCF is voluntary. A provider therefore can avoid a full assessment by not renewing after the PCF becomes expensive. Providers who are at low risk for future claims will drop out of the PCF at that point, leaving only high-risk providers enrolled. This is a classic adverse selection problem (Rothschild and Stiglitz 1976). Unless the PCF is subsidized from another source, the PCF will eventually face chronic deficits or charge such high assessments to its few remaining customers that it collapsed.

Loss Reserving Practices. PCFs differ according to whether they reserve for anticipated losses or operate on a pay-as-you-go basis. Pay-as-you-go financing is a common

practice among social insurance programs, such as Social Security and Medicare. In the Social Security program, for example, premium taxes from current employees and employers pay for retirement benefits of retired workers. The implicit contract is that although younger persons subsidize the benefits of older persons, their benefits will in turn be subsidized by others when they become age-eligible.

Pennsylvania (and South Carolina until recently) operate pay-as-you-go systems. When a provider pays an annual assessment in these states, the provider does not buy coverage for the current year's medical malpractice claims, but rather pays for losses incurred in previous years that have just become due (Hofflander et al. 2001). Other states use standard loss reserving principles, including Kansas (Kansas Health Care Stabilization Fund 2002), New Mexico (New Mexico Public Regulation Commission 2001, and Wisconsin (Wisconsin Patient Compensation Fund). Louisiana has a statutory requirement that surpluses be a specified percentage of assessments (Louisiana Patient Compensation Fund).

When actuarial evaluations are performed, the recommendations are not always followed (Kansas Health Care Stabilization Fund 2002). The New Mexico Department of Insurance recently completed an actuarial study concluding that the state's PCF was underfunded by \$9 million, but the state medical society recommended no increase in physician contributions (New Mexico Medical Society 2003). This problem is not limited to the public sector, however. A survey of private primary malpractice insurers revealed much the same picture; insurers said that they had overridden their actuaries' recommendation at least once in the previous five years (Sloan et al. 1991: 157). Reasons may differ between the two groups, with private insurers more worried about losing market share and PCFs responding to political rather than competitive pressures.

Since it seems prudent for insurers to loss reserve, why would legislatures in some states have eschewed the practice? One reason, suggested by Hofflander and Nye (1985:

xiv), is that it simplifies administration. Instead of having to compute reserves and invest those funds prudently, the PCF assumes that providers are aware of the liability that is accruing and are holding “reserves” of their own. Reserves held by public agencies are also vulnerable to exploitation for unrelated purposes. In Wisconsin, a state in which the PCF does maintain reserves at a relatively high level (Wisconsin Insurance Report 2001), the Governor recently proposed to tap \$200 million from the fund in order to subsidize Medicaid (Wisconsin Hospital Association 2003).

The most important explanation, however, is politics. Failure to reserve attracts political support for a PCF because excess coverage seems inexpensive in the fund’s initial years. When the unfunded liability from past policy years eventually becomes due and payable, it is easy to label the malpractice system “out of control” instead of confronting the design flaws in the PCF (Hofflander et al. 2001).

Finally, pay-as-you-go financing for medical malpractice coverage has a certain rough justice. If juries frequently make errors in their findings of liability and determinations of damages, a pay-as-you go system that guarantees insurability and does not base assessments on a provider’s claims history helps insulate providers from non-meritorious claims.

However, the countervailing arguments appear stronger, and apply equally to public agencies and private insurers. First, the objective of insurance is to protect policyholders against loss. If there is substantial insolvency risk, health care providers remain vulnerable. In South Carolina, which until recently appeared to under-reserve as a matter of policy, health care providers may be sued individually for the full amount claimed if the PCF’s funds are insufficient to pay its obligations. At the time of its audit, the PCF considered itself a risk pool rather than an insurance company, and therefore saw no need for regulatory oversight or standard loss reserving practices (South Carolina Legislative Audit

Pay-as-you-go financing inevitably involves inter-generational transfers. ... The desire to avoid these obligations arguably deters younger providers from entering practice in the state, and induces older providers to retire early or move elsewhere.

Audit Council 2000: 10). Second, insurers have a comparative advantage in loss reserving. Unlike actuaries, health care providers do not possess the requisite data or expertise to make such projections.

Third, pay-as-you-go financing inevitably involves intergenerational transfers. The pool of health care providers in practice at a particular time may differ substantially from the pool that existed at the time the losses were incurred. If current premiums rise to cover past losses, this could discourage entry by new providers and

encourage exit by established ones. In a pay-as-you-go system, providers who retire or leave the state are subsidized by those who remain or enter. The former realized the benefits of excess coverage through the PCF while they were in practice in the state, but were not assessed a full premium for such coverage. Conversely, providers who enter practice in a PCF's later years or are still many years from retirement are the financial losers. As with Social Security, one could justify this cross-subsidy in terms of a social contract between "young" and "old" providers. Because the secular trend in malpractice losses far exceeds changes in the cost of living, however, the old receive a substantial net subsidy. The desire to avoid these obligations arguably deters younger providers from entering practice in the state, and induces older providers to retire early or move elsewhere.

Pennsylvania's MCARE Fund

Pennsylvania is facing one of the worst medical malpractice insurance crises in the U.S. (Bovbjerg and Bartow 2003). The crisis has affected all aspects of liability insurance in the state, including the state's PCF. Pennsylvania's PCF was originally called the CAT Fund, but was recently renamed the MCARE Fund. In the last few years, PCF outlays in Pennsylvania have risen to high levels (Bovbjerg and Bartow 2003: 18). In 1994, MCARE Fund spending was slightly under \$200 million; by 1997, it had risen to nearly \$350 million and by 2001, it was slightly in excess of \$350 million (Bovbjerg and Bartow 2003: 28). As might be predicted with a pay-as-you-go system, however, much of the recent increase appears attributable to the normal claims maturation process, which also made the MCARE Fund's performance appear so favorable in its initial years. According to one study, the frequency of paid claims has increased, but the magnitude (severity) of paid claims has grown less rapidly than the general rate of medical cost inflation, so that total payments (frequency multiplied by severity) have increased at about the same rate as medical cost inflation (Hofflander et al. 2001).

Since its inception, the MCARE Fund has covered many types of providers, including physicians, hospitals, nursing homes, podiatrists, and nurse midwives. Optometrists, dentists, nurses (other than nurse midwives), physicians' assistants, chiropractors, and therapists (e.g., physical therapists) are not covered. Part of the explanation for the groups covered versus those excluded from coverage involves the extent of potential liability. For example, nurse midwives tend to be much more vulnerable to large medical malpractice claims than are nurses generally.

Assessments are based on primary premiums paid. For years, assessments have been tied to JUA rates in the state. As JUA rates have increased, so have the assessments. Some groups have been disadvantaged by this formula. For example, because JUA rates

rose, the MCARE Fund obtained much larger increases for 2002 in assessments from skilled nursing facilities (97%-122%) compared to physicians (35% or less) (Rosenbloom 2001). These increases might be justified if the MCARE Fund were fully reserved, because the JUA rates for nursing homes reflect an underlying trend in losses that is likely to continue. In a pay-as-you-go system, however, current assessments are being used to pay past claims unrelated to future liability risk. The state nursing home association has complained that from 1976 through July 2001, the MCARE Fund paid only \$2.7 million in nursing facility claims but collected \$41.5 million in surcharges from nursing homes (Rosenblum 2003). This demonstrates the potential inequity of PCFs that fail to experience-rate premiums, particularly among different provider groups.

Moreover, the MCARE Fund has not supplanted private excess coverage by hospitals in Pennsylvania. The MCARE Fund has an upper limit on its exposure to large claims, notwithstanding the increase in claims severity that has occurred in Pennsylvania (Hurley 2003). Claims above these limits are the obligation of either the self-insured entity or commercial excess insurers.

Because Pennsylvania has been at the “bleeding edge” of the current malpractice crisis, its PCF has received a lot of legislative attention. The original CAT Fund was eliminated in March 2002 as part of a package of statutory changes called, the “Medical Care Availability and Reduction of Error Act and replaced by the MCARE Fund, which is scheduled to be phased out by 2009. However, it will be some time before these changes will affect the overall medical malpractice situation in Pennsylvania.

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Key Reforms in 2002 MCARE Legislation

- Decrease in mandatory liability coverage for providers – from \$1.2 million to \$1 million

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- Use of money from a separate state automobile fund (supported by motor vehicle fines) to subsidize MCARE surcharges for certain types of physicians
 - Plan to phase out the MCARE Fund by 2009
 - Requirement to examine available of coverage from private reinsurance and excess insurance market every two years during phase-out
 - Requirement that MCARE develop a method for setting assessments from physicians on an experience-rated basis
 - Establishment of a Patient Safety Authority and a Patient Safety Trust Fund.
 - Oversight of MCARE Fund moved to Pennsylvania Insurance Department
 - Change to collateral source rule, preventing plaintiffs from recovering damage awards for items covered by another source of payment
 - Stricter expert witness qualifications
 - Ability to pay awards over time rather than in a lump-sum
 - Decrease in time to submit medical liability claims to 7 years after the alleged date of action (with some exceptions)

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These reforms merit a few comments. By decreasing the MCARE Fund's upper limit but leaving the lower limit unaltered (at \$500,000 per claim), the reform reduced the exposure of the PCF from \$700,000 to \$500,000. The change improves the financial condition of the PCF, but increases the loss exposure of providers. This effect is moderated by the use of funds from another line of insurance to cross-subsidize medical liability coverage. Except that the funds were available, there is no logical reason why fines from traffic violations should be used to reduce premiums paid by health care providers. The locus of regulatory authority has been a general issue for state PCFs. Placing the PCF within Pennsylvania's Department of Insurance assures that actuarial expertise and claims man-

agement will be available, and makes it more likely that the MCARE Fund will adopt standard insurance practices. By statute, however, the MCARE Fund cannot use standard loss reserving approaches. With the exception of the patient safety measure, the statutory changes adopted in Pennsylvania are typical components of a traditional tort reform package. Their effectiveness in reducing claims frequency, severity, losses, and, most importantly, premiums remains to be demonstrated (Mello et al 2003b).

“No-Fault” Injury Compensation Programs

Description and Context

The essence of a no-fault system is to replace the existing tort system – in which compensation is based on a case-by-case determination of fault – with a system in which injuries are compensated without regard to negligence. However, no-fault programs in other countries, which aim to distribute compensation broadly to injury victims, differ appreciably from the two medical no-fault programs that have been adopted in the U.S. The Virginia and Florida birth injury compensation funds were implemented as

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Types of No-Fault Programs

Coverage of All Accidental Injuries

- Australia
- Sweden
- New Zealand

Coverage of Specific Types of Accidental Injuries

- Motor vehicle accidents
- Workplace accidents/illnesses
- Medical accidents (Florida, Virginia)

The Virginia and Florida birth injury compensation funds were implemented as tort reform initiatives during the medical malpractice crisis of the 1980s, and have as their main objective keeping the cost of medical liability affordable for obstetricians.

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tort reform initiatives during the medical malpractice crisis of the 1980s, and have as their main objective keeping the cost of medical liability affordable for obstetricians. In other words, their emphasis has been on cost containment rather than on assuring that families with seriously impaired children receive adequate financial support.

In Australia, New Zealand, and Sweden, by contrast, broad no-fault coverage is provided for accidental injuries (Cohen and Korper 1976; Gellhorn 1988; Palmer 1979, 1994; Rosenthal 1988). These plans provide

for a wider range of benefits than is typical of first-party health and disability insurance, but restrict eligibility for coverage to accidental injuries rather than to medical conditions in general (as under national health insurance).

The New Zealand program was established in 1972 for all accidental personal injuries, including medical malpractice. Unlike other systems, such as Sweden's, access to tort litigation was eliminated for covered injuries. Medical costs are mainly paid by the National Health Service; however, the plan pays directly for care in private hospitals as well as out-of-pocket obligations not covered by public health insurance. Total expenditures for accidental injuries rose at a rapid rate after no-fault was adopted, leading to a major reform of the program in 1992 that substantially tightened the definition of covered injury. Based on analysis of data from the post-1992 reform period, Davis et al. (2002) reported that only

a very small proportion of injury victims who might have applied for coverage actually did so. An important factor is that much more litigation exists in the U.S. than in other countries that have implemented no-fault programs (Rosenthal 1988).

In the U.S., the major examples of general no-fault are for workplace injury (Workers' Compensation) and automobile accidents. Experience in Workers' Compensation and automobile no-fault insurance is instructive for medical no-fault, as is the experience with no-fault for accidents in other countries. Arguments pro and con are similar in these other lines. Proponents contend that no-fault insurance delivers speedier and possibly more equitable compensation than does conventional insurance linked to tort. Opponents argue that the savings are overstated and that no-fault reduces incentives to exercise care.

Empirical evidence comparing deterrence under automobile fault versus no-fault systems is mixed (Sloan 1998; Bovbjerg and Sloan 1998; Cummins et al. 2001; Loughran 2001; Cohen and Dehejia 2003). With regard to Workers' Compensation, many large employers self-insure and therefore have an incentive to consider the costs of claims when

making decisions affecting workplace safety.

The chief advantage of no-fault is in reducing the administrative expense of dispute resolution, including payments to lawyers, as well as the lengthy time involved in resolving such claims.

When premiums are not fully experience rated, by contrast, employers have been prone to provide less safe work environments (Butler and Worrall 1991). Moreover, empirical evidence suggests that workers who are covered by Workers' Compensation may be less careful (Chelius 1982; Bartel and Thomas 1985; Chelius and Kavanaugh 1988; Krueger 1990). However, medical injuries differ from injuries caused by accidents on

Proponents of medical no-fault also emphasize more systematic case identification, more expert resolution of claims, better monitoring and education, and greater incentives to exercise precaution if no-fault is combined with some form of experience rating.

the road and in the workplace because the patient has a lesser role in injury prevention.

The chief advantage of no-fault is in reducing the administrative expense of dispute resolution, including payments to lawyers, as well as the lengthy time involved in resolving such claims. Weiler et al. (1993) argued that the savings from not having to prove negligence in medical liability cases could save a large amount of resources now spent on lawyers, expert witnesses, and courts. The savings may allow more injury victims to be compensated and to be compensated much more quickly. Also, no-fault corrects what some experts view as an inequity

in the tort system, which only compensates injury victims when there is a determination of fault (Mehlman 2003: 75).

Proponents of medical no-fault also emphasize the possibility of improved injury deterrence through more systematic case identification, more expert resolution of claims, better monitoring and education, and greater incentives to exercise precaution if no-fault is combined with some form of experience rating (Weiler et al. 1993; Bovbjerg and Sloan 1998). According to Danzon (2000), however, the New Zealand program's inadequate administrative expense reflects low investment in information-gathering on causes of accidents and little attempt at deterrence. She concluded that the original New Zealand no-fault program "illustrates pitfalls to be avoided rather than a useful prototype that other countries might adopt" (p.1394).

Birth Injury Compensation Funds

However compelling the theoretical advantages of medical no-fault may be, the “proof of the pudding” is in its actual implementation. Only two U.S. states have implemented medical no-fault: Virginia and Florida. In each case, no-fault was part of a broader package of statutory changes aimed at improving availability of medical malpractice

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insurance at affordable rates. Efficiency in claims resolution and improved compensation of injury victims were secondary objectives.

Both state programs were implemented to compensate families with children with severe neurological impairments. The loss associated with such injuries can be considerable, as are settlements and jury verdicts if litigation is brought (Sloan et al. 1993). By removing these injuries from the tort system, it was hoped that malpractice premiums for obstetricians would be reduced. In 1988, Virginia became the first state to enact a no-fault program, the Birth-Related Injury Fund

(BIF). In 1989, Florida established the Neurological Injury Compensation Association (NICA). The focus of these programs was on obstetrics because obstetricians faced relatively frequent as well as severe claims. As a result, their already-high medical malpractice premiums had increased during the 1980s at a much faster rate than for other physicians (State of Florida 2003: 303).

The Florida and Virginia programs share some characteristics, but also have differences. Both states' enabling statutes made their no-fault

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Key Features of Florida and Virginia No-Fault Plans

- Programs created in response to 1980s crisis to assure availability of medical liability insurance to obstetricians
- Exclusive remedy for injuries covered under program definition
- Operated by independent public agencies
- Eligibility criteria restrictive, especially in Virginia. Limited to severe, permanent birth-related neurological injuries
- Programs assess and collect premiums, determine eligibility for benefits, compensate eligible families, manage care
- Physician participation voluntary; hospital participation mandatory in Florida but voluntary in Virginia
- Non-participating physicians assessed, but at a lower premium than participating physicians

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programs the “exclusive remedy” for eligible injuries involving participating providers. Both no-fault programs are administered by independent, legislatively created organizations, BIF and NICA. These organizations assess and collect premiums, determine eligibility for payment and benefits on a case-specific basis, and manage and disburse funds.

As enacted, the programs were mainly funded by assessments on voluntarily participating physicians (\$5,000 annually), licensed physicians who decide not to participate (\$250 annually), and hospitals (participating hospitals in Virginia at \$50 per birth up to a maximum of \$150,000 per hospital per year, and all hospitals in Florida at \$50 per birth).

Assessments may seem low, but eligibility criteria for program benefits were narrowly defined. Participating physicians continue to pay medical malpractice insurance premiums, and most potential claims have remained in the tort system.

grams may assess liability insurers of all sorts up to one quarter of one percent of net premiums written in the state. Private insurers, not the states, therefore bear the risk of overruns. The insurance lobby in both states opposed assessments on the premiums they collect, but subsequent attempts to repeal the provision failed (Bovbjerg and Sloan 1998: 94).

Evaluation of Program Performance

There are several endpoints on which no-fault can be evaluated: (1) coverage of losses

These assessments may seem low, but eligibility criteria for program benefits were narrowly defined. Participating physicians continue to pay medical malpractice insurance premiums, and most potential claims have remained in the tort system.

There is no provision in either statute for raising premiums, and in neither state do the no-fault programs have access to general state revenues. In both states, however, the pro-

There is no provision in either statute for raising premiums, and in neither state do the no-fault programs have access to general state revenues. However, the programs may assess liability insurers of all sorts. Private insurers, not the states, therefore bear the risk of overruns.

caused by medical injuries; (2) targeting needs of injury victims; (2) efficiency in administration and in managing loss; (3) success in assuring availability of liability coverage at reasonable prices; and (4) improving injury deterrence.

Coverage of Iatrogenic Injuries. One of the main rationales for no-fault is that, by achieving savings in administration, it should be possible to provide compensation to a larger number of injury victims (Weiler et al. 1993). In the two states that have adopted no-fault programs, eligibility criteria are specific and limited. Neither program was designed as social insurance for iatrogenic injury, but rather as a substitute for particular tort claims that seemed to be causing a malpractice crisis. The number of tort suits that are brought is only a small fraction of potential negligence claims, and an even smaller percentage of overall iatrogenic injuries (see Brennan et al. 1992, California Medical Association and California Hospital Association 1977, Localio et al. 1991).

As a second-generation tort reform, no-fault was primarily seen as solving a problem of withdrawal of insurers from the medical malpractice market as well as a problem of steeply rising provider premiums. To solve the insurer problem meant removing a particu-

The eligibility criteria were designed only to include cases which otherwise would have a high probability of being paid in tort and result in large monetary awards.

larly volatile class of medical malpractice cases from the tort system. To solve the provider problem, it was important that the sum of premiums and no-fault assessments not exceed the amount the providers would have paid in the absence of the plan. Therefore, the eligibility criteria were designed only to include cases which otherwise would have a high probability of being paid in tort and result in large monetary awards.

The narrow focus of the no-fault programs was not an accident. In neither state were the chief advocates for reform likely to have had patient compensation as their goal. In Virginia, for example, BIF was originally supported by the Medical Society of Virginia, the Virginia Hospital Association, the Virginia Hospital and Healthcare Association, the Virginia Society of Obstetricians and Gynecologists, and the Virginia Insurance Reciprocal (a medical malpractice insurer). It was opposed by the Virginia Trial Lawyers Association (Joint Legislative Audit and Review Commission (JLARC) 2002: 4). Compensating injury victims, especially when compensation is not linked to fault, is properly viewed as a social obligation to be shared by all citizens, not just physicians and hospitals.

In Virginia, as originally specified, only cases in which a live infant is permanently disabled and in need of assistance in all activities of daily living (ADLs) are eligible for coverage. Although the BIF program was established in 1987, the first payment to a claimant was not made until 1992 (JLARC 2002). By 2002, only 72 claimants had received payment over the 15-year history of the program (JLARC 2002: 83).

In Florida, only infants weighing at least 2,500 grams at birth and “permanently and substantially mentally and physically” impaired are covered. The Florida statute does not impose the requirement that the child be impaired in activities of daily living. In early 2003, the Governor’s Select Task Force on Healthcare Professional Liability Insurance reported that in the NICA program’s 14 years, 161 cases had been accepted for payment, which is less than 12 per year (State of Florida 2003).

The modest level of utilization reflects not only limited eligibility, but also a bureaucratic preference for small programs. To reduce cost, the administrators’ incentive was to limit caseloads even if there were many other eligible families who could have benefited from the program. In addition, neither participating hospitals nor physicians desired

Neither participating hospitals nor physicians desired to publicize the availability of the programs to their patients during the course of prenatal care.

to publicize the availability of the programs to their patients during the course of prenatal care. Health care providers wanted to keep the program quiet because they did not want to admit the possibility of medical injury to expectant mothers or encourage tort claims in cases ineligible for no-fault. Ironically, “failure to give notice” was used by the trial bar to keep “bad baby” cases out of no-fault and leave them in tort, where plaintiffs’ lawyers

would be better paid.

Sloan et al. (1998a) estimated that in 1990, nearly 500 children in Florida and about half as many in Virginia were born with a diagnosis of cerebral palsy. Although the statutes do not specifically restrict compensation to children with cerebral palsy, the vast majority of no-fault claims accepted for payment in Florida were for children with this diagnosis. Both statutes exclude injuries attributable to “genetic” or “congenital” abnormalities, injuries that would be excluded from tort as well. Virginia excludes injury caused by “maternal substance abuse.”

The focus of the 2003 legislative evaluation was insurance costs in obstetrics. There was no evaluation of the effectiveness of NICA

No-fault cannot support many more claims than tort without relying on a much broader financing base, either general revenues or a dedicated tax funded from a much larger group than health care providers.

in covering serious injuries or managing care. (In fact, Sloan et al. (1997) found that families were satisfied with most aspects of medical no-fault.) The Task Force did suggest that the legislature should consider broadening the program's eligibility standard, but only as a means of increasing physician participation in the program. Views of physicians and medical organizations who testified before the Task Force were well represented in the report, but views of NICA officials and families with neurologically-impaired infants were not.

A major lesson from this experience relates to the narrow funding source for these programs. No-fault cannot support many more claims than tort without relying on a much broader financing base, either general revenues or a dedicated tax funded from a much larger group than health care providers. It has been politically infeasible to argue for a larger budget when the primary objective of these programs has been to relieve a medical malpractice crisis (Bovbjerg and Sloan 1998: 117). As a crisis intervention, one measure of success was not increasing assessments on providers. A broad-based program will never evolve from trying to relieve acute problems of insurance availability and affordability.

Targeting Needs of Injury Victims. Compensation under the two no-fault programs does not bear a clear relationship to victims' needs or alternative sources of payment. Families with severely neurologically impaired infants also incur expenses unlike those covered by a typical health insurance policy. Under Virginia's BIF program, payment is reduced by the amount of compensation from collateral sources, and there is no payment for lost wages or for nonpecuniary loss. Between 1998 and June 2002, 56 percent of covered expense was for nursing, 19 percent was for housing, less than five percent was for the expense of hospital and physician services, and less than one percent was for prescription drugs (JLARC 2002: iii, 14). Because Virginia caps medical malpractice awards, overall compensation under no-fault is probably higher than it would have been under tort (JLARC 2002: 25).

A positive effect of the programs' small size is that the programs carefully manage their expenditures, often securing price concessions from suppliers, and questioning the need for elaborate and unconventional therapies.

Even compensation at this level has been challenging. According to the legislative committee charged with assessing BIF, the program lacked actuarial data for projecting lifetime expenses of persons the plan was to cover and hence underestimated the cost of such care (JLARC 2002: vi). Lack of actuarial capacity is a recurring problem for the public sector. Because the push for both BIF and NICA was to solve a crisis of affordability and availability of medical liability insurance for obstetrics, details of implementation took a back seat. On the other hand, a positive

effect of the programs' small size is that it is possible to manage benefits on an individualized basis. Bovbjerg and Sloan (1998) concluded that the programs carefully manage their expenditures, often securing price concessions from suppliers, and questioning the need for elaborate and unconventional therapies (p. 112), but acknowledged that a larger program would have to implement more formal rules and procedures.

Another motive for malpractice litigation is the desire to obtain information about the circumstances under which an injury occurred (Sloan et al. 1993). A potential advantage of no-fault is that providers have a greater incentive to reveal such information. In Florida, obstetricians still face a substantial threat of litigation, which probably chills disclosure (Sloan et al. 1998a). In Virginia, however, where the program has been moderately successful in immunizing providers from suit, a survey of claimants revealed that hospitals and physicians were not forthcoming about information needed to apply for BIF

A survey of physicians indicated that 77 percent did not routinely inform their patients about the program. Some respondents said that they did not want to alarm patients unnecessarily. Others said that a discussion was inappropriate because they viewed BIF as a form of medical malpractice insurance.

benefits (JLARC 2002: 90). Similarly, a survey of physicians who participated in BIF indicated that 77 percent did not routinely inform their patients about the program. Some respondents said that they did not want to alarm patients unnecessarily. Others said that a discussion was inappropriate because they viewed BIF as a form of medical malpractice insurance (JLARC 2002: 103-4).

A third motive for claiming under tort is retribution. A survey of families of neurologically impaired infants in Florida, where tort suits remained common, found that tort claimants were far more likely than no-fault claimants to be motivated by a desire for retribution (Sloan et al. 1997). In a state in

which no-fault was truly mandatory, tort would no longer provide a vehicle for venting anger in a socially appropriate way.

Administrative Efficiency. Bovbjerg and Sloan (1998), using interview and program data through 1995, concluded that “fiscal administration of the [Virginia and Florida] plans has been very conservative.” Overhead is very low in both no-fault programs, in part because management to date has been informal. In 2001, administrative, financial service, and legal costs totaled nine percent of BIF’s overall disbursements (JLARC 2002: 9). This compares to approximately 50% overhead for the tort system. With respect to attorney compensation, there is an important distinction between an economi-

The Virginia and Florida programs do not permit payment of lawyers on a contingent fee basis, but rather pay a “reasonable” hourly rate that seems to have been insufficient to elicit much effort by lawyers in obtaining no-fault compensation for injury victims.

cally efficient method and simply setting fees at a low level because paying little will make it difficult for worthy victims to obtain representation. Put another way, stringent limits on lawyers’ fees may save money, but decrease social welfare. Researchers have described circumstances under which a contingent fee system is economically efficient (Danzon 1983; Smith 1992; Hay 1996). However, the Virginia and Florida programs do not permit payment of lawyers on a contingent fee basis, but rather pay a “reasonable” hourly rate that seems to have been insufficient to elicit much effort by lawyers in obtaining no-fault compensation for injury victims.

Unfortunately, “there is a conflict between maintaining solvency and paying claims” (Bovbjerg and Sloan 1998: 101). Both BIF and NICA have been too concerned about solvency, particularly in trying to keep program enrollment low rather than covering the expenses incurred by a large fraction of families with neurologically impaired infants. In both states, mean premiums paid by obstetricians-gynecologists decreased after implementation of no-fault and the decrease exceeded the amounts individual physicians paid in no-fault assessments (Norton 1997; Bovbjerg and Sloan 1998).

During BIF’s initial years, the program appeared to be overfunded and assessments on physician participants were temporarily reduced (JLARC: 16). The board received little financial information from the fund manager and program staff that would

have been necessary for proper financial oversight (JLRAC 2002: xv). In 2001, Virginia's State Corporation Commission (SCC) found that the fund was actuarially unsound, with an unfunded liability of \$88 million, and decided to conduct future reviews on an annual basis (JLARC 2002: 8). One problem is that both BIF and NICA share features of public and private programs. Although both programs were created by legislative action, and their governing boards are publicly appointed, they are not funded by the state and their executive directors and staff are not government employees.

Assuring Coverage and Reasonable Rates. Reviewing BIF, a legislative committee concluded: “[W]hile the program does help stabilize malpractice premiums, the program’s existence does not appear to have a significant impact on the availability of obstetric services in the state.” (JLARC 2002: v). The legislative committee did conclude that BIF has reduced the number of malpractice claims against obstetricians and hospitals in Virginia, making medical malpractice premiums lower than they otherwise would be

The committee was concerned about the lower percentage of rural obstetricians participating in BIF, and the fact that the vast majority of claimants lived in urban areas well served by such physicians.

(JLRAC 2002: 37-8). However, the committee was concerned about the lower percentage of rural obstetricians participating in BIF, and the fact that the vast majority of claimants lived in urban areas well served by such physicians (JLARC 2002: 49).

One reason for the lower participation rate of physicians is adverse selection. Program assessments are not based on the number of deliveries the physician performs. Thus, if the volume of deliveries is lower, as may be more often the case in rural practices,

the assessment per delivery may be considerably higher. In addition, juries tend to be less generous in rural areas, narrowing the gap between the costs of tort and no-fault. On the other hand, access problems tend to be more acute in rural areas, and assuring access is one of the most cited rationales for no-fault programs.

In Florida, the Governor's Select Task Force on Healthcare Professional Liability Insurance found in 2002 – years after implementation of NICA – that obstetricians still face extremely high premiums. The report observes: “Indeed, some experts suggest that Florida has reached a crisis status and some obstetricians and surgeons will be paying over \$200,000 annually for premiums. Evidence shows for example that OB/GYN physicians in areas such as Jacksonville will be retiring early, become college faculty members to obtain (sic) sovereign immunity, or operating without insurance instead of meeting high premiums for adequate coverage” (State of Florida 2003: 306). All in all, the rate of return available under no-fault never persuaded private insurers to enter that line of business. There is no indication from any state that insurers are lobbying state legislators to pass enabling legislation or expand the scope of existing no-fault programs.

Deterring Injuries. Some health policy experts maintain that the real crisis in medical malpractice is the high rate of iatrogenic injury for which people receive no compensation, not the high rate of litigation and risk of overpayment to those who receive compensation under tort (see, e.g., Foster 1994). Therefore, one might be concerned that no-fault may reduce whatever incentive the tort system currently provides to exercise due care.

In principle, no-fault programs might be combined with effective loss prevention programs, but both NICA and BIF are much too limited to meaningfully address such issues. In an early assessment of BIF based on the program's characteristics rather than its measurable performance, Gallup (1989) concluded that the BIF corrects moral hazard on

Although quality assurance efforts are laudable, review of individual cases by a group external to the physician’s practice or hospital is inconsistent with the notion that these are “no fault” programs.

the part of juries, who may find fault and award compensation merely because insurance is available to pay, but criticized the program for weakening incentives for deterrence.

An oddity of BIF is that Virginia’s Board of Medicine is required to determine whether the physician involved in the birth provided substandard care. Although quality assurance efforts are laudable, review of individual cases by a group external to the physi-

cian’s practice or hospital is inconsistent with the notion that these are “no fault” programs. External review reintroduces the blaming (and gaming) of dispute resolution under tort. Furthermore, the legislative committee charged with reviewing the program concluded that the Board of Medicine and the Virginia Department of Health had performed inadequate reviews of the records (JLARC 2002: 53-5). In any event, this type of provision is likely to reduce physician participation in a no-fault program.

In contrast to tort, no-fault claims are not reported to the National Practitioner Data Bank. Non-reporting prevents hospital boards and other users of the NPDB from identifying repeat-claim physicians. Even under no-fault, frequent claims may be a signal of substandard quality. However, unlike proposals to adopt no-fault specifically to improve quality assurance (see Weiler 1991, Weiler et al. 1993), neither NICA nor BIF require internal reviews of quality.

There is a convincing case for government involvement in providing insurance for high-cost claims. The shortcomings of existing PCFs, such as Pennsylvania's, derive not from the concept but from the way it has been implemented.

Summary and Implications

A few very large paid claims can bankrupt a physician who does not have sufficient insurance coverage, and can even render insolvent a primary medical malpractice insurer. Because of these risks, primary insurers and self-insured provider groups demand reinsurance. However, the greater volatility of loss associated with large claims is factored into the cost of reinsurance, and in turn is reflected in the high premiums primary insurers charge.

State patient compensation funds are a response to this problem. Although (as with JUAs and guaranty funds), there has been little scholarly research on PCFs, there is a convincing case for government involvement in providing insurance for high-cost claims. The shortcomings of existing PCFs, such as Pennsylvania's, derive not from the concept but from the way it has been implemented. The public status of PCFs implies that they are willing to supply coverage under circumstances that are unattractive to private, profit-seeking insurers, but does not alter their function as risk-bearers. In particular, pay-as-you-go financing offers short-term political advantages, but exacts a much higher price in the long run. That prudent loss reserving and accurate premium assessments may create a larger fund that becomes a political target for spending unrelated to medical liability seems a small price to pay for stability and solvency.

The two medical no-fault programs that currently exist in the U.S. – Virginia's and Florida's – represent very interesting experiments. They have provided compensation to

Although it is hard to generalize, experience with the two existing programs does not support the view that a broader no-fault program would be less expensive than the tort system.

families in substantial need who would not have received it from other sources, at least not nearly as readily. The programs' small size has helped them to tailor subsidies to the individualized needs of the families whom they have assisted. Moreover, administrative cost is far lower and time to compensation much shorter than under tort.

Although it is hard to generalize, experience with the two existing programs does not support the view that a broader no-

fault program would be less expensive than the tort system. Given their very small sizes, the programs can use informal procedures with small staffs. If the program were expanded to less serious injuries (NICA reserved \$3 million per covered child on average, State of Florida 2003), administrative cost per accepted case would almost surely increase. Procedures would become more formal by necessity. Furthermore, the savings from not paying for nonpecuniary loss under no-fault would be much less in smaller cases than for seriously injured children who are likely to command sympathy from juries.

Given the resources at their disposal, the two programs seem to be doing remarkably well in spite of the administrative deficiencies described above. The programs have not been successful in averting a new crisis in obstetrical liability, but this is far too narrow a criterion for gauging their performance. In fact, many of the programs' shortcomings are attributable to the fact that they were set up as solutions to the malpractice insurance crisis of the mid 1980s rather than having a broader set of policy objectives.

Recurring Themes

Reactive Public Policy is Being Made During Crisis Periods

The legend of Rip van Winkle has parallels in medical malpractice reform. During times of crisis, medical malpractice becomes a hot topic of discussion among legislators, in the media, and for the public. Almost all medical malpractice legislation, including the programs described in this report, has been enacted during times of crisis. After each crisis,

Crisis may be a precondition for change, but programs enacted during crises respond primarily to stakeholder lobbying and may not make sound policy.

the issue drops back asleep for a number of years, only to wake up in crisis again. During each interim period, legal challenges are mounted to statutory changes enacted during the preceding crisis, and surviving reforms go into effect, grow slowly, and develop into mature programs – all largely outside the public’s view. Crisis may be a precondition for change, but programs enacted during crises respond primarily to stakeholder lobbying and may not make sound policy. Many of the structural deficiencies in programs reflect their being enacted during crisis with inadequate monitoring during the deep sleep that followed.

The “Devil is in the Details” of Implementation

The rationale for government intervention in private insurance markets is strong in general and applies to medical liability insurance in particular. Whether or not a public program succeeds often has less to do with the overall rationale for the program than how it is implemented. Of course, many of the implementation details have their origin in the enabling legislation.

A prominent example in this article is medical no-fault. In principle, the object of no-fault is to compensate injury victims, quickly and efficiently. The main reason for jettisoning case-by-case determinations of fault is to speed claims resolution and save on resources that would otherwise be spent on adjudication. The efficiency gains in turn should allow no-fault programs to compensate more injury victims than does tort. If no-fault programs are organized around enterprises, such as hospitals, there also may be an opportunity to use experience rating at the enterprise level as a tool for loss prevention and quality improvement.

This is the theory. However, the programs adopted by Florida and Virginia were implemented as third-party insurance reforms. The key drivers of the legislation were physicians, not families suffering accidental injury; the programs were thus designed to solve physicians' problems, although their self-interest was marketed as (and in part corresponded to) the public interest. Because physicians and hospitals were to be the direct beneficiaries of the no-fault programs, the Virginia and Florida legislatures asked them to bear the programs' cost. As premium-payers, physicians and hospitals were not eager to see no-fault evolve into a major source of compensation for families with injuries. As a consequence, both the Virginia and Florida programs are small by any metric: annual budgets, staffing, number of claims filed, number of claims paid, and growth. In other words, they fall far short of no-fault as conceptualized by its major academic proponents.

Funding is Often Through Implicit Taxation

If a goal of government interventions is to subsidize high-cost insurance, and if injury victims are to be protected from loss without having to bear the full actuarial loss in the form of first-party insurance premiums, the revenue for the subsidy must come from somewhere else.

Unfortunately, a recurrent theme is that taxes are implicit. Rather than raise revenue explicitly, it is often easier to shift the burden to unsuspecting groups, such as random classes of insurance policyholders. That shortfalls in medical liability insurance should be covered by automobile liability insurance revenues, as in Pennsylvania, seems inequitable. If assuring the availability of medical care is a public good, the tax base should be as broad as possible, and taxpayers should understand the tax rates they pay.

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Another implicit transfer occurs under the PCFs set up on a pay-as-you-go rather than fully reserved basis. Here, health care providers do not pay the full freight of their losses at the time they are incurred. Rather, other health care providers are assessed several years afterwards when settlements are reached or judgments rendered. Implicit taxation is politically appealing, at least in the short run, since an immediate crisis can be solved with monies to be collected later. But the bills come due in the end, which often coincides with the time the country

reawakens to a new medical malpractice crisis.

Confusion Exists About the Role of Public Insurers

In reading unpublished correspondence from public insurers, one is struck by the lack of consensus about whether they truly are insurers. Often when assessments of programs are conducted, the reviewers remark that the agency lacks sufficient actuarial capacity. This theme is closely related to others stated previously: enactment of programs

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during crises when actuarial capacity seems a minor detail and the availability of implicit taxes which seem to make standard loss reserving practices unnecessary.

Like private insurers, public insurers collect premiums and bear risk. In a long-tail line, such as medical liability, public insurers, like their private counterparts, face actuarial uncertainty. That the insurer is public does not change the fact that the frequency distribution of expected claims frequency and severity differs among policyholders. The rationale for experience rating and risk classification, loss reserving,

and prudence in investing reserves therefore applies equally to public and private insurers. The main difference is one of mission. A public agency's decision to supply insurance should be less responsive to immediate rates of return, although even public insurers' deficits eventually require an offsetting revenue source.

Programs Lack External Oversight

These programs frequently operate for years without public oversight. Often there is no written evidence that an organization has ever been formally evaluated. During the course of research on this report, I requested unpublished material from several state agencies. In many cases, the material was sent. In other cases, however, data could not be obtained. In at least one case, an employee volunteered to work overtime for an overtime wage to photocopy financial documents. Apparently no records were publicly available.

Nor was production of the documents seen as an appropriate function of the public agency.

Lack of oversight should be the exception rather than (almost) the rule. Sound public policy requires that program evaluations be scheduled when public programs are implemented. Prompt evaluation may identify problems in their early stages and facilitate

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mid-course corrections. Evaluation also provides an opportunity to discuss program goals, assess whether goals are being met, and determine whether there still is a public need for the program. Program oversight should be independent but geared to the mission of the agency.

Although this report has focused on deficiencies, there are examples of well-run public insurers. And there is evidence that some of the errors of the past are being corrected. The states serve as independent laboratories for specific innovations. It is therefore particularly important that states considering public insurance programs learn from the experiences of

others. While the diversity of our federal system is often a strength, it can also be a weakness. States seldom avail themselves of knowledge gained in other states and therefore tend to reinvent the wheel.

Some public insurers also could benefit from structured technical assistance, which could be financed in part by the agencies receiving it. Research would be facilitated by data clearinghouses, which exist in other fields, but not for medical liability or liability insurance. There is also a need to develop acceptable criteria for gauging program

success. Saving money is an appropriate social objective. But it is not the only criterion. Improving the well-being of patients and their families is another.

An assumption throughout this report is that availability of medical liability insurance is connected to availability of medical care. Many anecdotes support this hypothesis, but there is a paucity of empirical evidence. As we will soon enter another quiescent period in the tectonics of medical malpractice, it is important to lay the empirical groundwork now for a considered examination of this critical issue.

References

- Bartel, Ann and Lacy G. Thomas. 1985. Direct and Indirect Effects of Regulation: A New Look at OSHA's Impact. *Journal of Law and Economics* 28:1-25.
- Bovbjerg, Randall R. and Anna Bartow. 2003. Understanding Pennsylvania's Medical Malpractice Crisis: Facts about Liability Insurance, the Legal System, and Health Care in Pennsylvania. New York: The Pew Charitable Trusts Project on Medical Liability in Pennsylvania.
- Bovbjerg, Randall R., Frank A. Sloan, Avi Dor, and Chee Ruey Hsieh. 1991. Juries and Justice: Are Malpractice and Other Personal Injuries Created Equal? *Law and Contemporary Problems* 54(1):5-42.
- Bovbjerg, Randall R. and Frank A. Sloan. 1998. No-Fault for Medical Injury: Theory and Evidence. *University of Cincinnati Law Review* 67(1):53-123.
- Bovbjerg, Randall R., Frank A. Sloan, and Peter J. Rankin. 1997. Administrative Performance of 'No-Fault' Compensation for Medical Injury: No-Fault Compared to Tort Systems. *Law and Contemporary Problems* 60(2):71-115.
- Brennan, Troyen. 1992. An Empirical Analysis of Accidents and Accident Law: The Case of Medical Malpractice Law. *St. Louis University Law Journal* 36(4):823-878.
- Butler, Richard J. and John D. Worrall. 1991. Claims Reporting and Risk Bearing Moral Hazard in Workers' Compensation. *Journal of Risk and Insurance* 58(2):191-204.
- California Medical Association and California Hospital Association. 1997. Report on the Medical Insurance Feasibility Study.
- Chelius, James R. The Influence of Workers' Compensation on Safety Incentives. 1982. *Industrial and Labor Relations Review* 35(2):235-42.
- Chelius, James R. and Karen Kavanaugh. 1988. Workers' Compensation and the Level of Occupational Injuries. *Journal of Risk and Insurance* 55(2):315-23.
- Cohen, Alma and Rajeev Dehejia. 2003. The Effect of Automobile Insurance and Accident Liability Laws on Traffic Fatalities. National Bureau of Economic Research Working Paper 9602.
- Cohen, Eva D. and Samuel P. Korper. 1976. The Swedish No-Fault Patient Compensation Program: Provisions and Preliminary Findings. *Insurance Law Journal* 637:70.

-
- Commonwealth of Pennsylvania. 2003. Pennsylvania Professional Liability Joint Underwriting Association (.pajua.com). Accessed July 17, 2003.
- Congressional Research Service, Library of Congress. 2003. "Medical Malpractice Liability Insurance and the McCarran-Ferguson Act," March 19. (Order code RS21461).
- Cornell, Emily V. December 5, 2002. "Addressing the Medical Malpractice Insurance Crisis." National Governors Center for Best Practices.
- Council of State Governments. April 2003. Medical Malpractice Crisis: TrendsAlert. (Revised May 2003).
- Cummins, J. David. 1988. Risk-Based Premiums for Insurance Guaranty Funds. *Journal of Finance* 43:823-39.
- Cummins, J. David, Richard D. Phillips, and Mary A. Weiss. 2001. The Incentive Effects of No-Fault Automobile Insurance. *Journal of Law and Economics* 44(2): 427-64.
- Danzon, Patricia M. 1983. Contingent Fees for Personal Injury Litigation. *Bell Journal of Economics* 14():213-30.
- Danzon, Patricia M. 2000. Liability in Medical Malpractice in A.J. Culyer and J.P. Newhouse, eds. *Handbook of Health Economics*. Amsterdam: Elsevier, p.1339-1404.
- Davis, Peter, Roy Lay-Yee, Julie Fitzjohn, Phil Hider, Robin Briant, and Stephan Schug. 2002. Compensation for Medical Injury in New Zealand: Does 'No-Fault' Increase the Level of Claims Making and Reduce Social and Clinical Selectivity? *Journal of Health Policy, Politics and Law* 72(5):833-54.
- Doherty, Neil A., Joan Lamm-Tennant, and Laura T. Starks. 2003. Insuring September 11th: Market Recovery and Transparency. *Journal of Risk and Uncertainty* 26:179-99.
- Downs, David H. and David W. Sommer. 1999. Monitoring, Ownership, and Risk-Taking: The Impact of Guaranty Funds. *Journal of Risk and Insurance* 66(3):477-97.
- Eskin, David J., Abington Memorial Hospital, Abington, P.A. February 10, 2003. Prepared Witness Testimony, Hearing before the U.S. House Committee on Energy and Commerce.

-
- Foster, Michael. 1994. Book Review: No-Fault Medical Injury Compensation: Hoofbeats or Pipe Dreams? *St. John's Law Review* 68:727-58.
- Gallup, Cynthia L. 1989. Can No-Fault Compensation of Impaired Infants Alleviate the Malpractice Crisis in Obstetrics? *Journal of Health Policy, Politics and Law* 14(4):691-705.
- Gellhorn, Walter. 1988. Medical Malpractice Litigation (U.S.)—Medical Mishap Compensation (N.Z.) *Cornell Law Review* 73(2):170-212.
- Greene, Mark R. 1976. The Government as an Insurer. *Journal of Risk and Insurance* 43(3):393-407.
- Hall, Brian J. 1988. Risk-Taking Incentives and the Cost of Insurance Company Failures in Robert W. Klein, ed., *Alternative Approaches to Insurance Regulation*. Kansas City, MO: National Association of Insurance Commissioners.
- Harp, William L., Executive Director of the Board of Health Professions, Board of Medicine, Commonwealth of Virginia. November 6, 2002. Letter to Philip A. Leone, Director, Joint Legislative Audit and Review Commission.
- Harrington, Scott and Robert E. Litan. 1988. Causes of the Liability Insurance Crisis. *Science*, New Series 239(4841):737-41.
- Hart, Oliver, Andrei Shleifer, and Robert W. Vishny. 1997. The Proper Scope of Government: Theory and an Application to Prisons. *Quarterly Journal of Economics* 112(4):1127-62.
- Hay, Bruce L. 1996. Contingent Fees and Agency Cost. *Journal of Legal Studies* 25(2):503-33.
- Hickson, Gerald B., Charles F. Federspiel, James W. Pichert, Cynthia S. Miller, Jean Gauld-Jaeger, and Preston Bost. 2002. Patients Complaints and Malpractice Risk. *Journal of the American Medical Association* 287(22):2951-57.
- Hoerger, Thomas J., Frank A. Sloan, and Mahmud Hassan. 1990. Loss Volatility, Bankruptcy, and the Demand for Reinsurance *Journal of Risk and Uncertainty* 3(3):221-45.
- Hofflander, Alfred E. and Blaine F. Nye. 1985. *Medical Malpractice Insurance in Pennsylvania*. Menlo Park, CA: The MAC Group.

-
- Hofflander, Alfred E., Blaine F. Nye, and Jane D. Nettesheim. 2001. Report on the Medical Malpractice Insurance Delivery System in Pennsylvania. Pennsylvania Trial Lawyers Association.
- Hospital & Healthsystem Association of Pennsylvania. May 2002a. Professional Liability Coverage in Pennsylvania: Findings of Statewide Survey.
- Hospital & Healthsystem Association of Pennsylvania. December 2002b. An Overview of the Medical Liability Environment in Pennsylvania.
- Hurley, James. February 10, 2003. Hearing on the 'Pennsylvania Medical Liability Crisis', Subcommittee on Oversight and Investigations Committee on Energy and Commerce, U.S. House of Representatives.
- Joint Legislative Audit and Review Commission (JLARC), Commonwealth of Virginia. November 12, 2002. Review of the Virginia Birth-Related Neurological Injury Compensation Program.
- Kansas Health Care Stabilization Fund, Indicated Liabilities at June 30, 2002: Surcharge Determination for FY2003. April 8, 2002. (Prepared by R.L. Sutter, Tillinghast-Towers Perrin, St. Louis, MO). [.hcsf.org/insurers.htm](http://hcsf.org/insurers.htm).
- Kenney, Roger K. 1988. *1986 Financial Condition of Medical Malpractice JUAs*. Schaumburg, IL: Alliance of American Insurers.
- Klein, Robert W. 1995. Insurance Regulation in Transition. *Journal of Risk and Insurance* 62(3):363-404.
- Klein, Robert W. 1998. Regulation and Catastrophe Insurance in Kunreuther, Howard and Richard J. Roth, Sr., eds., *Paying the Price: The Status and Role of Insurance Against Natural Disasters in the United States*. Washington, D.C.: John Henry Press, p. 171-208.
- Krueger, Alan B. 1992. Incentive Effects of Workers' Compensation Insurance. *Journal of Public Economics* 41(1):73-99.
- Kunreuther, Howard. 1998. Insurability Conditions and the Supply of Coverage in Kunreuther, Howard and Richard J. Roth, Sr., eds., *Paying the Price: The Status and Role of Insurance Against Natural Disasters in the United States*. Washington, D.C.: John Henry Press, p.17-50.

-
- Lee, Soon-Jae, David Mayers, and Clifford W. Smith, Jr. 1997. Guaranty Funds and Risk-Taking: Evidence from the Insurance Industry. *Journal of Financial Economics* 44:3-24.
- Localio, Russell, Ann G. Lawthers, Troyen A. Brennan, Nan M. Laird, Liesi E. Hebert, Lynn M. Peterson, Joseph P. Newhouse, Paul C. Weiler, and Howard H. Hiatt. 1991. Relationship between Medical Malpractice Claims and Adverse Events Due to Negligence. *New England Journal of Medicine* 325(4):245-51.
- Loughran, David S. 2001. *The Effect of No-Fault Automobile Insurance on Driver Behavior and Automobile Accidents in the United States*. Santa Monica, CA: Rand Corporation.
- Louisiana Patient Compensation Fund, <http://lapcf.state.la.us/>. Accessed December 29, 2003.
- Mehlman, Maxwell J. 2003. Resolving the Medical Malpractice Crisis: Fairness Considerations. New York: The Pew Charitable Trusts Project on Medical Liability in Pennsylvania.
- Mello, Michelle, David M. Studdert, and Troyen Brennan. 2003a. The New Medical Malpractice Crisis. *New England Journal of Medicine* 348(23):2281-84.
- Mello, Michelle M., Carly N. Kelly, David M. Studdert, Troyen A. Brennan, and William M. Sage. 2003b. Hospital Behavior in a Tort Crisis: Observations from Pennsylvania, Draft. *Health Affairs* forthcoming in April.
- Merton, R.C. 1977. An Analytic Derivation of the Cost of Deposit Insurance and Load Guarantees: An Application of Modern Option Pricing Theory. *Journal of Banking and Finance* 1:3-11.
- Morton, Tom. October 28, 2003. Panel Dumps State Malpractice Insurance Idea. *Casper StarTribune*.
<http://caperstartribune.net/articles/2003/10/28/news/wyoming>.
- Nalebuff, Barry. 1987. Credible Pretrial Negotiation. *Rand Journal of Economics* 18 (Summer):198-210.
- New Mexico Medical Society. January 11, 2003. Council Minutes (Pending Approval).
- New Mexico Public Regulation Commission. 2001. Annual Report.

-
- New York Department of Insurance. December 1, 1977. The Status of the Primary and Excess Medical Malpractice Market and the Future Need for the Medical Malpractice Insurance Association, A Report to the Governor and the Legislature by the Superintendent of Insurance.
- Norton, Stephen A. 1997. The Medical Malpractice Premium Costs of Obstetrics *Inquiry* 34(1):62-9.
- Nutter, Franklin W. 1985. The Second Time Around. *Best's Review* (Property/casualty insurance edition) 86(4):22-6.
- Palmer, Geoffrey. 1979. *Compensation for Incapacity*. Oxford Press: Wellington, New Zealand.
- Palmer, Geoffrey. 1994. New Zealand's Accident Compensation Scheme: Twenty Years On. *University of Toronto Law Journal* 44(3):223-73.
- Pennsylvania Professional Liability Joint Underwriting Association Manual, <http://.pajua.com/images/200309%20U-W%20Manual.pdf>. Accessed December 29, 2003.
- Pinnacle Actuarial Resources, Inc. 2003a. Preliminary Report on the Feasibility of an Ohio Patients' Compensation Fund.
- Pinnacle Actuarial Resources, Inc. 2003b. Final Report on the Feasibility of an Ohio Patients' Compensation Fund.
- Robinson, Glen O. 1986. The Medical Malpractice Crisis of the 1970s. *Law and Contemporary Problems* 49(2):5-36.
- Rosenblum, Alan G. 2001. Privatization of CAT Fund. Pennsylvania Health Care Association.
- Rosenblum, Alan G. February 10, 2003. Prepared Witness Testimony, Hearing before the U.S. House Committee on Energy and Commerce.
- Rosenthal, Marilyn M. 1988. *Dealing with Medical Malpractice: The British and Swedish Experience*. Durham, N.C.: Duke University Press.
- Rothschild, Michael and Joseph E. Stiglitz. 1976. Equilibrium in Competitive Insurance Markets: An Essay on the Economics of Imperfect Information. *Quarterly*

Journal of Economics 90(4):630-49.

- Shavell, Stephen. 1982. On Liability and Insurance. *Bell Journal of Economics* 13(1): 120-32.
- Sieg, Holger. 2000. Estimating a Bargaining Model with Asymmetric Information: Evidence from Medical Malpractice Disputes. *Journal of Political Economy* 108(5):1006-21.
- Sloan, Frank A. 1988. Automobile Accidents, Insurance, and Tort Liability in Peter Newman, ed., *The New Palgrave Dictionary of Economics and the Law*, vol. 1. London: McMillan Reference Limited, p. 140-3.
- Sloan, Frank A. 1990. Experience Rating: Does It Make Sense for Medical Malpractice Insurance? *American Economic Review*. 80(2):128-33.
- Sloan, Frank A., Randall R. Bovbjerg, and Penny Githens. 1991. *Insuring Medical Malpractice*. New York: Oxford University Press.
- Sloan, Frank A., Paula M. Mergenhagen, W. Bradley Burfield, Randall R. Bovbjerg, and Mahmud Hassan. 1989. Medical Malpractice Experience of Physicians: Predictable or Haphazard? *Journal of the American Medical Association* 262(23):3291-7.
- Sloan, Frank A., Penny B. Githens, Ellen Wright Clayton, Gerald B. Hickson, Douglas A. Gentile, and David F. Partlett. 1993. *Suing for Medical Malpractice*. Chicago: University of Chicago Press.
- Sloan, Frank A., Kathryn Whetten-Goldstein, Stephen Entman, Elizabeth Kulas, and Emily Stout. 1997. The Road from Medical Injury to Claims Resolution. *Law & Contemporary Problems* 60(2):35-70.
- Sloan, Frank A., Kathryn Whetten-Goldstein, Emily Stout, Stephen Entman, and Gerald Hickson. 1998a. No-Fault System of Compensation for Obstetric Injury: Winners and Losers. *Obstetrics and Gynecology* 91(March):437-43.
- Sloan, Frank A., Kathryn Whetten-Goldstein, and Gerald Hickson. 1998b. The Influence of Obstetric No-Fault Compensation on Obstetricians' Practice Patterns. *American Journal of Obstetrics & Gynecology* 179(September):671-6.

-
- Smith, Bradley L. 1992. Three Attorney Fee-Shifting Rules and Contingency Fees. *Michigan Law Review* 90(7):2154-89.
- South Carolina Legislative Audit Council. January 2000. A Review of the Medical Malpractice Patients' Compensation Fund, Report to the General Assembly.
- State of Florida. January 2003. Governor's Select Task Force on Healthcare Professional Liability Insurance.
- State of Missouri. February 25, 2002. Senate Bill No. 1204.
- State of Missouri. February 20, 2003. Senate Bill No. 551.
- Stewart, Calvin L., Executive Director, South Carolina Medical Malpractice Patients' Compensation Fund. January 7, 2000. Letter to George L. Schroeder, Legislative Audit Council.
- Trebilcock, Michael J. 1989. Incentive Issues in the Design of "No Fault" Compensation Systems. *University of Toronto Law Journal* 39(1):19-54.
- Weiler, Paul C. 1991. *Medical Malpractice of Trial*. Cambridge, MA: Harvard University Press.
- Weiler, Paul C., Howard H. Hiatt, Joseph P. Newhouse, William G. Johnson, Troyen Brennan, and Lucian L. Leape. 1993. *A Measure of Malpractice*. Cambridge, MA: Harvard University Press.
- Whetten-Goldstein, Kathryn, Elizabeth Kulas, Frank Sloan, Gerald Hickson, and Stephen Entman. 1999. Compensation for Birth-Related Injury: No-Fault Compared with Tort System. *Archives of Pediatric and Adolescent Medicine* 153(1):41-8.
- Wisconsin Hospital Association, Inc. March 2003. 2003-2005 State Budget: Impacts on Wisconsin Hospitals.
- Wisconsin Patient Compensation Fund. <http://oci.wi.gov/pcf.htm>. Accessed December 29, 2003.
- Wisconsin Insurance Report Business of 2001. http://oci.wi.gov/ann_rpt/bus_2001/anrpttoc.htm. Accessed December 29, 2003.

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Design and Typography:

Ismael Valentín

Printing:

Columbia University Printing Services

About the Project

The Project on Medical Liability in Pennsylvania (www.medliabilitypa.org) is a two-year program of research, consultation, and communication funded by The Pew Charitable Trusts that seeks to provide decision-makers with objective information about the ways in which medical, legal, and insurance-related issues affect the medical liability system, to broaden participation in the debate to include new constituencies and perspectives, and to focus attention on the relationship between medical liability and the overall health and prosperity of the Commonwealth.

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