Physicians, Heal Thyselves

An Alternative Strategy for Solving the Malpractice Crisis

ESTABLISHING A SYSTEMATIC AND STANDARDIZED METHODOLOGY for objective malpractice review that exposes error-prone opinions has a greater potential for reducing malpractice premiums than caps on noneconomic damages and also provides a benefit to the tort system.

Tort reforms with caps on noneconomic damages slow the rising trend in malpractice insurance premiums. Though some states have enacted tort reform and the American Medical Association continues to press for federal tort reform with caps, reliance on legislation to solve this problem isn't enough. There is, however, a way by which the medical profession itself can actively exert downward pressure on malpractice premiums regardless of whether tort reforms are forthcoming.

Data from the Government Accountability Office show that the source of upward pressure on malpractice premiums is cost of claims. One cost, which the medical profession can influence, is expert opinions. Once opposing opinions are proffered by experts, malpractice costs begin to accrue for insurers.

Differences of opinions between medical experts occur for two reasons. Intellectual differences result when the same data are interpreted differently by experts. Error, however, is a distortion of relevant data by an expert.

The law requires experts on both sides of a malpractice case to render opinions about the standard of care to a reasonable degree of medical certainty. Statistically, this standard of evidence is imprecise because only 50 percent, plus a tiny quantum of certainty, is necessary to satisfy a preponderance of the evidence for either side. Essentially, this level of confidence is actually uncertain and can influence the medical expert, intentionally or unintentionally, to distort data. Though the distortion of data itself doesn't constitute a frivolous claim, the inclination to exploit the error inherent in this amount of imprecision is part of a frivolous claim. The error-prone expert isn't limited to one side of a case or another. Nor are the credentials, position, and power of the expert a factor in reducing error, although they might be a factor in amplifying it.

The United States Supreme Court essentially acknowledges this anomaly in evidentiary reliability in the *Daubert vs. Merrell Dow Pharmaceuticals* case. It ruled that, faced with a proffer of expert scientific testimony, the trial judge must make a preliminary inquiry of whether the testimony's underlying hypothesis or methodology is scientifically valid, has been or can be tested, is consistent with peer review and accepted science, and has a quantifiable error.

In effect, the Supreme Court concedes that the preponderance of the evidence itself lacks a certain amount of verification. To overcome this deficiency, the Supreme Court holds expert opinions to the same standards used in the scientific method for testing the validity of a hypothesis. Testing the null hypothesis behind a medical malpractice case would expose the error-prone opinion of some medical experts.

An Economic Strategy

A strategy aimed at improving expert opinions, which is also consistent with the *Daubert* decision, is a more rational approach than relying on tort reforms. Tort reform is damage control that can only manage the effect of a single frivolous lawsuit by limiting noneconomic damages in all lawsuits. But focusing on the causes of frivolous litigation

TIM GRAJEK/SIS

HOWARD SMITH, M.D. practices in Washington D.C., and is completing a master's in health care administration at the University of Maryland. He can be reached at 202-223-3456 or at drhnsmith@aol.com.

is more effective risk management.

The causes of frivolous litigation on both sides of a case are the extremes to which medical experts resort in trying to exploit error to substantiate or repudiate merit in some lawsuits. This not only causes unjust and unjustified outcomes but also increases the total cost of claims against an insurance company. The Government Accountability Office concludes that increasing total cost of claims is the only variable that statistically correlates with increasing premiums.

Total costs of claims are born by malpractice carriers. In addition to the money paid to claimants, they also include the contingency fees and transaction costs of plaintiffs who prevail in frivolous lawsuits and all the legal costs of defendants who are culpable in bona fide lawsuits, whether or not they prevail.

In both instances, these costs result from the inclination to exploit errors in expert opinions on both sides that is not discouraged despite multiple opportunities to do so. In fact, these opportunities, which include depositions, status conferences, settlement hearings, and pretrial conferences, all exist to inquire about error. Therefore, a strategy that specifically concentrates on the error-prone opinion could assist existing legal processes as well as reduce total costs of claims and produce downward pressure on malpractice premiums.

Determination of the Cost Driver

One concept in this economic strategy is the cost driver for uncertainty. Uncertainty is the unpredictability of total cost of claims from one year to the next. Uncertainty triggers the price for liability insurance premiums. A cost driver is an accounting computation that considers all activity costs arising from uncertainty, divided by some attribute that is common to all those activities.

The common attribute for uncertainty is the error-prone opinion. Therefore, the cost driver is dollars per error-prone opinion. This cost driver serves as an objective performance measure for the impact of legal processes on uncertainty. It focuses attention on the strategies of attorneys and expert witnesses, provides a diagnostic signal about how well or poorly these strategies drive legal processes, and ensures whether the primary objectives of legal processes—namely, just outcomes and justified awards—are being achieved. Dollars per error-prone opinion is expressed by the three equations in Fig.1.

FIGURE 1 Cost-Driver Equations

1. **DOLLARS** / error-prone opinion = total litigation costs − error-corrected litigation cost / # error-prone opinions (both sides)
2. **TOTAL LITIGATION COST** = net $ to all plaintiffs + plaintiff transaction costs + contingency fees + all defense legal costs
3. **ERROR-CORRECTED LITIGATION COST** = total litigation cost − (savings in all verdicts + savings in all defense costs + savings from all timely settlements)

From the perspective of the cost-driver equations, when all factors of total litigation cost and error-corrected litigation cost are considered, tort reform would influence only two out of eight possible variables—namely, net dollars to plaintiffs and contingency fees, both of which are in the numerator.

However, management of error-prone opinions on both sides of a malpractice case influences virtually all factors in the numerator and the denominator, either directly or indirectly. Only organized medicine could manage error-prone opinions, and management of this one factor dramatically decreases the cost driver for uncertainty. But so far, an objective way of doing so without infringing on the rights of some experts is a legal obstacle.

Finding the Error-Prone Opinion

Another concept in this strategy is a method that objectively exposes an error-prone opinion. This method defines the rules for the statistical validation of an opinion. It does so by having each expert, him- or herself, test the null hypothesis of any malpractice case, which states that the risk of the occurrence for an adverse outcome consequent to treatment is not significantly different from the background risk of its occurrence consequent to random chance. Here's how it would work.

After reaching an opinion, experts would prepare reports either retaining or rejecting the null hypothesis by showing quantitatively in a standardized format how and why the risks of causing the adverse outcome, which are intrinsic to the actual treatment, were statistically the same as or different from the background risk. Hence, the data being observed and measured are the risks.

The observed background risk for any adverse outcome is a known constant. Regardless of what it might actually be, its relative risk is always 1.0. All treatments in questions have relative risks, which might or might not be the same as the relative background risk. However, there is always a hypothetical safest effective treatment that has the same relative risk. Experts themselves determine this hypothetical safest effective treatment as a benchmark against which the actual treatment is compared.

Both the actual and the hypothetical treatments are divided into seven distinct phases: pretreatment phase, evaluation phase, discrimination phase, informed consent phase, selection phase, technical phase, and resolution phase. Experts also determine the relative risk of each of these phases. But to assure that the adverse outcome following the safest effective treatment is always a random occurrence, none of its phases can have a relative risk exceeding 1.0, although it could be less.

The relative risks for the seven phases of the treatment are then determined by

TABLE 1 Total Litigation Cost to Defend and Indemnify Physicians

Cost of all plaintiff verdicts	(5 × $630,473 = $3,152,365)	
Noneconomic damages	(24% × $3,152,365)	$ 756,568
Economic damages	($3,152,365 – $756,568)	2,395,797
Defense cost in plaintiff verdicts	(5 × $91,000)	455,000
Defense cost in devense verdicts	(13 × $86,000)	1,118,000
Defense costs in mistrials	(2 × $86,000)	$172,000
Cost of settlements	(2 × $630,473)	1,260,946
Defense cost in settlements	(2 × $40,000)	$80,000
Total cost of claims		$6,238,311

comparing and contrasting them to corresponding phases of the safest effective treatment. These relative risks are equal to or greater than those in the safest effective treatment but can never be less.

Experts must document their rationales for these seven determinations in the written report. Once the relative risk of each phase of the treatment in question is determined, the actual observed risk for each phase is calculated (relative risk of the phase X observed background risk in the population = observed risk of the phase). As a result of the above, any actual treatment could be among other safe and effective treatments; however, this is tentative until the null hypothesis is statistically tested.

This sample of the seven observed risks in the treatment in question is then tested to see if the actual treatment is statistically different from all those treatments in which the adverse outcome is caused by random chance. The one sample t-test (upper tail) is used for this analysis. The level of significance, or α (alpha), is 0.5, the statistical counterpart to reasonable degree of medical certainty, and the mean for the null hypothesis is the observed background risk of the adverse outcome in the population. Although other alphas are more specific for negligence, 0.5 is an explicit convention of tort law and cannot be changed. The result is the p-value.

When the p-value is less than α, the null hypothesis is rejected. This indicates that the adverse outcome is not a random event and results from treatment. When the p-value is equal to α, the null hypothesis is retained. This indicates that the risks of the treatment in question are not significantly different from the background risk in the population and the adverse outcome is a random occurrence.

Once this report is prepared, judges and opposing attorneys and experts, who are parties to legal proceedings, are also parties to expert reports on both sides. This is because a report of this nature is discoverable. Consequently, all have a means to objectively inquire about the validity of an expert's opinion based on how the expert adhered to the rules of the standard methodology. This is in complete agreement with the *Daubert* decision, which states that the focus of such an inquiry must be solely on principles and methodology, not on the conclusions that they generate.

An error-prone opinion is distortion of data without justification. Because all reports describe the safest effective treatment and define rationale for the determination of relative risks, any attempt by an expert to inexcusably diminish, exaggerate, or otherwise distort these is transparent and its error rate is potentially measurable. This, too, is in keeping with the *Daubert* decision, which states that many considerations will bear on the inquiry, including whether the expert's decision-making process has a known or potential error rate.

Perhaps the most elegant part of this model is that attempts to subvert it by exploiting error or bias are not exposed by a judge or some other external reviewer but by the experts themselves, for all to witness.

Testing the Strategy

Although primary sources of data on claims are proprietary to insurance companies and other organizations, historic data are available in published secondary sources. For the purpose of this article, these data are used to reproduce the uncertainty that a prominent malpractice insurance company, the NCRIC Group, faced in Washington, D.C., in 2001. The following is a sensitivity analysis of NCRIC's financial statement to show how the use of this strategy changes a key estimate in its budget and how this change affects premiums.

Because its financial report commingles losses from Washington, D.C., with losses of other states in which NCRIC also does business, certain data pertaining to the District of Columbia aren't found in this statement. Nevertheless, they are extrapolated from other sources. Therefore, this analysis is a reasonable approximation of NCRIC's data synthesized from NCRIC and these other sources.

Data for the District of Columbia show that in 2001, NCRIC tried 20 cases and settled two others out of court. Of the 20 cases litigated, five (25 percent) resulted in plaintiff verdicts, 13 (65 percent) ended in defense verdicts, and two ended in a mistrial or a hung jury.

Data from the National Practitioner Data Bank show that in 2001, the mean medical malpractice payment (settlements and awards) in the District of Columbia was $630,473, which was the highest in the nation. The American Academy of Actuaries has national data showing that defense costs averaged $86,000 per claim when the defendant prevailed at trial, $91,000 when the plaintiff prevailed, $40,000 when a suit was settled, and $17,000 when a case was dismissed. Finally, the Council of Economic Advis-

TABLE 2 Savings in Error-Corrected Litigation Cost

Savings in verdicts (dismissed cases)	(2 × $6500,000)	$1,000,000
Savings in defense costs (dismissed cases)	(2 × $91,000 – $17,000))	148,000
Savings from settlements	(2 × 20% x $630,000)–2 x $20,000)	212,190
Total savings		$1,360,190

ers has data showing that noneconomic damages are 24 percent of plaintiff verdicts in all malpractice cases.

From these sources, it's estimated that the total cost of claims for NCRIC to defend and indemnify physicians in the District of Columbia in 2001 was $6,238,311, of which $756,568 were noneconomic damages (See Table 1). This does not include the defense costs ($17,000 per case) for those cases that were dropped or dismissed in 2001; nor does it include payments on claims from earlier years.

NCRIC's financial report also indicates that only one of the five plaintiff verdicts in 2001 exceeded its reinsurance threshold of $500,000. Under this circumstance, the total plaintiff verdicts of $3,152,365 are assumed to include four that are $500,000 and one that is $1,152,356.

On the basis of the above, in 2001, actuaries for the liability carrier would calculate the malpractice premium in 2002 for its policyholders. Also, $6,238,311 represents the first factor in the numerator of the cost-driver equation.

In the 22 cases decided in 2001, there are 44 opinions, one on each side of a case. Since these were never examined, there is no way of knowing how many were error-prone. However, more likely than not, most of these opinions were justifiable and, if they could be quantified, had a variance of risks that were not distorted by extremes.

Nevertheless, it's also reasonable to assume that 10 percent were not justifiable and patently underestimated or exaggerated risks. This assumption is consistent with the widely held sentiment that there are too many frivolous lawsuits. The resulting four error-prone opinions are the denominator of the cost-driver equation.

Let's also assume that of these four error-prone opinions, two are from plaintiff experts and two are from defense experts. This assumption gives equal weight to frivolous litigation on both sides of a case. Since the validation of opinions would be subject to status hearings, settlement conferences, pretrial conferences, depositions, etc., the two verifiable error-prone opinions rendered by plaintiff experts would be exposed.

Regardless of how sympathetic a client may be, once the underlying theory of a case is discovered to be based on an error-prone opinion, this case must be quickly dismissed. Under this circumstance, the decision to continue isn't a matter of legal tactics but of legal ethics. A plaintiff attorney cannot wantonly litigate a frivolous lawsuit on the basis of an objectively proven error-prone opinion. Neither could an expert get away with rendering one. If this were done in 2001, it could have saved $1 million in potential verdicts and $148,000 in defense costs (See Table 2).

On the other hand, when two error-prone opinions in defense cases are managed in the same way, lawyers cannot enthusiastically defend these physicians for the same reason. Therefore, these cases would be expeditiously settled. Since the earliest possible settlement results in the lowest possible legal costs, and since plaintiff legal costs are a factor influencing settlements, it's reasonable to assume that by limiting their legal costs, plaintiffs would be inclined to accept settlement offers 20 percent under a potential jury verdict a year or more later. This is an additional saving of $252,190.

Part of this saving would be offset by defense legal costs. However, because of the ability to reconcile outstanding issues with plaintiffs in half the time and with half the difficulty, the $40,000 legal cost for settlements could be decreased by 50 percent, for a net saving of $212,190.

Under these circumstances, the 2001 total cost to the malpractice carrier, after correcting for error-prone opinions, is $6,238,311 - ($1,000,000 + $148,000 + $212,190) = $4,878,121. This is the second factor in the numerator of the cost-driver equation. Hence, the cost driver for uncertainty is ($6,238,311 - $4,878,121) (4 error-prone opinions) = $340,048 per error-prone opinion. As an objective performance measure, this figure sends strong diagnostic signals about avoidable litigation costs, inefficient legal processes, unjust outcomes, and unjustified awards.

After 2001, NCRIC's claims experience worsened and total costs of claims increased. Even so, actuaries could hardly be faulted for being risk-averse when a single error-prone opinion costs $340,000. But in 2001, if the cost driver for uncertainty were zero and the total cost of claims to this insurance company were $4.8 million rather than $6.2 million, its litigation costs in Washington, D.C., could potentially be reduced by 22 percent, or $1.36 million. A $250,000 cap per case on noneconomic damages would not do better.

Under the circumstance in which four verdicts were under $500,000 and one was in excess of $1.15 million, if it's assumed that all noneconomic damages resulted from this single claim, NCRIC would save $506,568 ($756,568-$250,000) or 8 percent of the total cost of claims. If, however, noneconomic damages were equally distributed among all verdicts and were 24 percent of each, savings would be only $26,000 or 0.4 percent.

Conclusion

The rising cost of malpractice insurance is distinct from tort reform and requires its own solution. While tort reform is a laudable goal, organized medicine would achieve a greater reduction of uncertainty by committing to: (1) setting the rules and adopting a formal standardized model for malpractice review consistent with

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the *Daubert* decision that objectively tests the null hypothesis in every malpractice case, (2) indoctrinating all physicians about its use, and (3) promoting it until it becomes the professional standard.

This is essentially no different from any other standard of practice to which all physicians adhere. The power to set professional standards is an indisputable, explicit, legitimate, and authoritative power of the medical profession, providing that leadership has the will to exercise it. There are no legislative or legal barriers to overcome, just fear of change. Yet, setting objective standards is a win-win solution that makes tort reforms work better and gives liability insurance companies the certainty necessary to stimulate permanent downward pressure on insurance premiums.

A standardized model has another consequence. Alpha of 0.5 is a 50 percent probability of making a type I error and a level of confidence of 50 percent. Ordinarily, this isn't consistent with good decision-making; nevertheless, this is the fabric of the law. However, the ability to expose error and measure the validity of an opinion has a very important side effect. When α is 0.5, which is a preponderance of the evidence, any p-value lower than 0.5 is in the region of rejection for the null hypothesis.

The lower the p-value, the more distinct it is from a preponderance of the evidence and the more clear and convincing negligence becomes. Thus, by using this method, an expert could render an opinion, not merely to the legal standard of a preponderance of the evidence but to a higher standard called clear and convincing evidence.

This requires that the result shall be reached, not by a mere balancing of doubts but rather by evidence so clear, direct, weighty, and convincing as to cause one to come to a clear conviction of the truth without hesitation.

When expert opinions could be consistently rendered at a higher standard, the law should not be satisfied with a lower one. This might be the most important contribution of this standardized model.