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Institute for Legal Reform

Fact or Fiction

*Ensuring the Integrity
of Expert Testimony*

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U.S. CHAMBER
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Prepared for the U.S. Chamber Institute for Legal Reform by

Cary Silverman, Shook, Hardy & Bacon L.L.P.

Executive Summary

Expert testimony is often crucial in complex civil cases. A ruling on whether an expert's proposed testimony is admissible may be the difference between the dismissal of thousands of product liability cases or a multibillion-dollar settlement, for example. This paper examines how judges should be guided to make these decisions and explores how improper gatekeeping can result in unreliable evidence entering the courtroom.

It answers questions such as: Why does the judicial system distinguish testimony presented by experts from other witnesses? What are the major milestones on standards for admission for expert testimony in federal courts and their impact? How are state courts evaluating the admissibility of expert testimony and what are the most recent developments? What are the primary concerns with the application of these standards today?

The admissibility of expert testimony is at the forefront today for several reasons. To begin with, mass tort litigation involving medications, medical devices, and consumer products has exploded (along with advertising to generate such claims). The concentration of cases in federal multidistrict litigation (MDLs) has exponentially increased. As a result, a single ruling on the admission of expert testimony on causation can decide whether thousands of claims are dismissed or move forward.

Class action litigation, which often relies on expert testimony to establish common injuries or damages, is also on the rise. The concentration of these cases in federal courts has increased since the enactment of the Class Action Fairness Act in 2005, but there remains a significant number of these cases in state courts.

Providing some much-needed clarity to the issue of admissibility of expert testimony, federal courts adopted an approach that requires judges to serve as gatekeepers over the reliability of expert testimony in the 1990s. U.S. Supreme Court decisions require judges to scrutinize not only the qualifications of an expert but whether his or her testimony is reliable and fits the facts of the case. This is referred to as the *Daubert* approach.

Responding to this shift, the federal rule governing the admissibility of expert testimony, Federal Rule of Evidence 702 (Rule 702), was amended in 2000 to reflect

the *Daubert* line of cases and to establish and define a uniform standard. Yet, some judges have not altered their approach accordingly. Other judges may feel compelled to admit unreliable expert testimony because some federal circuits favor admissibility over accuracy and have a record of reversing decisions that exclude expert testimony.

In the two decades since these changes went into effect, the U.S. Supreme Court and the Advisory Committee on Rules of Evidence (Advisory Committee) have not provided additional guidance on expert testimony admissibility, despite significant changes in the litigation environment.

In the meantime, three-quarters of states have moved to the *Daubert* gatekeeping approach. Maryland, Florida, New Jersey, Missouri, and the District of Columbia are the most recent jurisdictions to do so. While helpful, as the federal experience shows, this shift does not guarantee that judges will rigorously scrutinize the reliability of expert testimony.

Irrespective of the established standard, some judges view expert testimony as presenting an issue of weight or credibility for the jury's consideration rather than an issue of admissibility for the court's determination. This may occur because judges lack confidence in their understanding of scientific principles and methods. Some courts have flipped the burden of proof by applying a presumption of admissibility of expert testimony, rather than requiring the party that offers such testimony to show that it meets the standard set by a preponderance of the evidence.

There is no quick fix that will eliminate unreliable expert testimony from civil cases.

Some actions that may improve the litigation environment, however, include:

- Amending Rule 702 in a manner that clarifies the admissibility standards and rejects the widely cited caselaw that fails to properly apply the rule, as identified in this paper. The Advisory Committee is currently considering these types of proposals. While any changes would apply only to federal courts, states often conform their rules to provide consistency with the federal rules.
- Seeking a vehicle for the U.S. Supreme Court to provide guidance regarding the admissibility of expert testimony. Areas where circuit courts have diverged in approach or where a single ruling admitting unsound expert testimony permits thousands of cases to move forward may spark the Court's interest.
- Encouraging litigators to refer to Rule 702 rather than *Daubert* to emphasize that the rule, not caselaw, sets the admissibility standards, and to reduce potential recoil from judges who may negatively view *Daubert* as "tort reform" but are more inclined to follow court rules.
- Supporting balanced judicial education programs exploring scientific principles and methods to help judges feel more comfortable and confident sifting unreliable from sound expert testimony and exercising their gatekeeping authority. This knowledge may make them less likely to declare that the issue involves the weight, not the reliability, of the evidence.
- Educating policymakers and the media by showing how the admission of unsound expert testimony adversely affects the public.

Why Does Expert Testimony Warrant Close Judicial Scrutiny?

Unlike ordinary witnesses, the civil justice system allows experts to testify beyond firsthand observations and answer a critical question that the jury is deciding. Experts address issues beyond the life experiences and common knowledge of jurors, making the veracity of their testimony more difficult to evaluate. The wider latitude provided to experts in the courtroom and their influence on outcomes makes it essential that their testimony is based on sound science, rather than created for litigation.

Ordinary witnesses typically testify without significant judicial intervention in civil trials. A lay witness's testimony needs only to be "relevant," meaning that it has any tendency to make a fact at issue in the litigation more or less probable.¹ Relevant evidence is admissible unless there is a specific, recognized prohibition or limitation on its use.² For example, attorneys may object to testimony on grounds that it is unduly prejudicial or is duplicative and a waste of time.³ Lay witnesses cannot present hearsay—testimony about what other people or documents said when not present in court. Attorneys may also object to lay testimony that would present information that is not permitted for public policy reasons, such as testimony discussing steps a defendant took to make an injury less likely to occur after a

plaintiff's injury (subsequent remedial measures)⁴ or violating an established privilege (such as attorney-client privilege or spousal privilege). Attorneys challenge the truthfulness and accuracy of lay witness testimony through cross-examination and presenting rebuttal witnesses.

Expert Testimony is Different

Expert testimony is treated differently from lay witness testimony for several reasons. First and foremost, expert testimony, by definition, is outside the realm of an ordinary juror's knowledge. Expert testimony often addresses unfamiliar and esoteric fields. A juror's own knowledge, based on life experience, is of little value in determining whether an expert is telling the truth about

a matter requiring specialized study or training. In addition, expert witnesses are given latitude not provided to other witnesses. An expert can offer opinions that are not based on firsthand knowledge or observation. They can use hearsay evidence to justify their opinions, even if the underlying evidence is inadmissible.⁵ Expert witnesses can also testify on the ultimate issue in the case—the issue that the jury will need to decide—such as whether a product caused a person’s illness. For these reasons, expert testimony can be particularly powerful and misleading. This is why a “let the jury decide” approach alone is inappropriate for expert witnesses and does not facilitate the search for truth.

As discussed below, expert testimony must be more than relevant; it must be reliable. It should not be admitted in court based on qualifications alone. Nor should an expert’s opinion be deemed sufficiently backed by science when that person relies on a study that is an outlier, has major limitations or flaws, or does not address the allegations in the litigation.

Expert Testimony Can Make or Break Mass Tort Litigation

As a practical matter, whether or not expert testimony is admissible often makes or breaks mass tort litigation. If a plaintiff’s expert testimony on general causation (whether a product is capable of causing a particular condition) is found unreliable and inadmissible, the case must fail. Likewise, if a plaintiff’s expert testimony on specific causation (whether a product caused the particular plaintiff’s injury) is inadmissible, that litigation cannot proceed. On the other hand, once a court rules that a plaintiff’s expert testimony is admissible, it becomes much more likely that a case will proceed toward trial. Where mass tort litigation is consolidated before a judge for pretrial purposes, a single ruling permitting “shaky” expert testimony from plaintiffs may mean that thousands of cases will move forward. The cost of prolonged litigation provides a major incentive for a business to enter a global settlement, even if reliable evidence strongly supports its position in litigation.

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“When litigation gets ahead of science, beneficial products may be pulled from the market.”

When litigation gets ahead of science, beneficial products may be pulled from the market. One well-known example is the Bendectin litigation. In that instance, lawsuits claiming the drug caused birth defects resulted in multi-million dollar verdicts in the early 1980s and led to the loss of the only FDA-approved medication that blunted the symptoms of morning sickness. The overwhelming weight of the science did not support this link and the verdicts were reversed on appeal.⁶

A more recent example is litigation blaming talc for ovarian cancer and mesothelioma. These lawsuits flew in the face of the established scientific consensus.⁷ Nonetheless, in May 2020, Johnson & Johnson announced that it would stop selling its iconic Baby Powder in the United States and Canada after a series of massive verdicts in jurisdictions widely viewed as favoring plaintiffs.⁸ The company attributed the decision in part to declining demand caused by a “constant barrage of litigation advertising.”⁹ A leading supplier of talc to Johnson & Johnson and others filed for bankruptcy in 2019.¹⁰

Bayer is in the process of finalizing an approximately \$11 billion settlement of tens of thousands of lawsuits blaming Roundup for non-Hodgkin’s lymphoma,¹¹ despite an

international consensus that has not found such a link. That litigation began with a finding by the International Agency for Research on Cancer (IARC) that glyphosate—a broad-spectrum herbicide used as an ingredient in weed killers—had the potential to be carcinogenic.¹² Unlike public health and environmental regulators, IARC’s job is to make preliminary findings with a large degree of speculative freedom, in the hopes of identifying possible threats very early in the process that might require further research.¹³ In other words, mass litigation over the dangers posed by Roundup was based on a tentative finding by an agency tasked with speculating about possible dangers. Nonetheless, that preliminary finding spurred an entire MDL full of lawsuits.

Those lawsuits would have no traction unless the plaintiffs offered expert testimony to back up the IARC’s preliminary statement. As a result, a federal district court in California found itself evaluating the testimony of an epidemiologist who testified that a relationship existed between exposure to glyphosate and non-Hodgkin’s lymphoma. Despite noting the “valid” critique that the proposed expert had not adjusted her data to account for use of other pesticides¹⁴—which it found “calls her objectivity and credibility into question”¹⁵—the court admitted her testimony because it did “not rise to the level of an ‘unreliable nonsense opinion.’”¹⁶ The trial court conceded that this result was compelled by the Ninth Circuit’s permissive standard for expert admission, which resulted in more “deference to experts in close cases than might be appropriate in other circuits.”¹⁷

“As these cases illustrate, unless there are strong safeguards over expert testimony, plaintiffs’ attorneys can simply find an expert willing to link a condition or illness with an unknown cause or multiple risk factors to a commonly used product, then generate thousands of claims through television commercials, internet ads, and social media. They can then pressure a company to settle ...”

As in the talc litigation, the science admitted in the Roundup courtroom did not match the clear scientific consensus in the real world. For example, in January 2020, the U.S. Environmental Protection Agency (EPA) publicly reiterated that the agency had “thoroughly evaluated potential human health risk associated with exposure to glyphosate and determined that there are no risks to human health from the currently registered uses of glyphosate and that glyphosate is not likely to be carcinogenic to humans.”¹⁸ Similarly, in June of 2020, a California federal district court enjoined the state from requiring a “Proposition 65” cancer warning on glyphosate-based herbicides because “the great weight of evidence indicates that glyphosate is not known to cause cancer.”¹⁹ Bayer intends to continue selling the product, without a cancer warning and with the backing of the EPA—an unprecedented situation.²⁰

As these cases illustrate, unless there are strong safeguards over expert testimony, plaintiffs’ attorneys can simply find an expert willing to link a condition or illness with an unknown cause or multiple risk

factors to a commonly used product, then generate thousands of claims through television commercials, internet ads, and social media. They can then pressure a company to settle as a result of litigation costs, the risk of liability, and harm to the company’s image, products, and stock due to negative publicity.

Importance in Class Action and Other Litigation

Expert testimony also plays a key role in class action, medical malpractice, and other complex civil litigation. For example, in class action litigation, experts may present novel theories of damages where class members have not experienced a true financial loss or as a means of presenting a common injury allowing class certification. Expert testimony can also be important in criminal prosecutions and is generally subject to the same admissibility standards.

The Expert Testimony Industry

Expert witnesses are rarely neutral observers whose research happens to support a party’s position in litigation.

Many professional expert witnesses receive a substantial portion of their income from offering trial consultation services and testifying in depositions and trials, rather than from practicing in the profession in which they are offered as an expert.

Individuals often become “go-to” expert witnesses for personal injury lawyers. These experts often testify, or attempt to testify, about issues that go beyond their expertise and are willing to testify based on the needs of the party that hires them. They are sometimes referred to as “hired guns.”

A small group of experts can be critical to mass tort litigation. For example, Dr. William Longo was central to the talc litigation in backing the plaintiffs’ allegation that products contained traces of asbestos based on highly questionable methods. Dr. Ray Harron, a radiologist, diagnosed tens of thousands of individuals as having asbestosis in the mid-1990s through early 2000s, until he was exposed as a fraud and surrendered his license to practice medicine.²¹

Some individuals also specialize in assisting plaintiffs when seeking large damage awards. For instance, an economist, Dr. Stanley Smith, literally wrote a book on how to quantify the value of human life and has served as a plaintiffs’ damages expert in many cases (most, but not all, courts have found his testimony to be inadmissible).²²

Certain medical doctors spend a significant amount of their time as expert witnesses, sometimes abandoning their medical practices. In response, some state legislatures have responded to the practice of using professional expert witnesses by requiring the witness on the standard of care

to be actively practicing in the same specialty as the defendant at the time of injury.²³

Becoming a plaintiffs’ expert can be quite lucrative. Dr. Longo’s firm has earned \$30 million from providing expert testimony in asbestos litigation over 30 years and recently shifted to concentrate on talc cases.²⁴ Some frequent expert witnesses may be more driven by anti-corporate bias than money. Dr. David Egilman, a professor of family medicine at Brown University, has been a paid expert witness in 600 cases involving occupational diseases over 35 years. He has said he believes corporations minimize their costs at the expense of public health.²⁵

Expert witnesses are typically paid an hourly rate. Nearly every state has a provision within its Rules of Professional Conduct and case law that prohibits compensating an expert witness based on the outcome of the case.²⁶ Occasionally, however, arrangements that attempt to thread this line have been revealed. For example, in a bellwether trial alleging a hip implant was defectively designed, high-profile plaintiffs’ attorney Mark Lanier told jurors that two key expert witnesses, father and son orthopedic surgeons, were unpaid, drawing a contrast with the defendant’s experts.

After the jury returned a \$502 million verdict, it was discovered that Lanier had made a \$10,000 charitable donation to the father’s favorite charity before trial and sent checks totaling \$65,000 to the surgeons after the trial along with thank-you notes. The U.S. Court of Appeals for the Fifth Circuit did not mince words in throwing out the verdict:

[L]et us speak plainly: Lawyers cannot engage with a favorable expert, pay him “for his time,” then invite him to testify as a purportedly “non-retained” neutral party. That is deception, plain and simple. And to follow that up with [a] post-trial “thank you” check merely compounds the professional indiscretion.²⁷

Some have advocated for greater use of court-appointed experts,²⁸ as permitted by Federal Rule of Evidence 706, as a means of avoiding battles of party-paid experts. While courts occasionally use this authority, this approach has never gained momentum.

“*‘Lawyers cannot engage with a favorable expert, pay him “for his time,” then invite him to testify as a purportedly “non-retained” neutral party. That is deception, plain and simple.’*”

The Evolution of Expert Testimony Standards

Courts have applied varying standards to evaluate the admissibility of expert testimony. Federal courts initially followed the *Frye* “general acceptance” test. They moved to the more rigorous *Daubert* factors, which deputized judges as “gatekeepers” over the reliability of expert testimony, in 1993. Courts are also bound by rules of evidence, including Rule 702. While the trend is toward greater scrutiny of expert testimony, some courts continue to allow witnesses to offer dubious, scientifically unsupported theories.

1923: Federal Courts Adopt the General Acceptance Test

Expert testimony was rare until the 1920s. As expert testimony became more common, federal courts admitted it when the principle or discovery that served as the basis of the testimony had gained “general acceptance” within the expert’s field.

The D.C. Circuit adopted this test when it found that a trial court correctly did not allow a criminal defendant, James Alphonso Frye, to support his innocence by introducing the results of a “systolic blood pressure deception test” (a polygraph test) and having the psychologist who invented the test explain them.²⁹ Frye was accused of shooting

Robert Wade Brown, a prominent African-American physician who served as president of the National Benefit Insurance Company, in Dr. Brown’s Washington, D.C. home. Frye confessed to the murder to the police, but then recanted.³⁰

In rejecting the polygraph evidence, the court observed that “[j]ust when a scientific principle or discovery crosses the line between the experimental and demonstrable stages is difficult to define.” “[W]hile courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery,” the court found that “the thing from which the deduction is made must be sufficiently established to have gained

general acceptance in the particular field in which it belongs.”³¹ The systolic blood pressure deception test had not gained this scientific recognition among physiological and psychological authorities. As a result, Frye’s conviction of second-degree murder stood.

While the *Frye* standard may seem restrictive, the test was often limited to forensic testimony in criminal cases and “novel” scientific theories. In other areas, courts liberally admitted expert testimony and did not engage in a thorough evaluation of the reliability of proposed expert testimony. *Frye* was often not applied to expert testimony in established areas (even if lacking a reliable scientific basis), on technical issues, or for damages. Thus, the only significant limitation on expert testimony in many cases was that the expert witness was qualified in his or her field. If an expert had impressive credentials, laid a proper foundation for the evidence, and the evidence had relevance to the case, courts would generally admit it and take a “let the jury decide” approach.

“Frye was often not applied to expert testimony in established areas (even if lacking a reliable scientific basis), on technical issues, or for damages.”

“Rule 702 did not indicate whether the Frye general acceptance test survived its adoption. As a result, many courts did not alter their method of admitting expert testimony.”

1975: Federal Rules of Evidence

The next milestone in the evolution of expert testimony standards was the 1975 adoption of the Federal Rules of Evidence, including Rule 702, pursuant to the Rules Enabling Act, which gives them the force of law.³² The original text of Rule 702 stated:

If scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise.

Rule 702 did not expressly indicate whether the *Frye* general acceptance test survived its adoption. As a result, many courts did not alter their method of admitting expert testimony. Some expanded the application of the *Frye* test or vaguely required testimony to be “reasonably reliable.”³³

“A transformation began in 1993, when the U.S. Supreme Court held in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, that Rule 702 supplanted ‘general acceptance’ as the exclusive test for admissibility.”

1993-1999: The *Daubert* Gatekeeping Approach

A transformation began in 1993, when the U.S. Supreme Court held in *Daubert v. Merrell Dow Pharmaceuticals, Inc.*,³⁴ that Rule 702 supplanted “general acceptance” as the exclusive test for admissibility. The core take-aways from this landmark case are that:

- Expert testimony must not only be relevant, it must be reliable.
- Judges must serve as “gatekeepers” over the admission of expert testimony and must take an active role in scrutinizing its reliability before it is presented to a jury.
- Courts should consider key factors to determine the reliability of expert testimony.

The *Daubert* factors are:

- (1) whether the theory or technique can be and has been tested;
- (2) whether it has been subject to peer review and publication;
- (3) whether, in respect to a particular technique, there is a known or potential rate of error and whether there are standards for controlling that rate; and
- (4) whether the theory or technique enjoys general acceptance within the relevant scientific community.

The decision also required trial court judges to examine whether the expert’s reasoning or methodology is scientifically valid and properly applied to the facts of the case.

Two Supreme Court decisions on expert evidence followed *Daubert*, composing what is referred to as the *Daubert* trilogy. In *General Electric Co. v. Joiner*, the Court in 1997 held that the abuse of discretion standard applies to appellate review of rulings, regardless of whether the lower court admitted or excluded the expert testimony, providing deference to trial court decisions.³⁵ *Joiner* also indicated that courts may exclude expert opinions when “there is simply too great an analytical gap between the data and the opinion proffered.”³⁶ An expert’s conclusions must flow from the scientific evidence. *Joiner* involved a trial court’s exclusion of testimony linking PCB exposure to lung cancer based on studies in which infant mice were subjected to highly concentrated, massive doses of PCBs directly injected into their bodies,

which had been improperly reversed by an appellate court.

The next case in 1999, *Kumho Tire Co. v. Carmichael*, clarified that a judge's gatekeeping role under Rule 702 applies to all expert testimony, including skill or experience-based observation.³⁷ The Court rejected a distinction between scientific testimony and technical expertise. Thus, a trial court did not err in excluding the testimony of a tire engineer who sought to testify that a tire exploded due to a defect based on a visual inspection, which did not suggest other causes.

Daubert can be summarized as requiring a three-step process that evaluates: (1) qualifications; (2) reliability; and (3) fit. The "gatekeeping role" for judges adopted by the Supreme Court fundamentally shifted the level of judicial scrutiny given to expert testimony. The Court deputized judges, giving them the responsibility to scrutinize the reliability of expert testimony that was sometimes viewed by plaintiffs' lawyers and judges as sacrosanct to juries.

Judge Vince Chhabria of the U.S. District Court for the Northern District of California recently explained why the judicial gatekeeping role is essential for identifying when proposed expert testimony goes too far:

Before the expert takes the stand, the judge reads the briefs, reads the expert reports, maybe looks at some of the expert deposition testimony, and reads the actual studies that the experts are talking about and has a lot of time. The jury is sitting there in the trial, has not read the studies before the expert comes up and testifies, has not read any of the briefs, and doesn't even get to bring the studies back into the jury room to look at. They are just shown quotes on the board that the expert wants them to see in support of this opinion that they are hearing for the first time.³⁸

In sum, "it is much easier for a judge in the *Daubert* process to root out overstatement in a complicated case after climbing the learning curve than it is for a juror who is in the heat of trial."³⁹

While *Daubert* firmly established judges as gatekeepers over the reliability of expert testimony, the decision did not slam the door on junk science. The opinion includes language that allows plaintiffs' lawyers to argue for, and for courts to admit, questionable expert testimony. For example, the Supreme Court began *Daubert* by observing the "liberal thrust" of the Federal Rules and that its "general approach of relaxing the traditional barriers to 'opinion' testimony" was inconsistent with "rigid" admissibility requirements.⁴⁰

“ The ‘gatekeeping role’ for judges adopted by the Supreme Court fundamentally shifted the level of judicial scrutiny given to expert testimony. ”

“As the Court discussed the factors, it used the phrase ‘should consider,’ not ‘must consider,’ which some trial courts have viewed as permission to disregard what may be a pertinent factor.”

The Court characterized the Rule 702 inquiry as “a flexible one,”⁴¹ indicating that “many factors will bear on the inquiry” and *Daubert*’s four factors are not a “definitive checklist or test.”⁴² As the Court discussed the factors, it used the phrase “should consider,” not “must consider,”⁴³ which some trial courts have viewed as permission to disregard what may be a pertinent factor. The Supreme Court also observed in *Daubert* that “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”⁴⁴ This “shaky but admissible” language continues to appear in trial court decisions admitting expert testimony that rely upon outlier studies or methods.

2000: Amended Rule 702

In 2000, Rule 702 was amended via the Rules Enabling Act process to define and establish uniform principles based on the *Daubert* trilogy, resolve disputes over *Daubert*’s application, and rein in recalcitrant judges through codifying a “more rigorous and structured approach” than some courts were employing.⁴⁵

The amended rule, which remains in place today, provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:

- (a) the expert’s scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
- (b) the testimony is based on sufficient facts or data;
- (c) the testimony is the product of reliable principles and methods; and
- (d) the expert has reliably applied the principles and methods to the facts of the case.

The amendment was intended to clarify that both the principles relied upon by an expert and his or her application of those principles to the specific facts of the case must be reliable. The Committee Notes to the amendment indicate that “any step that renders the analysis unreliable ... renders the expert’s testimony inadmissible. This is true whether the step completely changes a reliable methodology or merely misapplies that methodology.”⁴⁶

Because the Rules Enabling Act authorizes the Supreme Court to promulgate rules of procedure and provides Congress the opportunity to modify or reject them, Rule 702 has the force of law.⁴⁷ Still, Rule 702, like *Daubert*, contains language that has been misunderstood or seized upon by plaintiffs’ lawyers and judges who prefer a lenient approach to the admission of expert testimony. For example, the Committee

“ Still, Rule 702, like Daubert, contains language that has been misunderstood or seized upon by plaintiffs’ lawyers and judges who prefer a lenient approach to the admission of expert testimony. ”

Notes to the 2000 amendment state:

A review of the caselaw after *Daubert* shows that the rejection of expert testimony is the exception rather than the rule. *Daubert* did not work a “seachange over federal evidence law,” and “the trial court’s role as gatekeeper is not intended to serve as a replacement for the adversary system.”⁴⁸

This comment was intended to characterize the state of affairs between *Daubert* and the 2000 amendment, not to suggest that the amendment establishes a presumption of admissibility. In addition, the Committee noted that amended Rule 702 is “broad enough to require consideration of any or all of the specific *Daubert* factors where appropriate,” which can be misread to suggest that judges do not need to apply the *Daubert* factors, even when clearly applicable, and may instead take a different approach to evaluating reliability.

Legal scholars observe that the 2000 amendment has not achieved the hoped-for result of consistently requiring reliability in expert testimony. As explained in more detail below, some courts seem not to understand the rule and do not apply it as written. Others recite it by rote, then rely on obsolete pre-2000 case law to determine the admissibility of expert testimony. Courts may use the language of *Daubert* to admit

“shaky” expert testimony or rely on language in the Committee Notes to find that a challenge to expert testimony goes to the weight it should receive (for the jury to decide) rather than its admissibility (for the judge to decide). Despite the abuse of discretion standard, some circuit courts are much more likely than others to closely scrutinize and reverse decisions excluding expert testimony, while allowing decisions admitting expert testimony to stand.

Although Rule 702 allows courts discretion when applying the rule to a particular case, it does not (and cannot) give courts leeway to substitute different standards that are incompatible with the rule.

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“As the Committee Reporter bluntly observed, ‘the fact remains that some courts are ignoring the requirements of Rule 702(b) and (d).’”

2018: Advisory Committee Establishes Rule 702 Subcommittee

Calls to amend Rule 702 have mounted as it has become more apparent that some judges, and specific circuit courts in particular, misunderstand the rule or fail to apply it, while others adhere to its requirements. The Advisory Committee held a symposium on developments in expert testimony at Boston College School of Law in October 2017. That event sparked the Advisory Committee’s appointment of a Rule 702 Subcommittee the following year to explore possible amendments. In doing so, the Advisory Committee’s leadership recognized that “a fair number of courts” have treated Rule 702’s reliability requirements as questions of weight for the jury’s consideration rather than admissibility for the court’s determination.⁴⁹ As the Committee Reporter bluntly observed, “the fact remains that some courts are ignoring the requirements of Rule 702(b) and (d).”⁵⁰ These provisions require an expert to base his or her testimony on sufficient facts or data and reliably apply the principles and methods to the facts of the case.

The Advisory Committee has focused on two possible changes to the rule: The first would be an amendment aimed at prohibiting experts from overstating the degree of confidence in their results.⁵¹ While directed specifically at forensic experts, who may say that an opinion has a “zero error rate,” the draft amendment could apply to other contexts where an expert’s opinion is not grounded in a numerical probability, such as an electrician testifying with complete certainty that “the house was not properly wired.”⁵² The second possible amendment would instruct that the rule’s admissibility requirements—including sufficiency of basis and reliability of application—are matters for the court to decide by a preponderance of the evidence.⁵³ They are not questions of weight to be decided by a jury.

A June 2020 report on the Advisory Committee’s progress states:

[T]he Committee is considering how to respond to the fact that many courts have declared that the reliability requirements set forth in Rule 702(b) and (d)—that the expert has relied on sufficient facts or data and has reliably applied a reliable methodology—are questions of weight and not admissibility. These statements can be read to misstate Rule 702, because all its admissibility requirements must be met by a preponderance of the evidence. The Committee has determined that many of these broad statements made by courts, while unfortunate, have not led to rulings in which the requirements of Rule 702 have been undermined. But the Committee has also concluded that in a number of cases, courts have found

expert testimony admissible even though the proponent has not satisfied the Rule 702(b) and (d) requirements by a preponderance of the evidence.

So far, the Committee has been reluctant to propose a change to the text of Rule 702 to address these mistakes as to the proper standard of admissibility, in part because the preponderance of the evidence standard applies to almost all evidentiary determinations, and specifying that standard in one rule might raise negative inferences as to other rules. Also, the Committee is wary about changing a rule in a way that essentially says, “apply the rule the way it was written.”

While a textual change to Rule 702 to emphasize the preponderance of the evidence standard remains under

consideration, the Committee is also considering an alternative: Language in the Committee Note addressing the issue, if the text of the rule is to be amended to address the problem of overstatement, discussed above.⁵⁴

The Advisory Committee did not hold a spring 2020 meeting and continued to consider proposals to amend Rule 702 at a virtual fall meeting in November 2020.⁵⁵ Organizations such as the U.S. Chamber Institute for Legal Reform, International Association of Defense Counsel (IADC), Lawyers for Civil Justice (LCJ), and the top legal officers of many major corporations submitted comments to the Advisory Committee in advance of that meeting, urging an amendment to Rule 702 to clarify the intended application of the rule. Some of their concerns and proposals are highlighted later in this paper.

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State Courts: *Daubert*, *Frye*, or Something Else?

State courts have slowly but steadily transitioned to the *Daubert* standard, amended their rules of evidence to match Rule 702, or both. In the 50 years following *Frye*, “almost all of the courts in the country that considered the admissibility of scientific evidence” adopted the general acceptance test.⁵⁶ Today, however, 38 states and the District of Columbia take a *Daubert* or a *Daubert*-like approach, or one that is consistent with Rule 702.⁵⁷

Only six states continue to follow *Frye*; however, those states include four that have a significant portion of the nation’s mass tort litigation: California, Illinois, New York, and Pennsylvania.

Due to nuances in statutes and rules of evidence, and court decisions interpreting them, the designation of whether a state is a “*Daubert* state,” “*Frye* state,” or takes its own approach to evaluating the admissibility of expert testimony may lead to varied counts and classifications. For example, some states have adopted *Daubert* but limited its applicability to scientific evidence and not subjected other types of expert testimony to the same scrutiny.⁵⁸ Courts in other states have indicated that *Daubert* principles or factors are helpful, instructive, or consistent with state law, but declined to expressly adopt *Daubert*.⁵⁹

Recent Developments in the States

The five most recent jurisdictions to adopt *Daubert* are Maryland, Florida, New Jersey, Missouri, and the District of Columbia. These jurisdictions illustrate the varied mechanisms by which states have altered their expert testimony standards, the reasons they did so, and the impact of the change. By way of contrast, Minnesota is the only state to consider and then resist moving toward the *Daubert* standard in recent years.

MARYLAND – 2020

Maryland shifted from what it called the *Frye-Reed* standard to *Daubert* through a state high court ruling in August 2020. That case, *Rochkind v. Stevenson*, involved

<i>Daubert</i> or <i>Daubert</i> -Like Rule 702 (39)			<i>Frye</i> (6) or <i>Frye</i> -Like	Other (6)
Alaska	Kentucky	North Carolina	California	Colorado
Alabama	Louisiana	Ohio	Illinois	Iowa
Arizona	Maine	Oklahoma	Minnesota	Nevada
Arkansas	Maryland	Oregon	New York	North Dakota
Connecticut	Massachusetts	Rhode Island	Pennsylvania	Utah
Delaware	Michigan	South Carolina	Washington	Virginia
D.C.	Mississippi	South Dakota		
Florida	Missouri	Tennessee		
Georgia	Montana	Texas		
Hawaii	Nebraska	Vermont		
Idaho	New Hampshire	West Virginia		
Indiana	New Jersey	Wisconsin		
Kansas	New Mexico	Wyoming		

whether a child’s exposure to lead paint over the course of 15 months in the defendant’s apartment building caused her to develop ADHD. The trial court admitted expert testimony from a pediatrician indicating that this short-term exposure was a “significant contributing factor” to the development of ADHD on the basis that the opinion was “not new science” and involved conclusions drawn from “reliable sources.”⁶⁰ Maryland had only applied the *Frye-Reed* standard to “novel scientific theories,” while subjecting other expert testimony to the nominal requirements of Maryland Rule 5-702, which focuses on the expert’s qualifications.

The Court of Appeals’ 4-3 decision adopted the principles of the *Daubert* trilogy and instructed trial courts to apply this approach to all expert testimony. The Court explained the core distinction between *Daubert* and *Frye*:

Under *Daubert*, the parties and the trial court are forced to reckon with the factors that really do determine whether the evidence is reliable, relevant and “fits” the case at issue. Focusing on the tests used to develop the evidence, the error rates involved, what the learned publications in the field have said when evaluating it critically, and then, finally, whether it has come [to] be generally accepted, is a difficult task. But, if undertaken as intended, it does expose evidentiary weaknesses that otherwise would be overlooked if, following the dictates of *Frye*, all that is needed to admit the evidence is the testimony of one or more experts in the field that the evidence at issue derives from methods or procedures that have become generally accepted.⁶¹

The Court of Appeals concluded its opinion by emphasizing the *Daubert* approach’s “flexible structure” and the U.S. Supreme

“Importantly, the state high court instructs trial court judges on how they should apply *Daubert*; for example, it applies to an expert’s conclusions as well as the expert’s methodology, and it applies to all experts, not just those who are testifying about science.”

Court’s recognition in *Daubert* that “[v]igorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence.”⁶² It remanded the case for the trial court to reevaluate admissibility under *Daubert*.

As observed by Victor Schwartz, the co-author of a widely used torts casebook, *Rochkind v. Stevenson* is a “textbook opinion for trial court judges” because “it teaches as well as decides.”⁶³ The Maryland Court of Appeals decision carefully explains why it abandoned the flawed, antiquated *Frye* rule and its reasons for selecting the *Daubert* approach. Importantly, the state high court instructs trial court judges on how they should apply *Daubert*; for example, it applies

to an expert’s conclusions as well as the expert’s methodology, and it applies to all experts, not just those who are testifying about science.⁶⁴

FLORIDA – 2019

Florida adopted *Daubert*, abandoning its anything-goes *Frye-Marsh* standard after a decade of legislative, state bar, and judicial infighting. Years of hearings and advocacy resulted in enactment of legislation in 2013, which amended Florida’s codified rules of evidence to reflect *Daubert*.⁶⁵ Under Florida’s unique system for adopting and amending court rules, however, a change to a rule that is arguably procedural in nature requires the judiciary’s approval. An attempt to have the Florida Supreme Court adopt the legislation as a rule of evidence through the Florida Bar failed in 2015, ending with the Bar’s recommendation that the high court retain *Frye*.⁶⁶ The Florida Supreme Court then invalidated the legislation as encroaching on its authority to adopt court rules in 2018 and raising unspecified but “grave constitutional concerns.”⁶⁷

The following year, the composition of the Florida Supreme Court changed significantly when Governor Ron DeSantis made three appointments to replace justices who had reached the mandatory retirement age. The

“Applying the same standard ‘will promote fairness and predictability in the legal system, as well as help lessen forum shopping.’”

newly-constituted Florida Supreme Court receded from its prior decision, rejected constitutional concerns as “unfounded,” and adopted the legislative changes.⁶⁸ In addition to observing the importance of judicial gatekeeping over all expert testimony, not just novel scientific techniques, the court recognized the value in creating consistency between state and federal courts. Applying the same standard “will promote fairness and predictability in the legal system, as well as help lessen forum shopping.”⁶⁹

NEW JERSEY – 2018

The New Jersey Supreme Court’s move toward *Daubert* demonstrates its importance in mass tort litigation and in discouraging forum shopping. Applying the state’s *Frye*-like standard that had drifted toward *Daubert*, Atlantic County Judge Nelson Johnson excluded the testimony of two experts who planned to testify that the acne medication Accutane could cause Crohn’s disease.⁷⁰ Judge Johnson found the plaintiffs’ experts had “cherry-pick[ed] evidence” and had presented theories in a courtroom that would not withstand scrutiny in the scientific community.⁷¹ “It is one thing to stand alone in the world of science, advancing a hypothesis that others do not accept. It is quite another thing to advance a hypothesis that can only be supported by disregarding valid scientific research,” Judge Johnson wrote.⁷² The trial court ruling led to the dismissal of over 2,000 Accutane cases.

The Appellate Division, however, reversed the trial court, applying a “relaxed” general acceptance standard involving new or developing theories of causation for toxic substances or medications.⁷³ The appellate court, in reinstating a \$25 million verdict, expressed concern with the difficulty facing

“*[E]xperts cannot selectively choose lower forms of evidence in the face of a large body of uniform epidemiological evidence.*”

plaintiffs in establishing causation, but not the ramifications of imposing liability based on unsound science.⁷⁴

The New Jersey Supreme Court sided with the trial court, calling its opinion “unassailable” and finding that the Appellate Division applied an insufficiently deferential standard of review.⁷⁵ Most importantly, the court endorsed the *Daubert* factors, instructed that trial courts are to take a “rigorous” gatekeeping role, and indicated that “experts cannot selectively choose lower forms of evidence in the face of a large body of uniform epidemiological evidence.”⁷⁶ This decision significantly contributed to the decline of Atlantic County as a hot spot for pharmaceutical litigation.

That does not mean unreliable expert testimony will always be excluded in New Jersey. In August 2020, the Appellate Division again reversed a decision by Judge Johnson, who had scrutinized and excluded the testimony of two plaintiffs’ experts that sought to opine that talc causes ovarian cancer.⁷⁷ The trial court granted summary judgment in a pair of talc cases in 2016, after criticizing the “narrowness and shallowness”

of the experts' scientific inquiries and found that their options "slanted away from objective science toward advocacy."⁷⁸ The appellate court, however, found that the trial court improperly viewed cohort studies with larger sample sizes as more credible than smaller case-controlled studies when this should have been an issue of "relative credibility" for the jury.⁷⁹ Since there was "more than minimal support" for an association of talc with ovarian cancer, the Appellate Division reinstated the cases.⁸⁰ The ruling will end a stay of 800 talc cases pending in Atlantic County. It remains to be seen whether the New Jersey Supreme Court will again side with Judge Johnson's rigorous review of the science, considering its endorsement of his approach in the Accutane litigation and the deference that an appellate court is supposed to give to the trial court's admissibility determination.

MINNESOTA – 2018

Minnesota is the only state to consider, and then reject, *Daubert* in recent years (aside from Florida, which ultimately corrected its path). The Land of 10,000 Lakes remains among a half-dozen states that continue to apply a *Frye*-like standard. In November 2018, the Minnesota Supreme Court declined to adopt a recommendation of its own advisory committee to amend the state's rules of evidence to effectively follow the federal standard. The court found the amendment "controversial" and "unsupported by compelling evidence of a need for a change."⁸¹

MISSOURI – 2017

Unlike Maryland and New Jersey, Missouri adopted *Daubert* through legislation. In March 2017, then-Governor Eric Greitens

signed a bill repealing the section of the Missouri statutes that governs the admissibility of expert witness opinion testimony and replacing it with provisions mirroring the expert evidence standard applied in federal courts and the majority of other state courts.⁸² Prior to that time, Missouri courts applied a *Frye*-like approach, though the state supreme court had officially abrogated *Frye* in 2003. Expert opinion testimony was admissible in Missouri if the expert was duly qualified and the facts or data the expert relied upon were "reasonably relied upon by experts in the field" and "otherwise reasonably reliable." Weak expert testimony standards made Missouri, particularly the City of St. Louis Circuit Court, a popular forum for litigating mass torts. Plaintiffs' lawyers obtained extraordinary verdicts in the talc litigation, for example. These decisions were later reversed for other reasons, but they gave momentum to the litigation nationwide.

Missouri's new standard took effect three years ago (August 2017). In the first appellate-level case applying the new law, the Missouri Court of Appeals for the Eastern District described the new standard as simply requiring that trial courts determine if the proposed expert testimony is "relevant and reliable and proffered by a qualified expert."⁸³ In evaluating admissibility, the appellate court stated that it was "guided by existing and still applicable Missouri law" as well as federal case law applying the *Daubert* standard.⁸⁴ The court also emphasized the "flexible" nature of the trial court's *Daubert* inquiry.⁸⁵ While this ruling occurred in the criminal context, the court's attitude toward *Daubert* does not

bode well for breaking with the past and adopting a more rigorous approach to the admissibility of expert testimony.

DISTRICT OF COLUMBIA – 2016

The District of Columbia adopted *Daubert* in the context of litigation alleging long-term exposure to cell phones causes brain tumors.⁸⁶ After the trial court judge found that some of the plaintiffs' expert testimony on causation would be admissible under *Frye*, but most of it would be excluded under *Daubert*, he certified the question of whether the District of Columbia should adopt Rule 702 (as amended in 2000 to reflect *Daubert* and its progeny) for the admissibility of expert testimony.

The Court of Appeals closely considered the merits of the two approaches and concluded, "[t]he ability to focus on the

reliability of principles and methods, and their application, is a decided advantage that will lead to better decision-making by juries and trial judges alike."⁸⁷ The District's highest court also recognized the benefit of uniformity with the standard applied in federal courts and the vast majority of states.⁸⁸

The court recognized that judicial gatekeeping does not supplant the adversarial system: The goal is to "deny admission to expert testimony that is not reliable, but to admit competing theories if they are derived from reliable principles that have been reliably applied."⁸⁹ Cases where experts on one side are in a distinct minority raise a "red flag" and where an expert's conclusions are shared by no other scientist, the trial court should be "wary that the [scientific] method has not been faithfully applied."⁹⁰

“The ability to focus on the reliability of principles and methods, and their application, is a decided advantage that will lead to better decision-making by juries and trial judges alike.”

Key Issues and Concerns in Expert Testimony Today

The core problem with expert testimony as it pertains to causation in pharmaceutical, medical device, and toxic tort litigation is that some judges admit made-for-litigation theories that rely on weak or outlier studies. Rather than reject testimony when it is contrary to the scientific consensus or when it makes an unsupported leap from a possible association between a product and a disease to causation, some courts find that any support for a theory is enough to admit it before a jury.

Courts taking this approach neglect their vital gatekeeping responsibility of evaluating the reliability of an expert's methods, proper application to the facts, and the fit between an expert's reasoning and his or her conclusions. Instead, these courts consider it to be the jury's job to evaluate the sufficiency of expert evidence, even if deeply flawed.

Similar problems with expert testimony arise when experts propose novel damage theories in class action litigation. Some courts give significant leeway to hired-gun experts to effectively create a financial loss where there is none (such as in litigation alleging that consumers paid a price-premium due to the product's allegedly

misleading marketing) or construct a loss common to class members that permits certification (such as in wage and hour or unfair competition lawsuits).

As the decisions of Judge Johnson in New Jersey's Accutane and talc litigation show, some judges take their gatekeeping role very seriously by rigorously scrutinizing the science and excluding expert testimony that is insufficiently supported. These judges, and others who would take such an approach, are threatened by appellate courts in some federal circuits and states that are much more likely to reverse decisions excluding dubious expert testimony—and thereby ending what may be thousands of individual mass tort cases

“*Daubert gives judges the responsibility to scrutinize the reliability of the science and not simply admit testimony based on the expert’s credentials. But adopting Daubert does not mean judges will properly exercise this power.*”

or a class action that includes thousands of members—than they are to affirm them, despite the application of an abuse of discretion standard that is supposed to be highly deferential to the trial court’s decision. Trial courts may thus feel that the safer course is to admit expert testimony, which will advance the cases toward trial and pressure the defendant to settle, eliminating the opportunity for judicial review.

Daubert gives judges the responsibility to scrutinize the reliability of the science and not simply admit testimony based on the expert’s credentials. But adopting *Daubert* does not mean judges will properly exercise this power. Some judges may not feel comfortable taking a deep dive into the science, making judicial education important. Other judges may prefer to send a battle-of-the-experts to the jury given the inherent tension between the court’s gatekeeping function and the adversarial system in which the jury serves as the factfinder. Many judges who are deputized as gatekeepers misunderstand or ignore Rule 702’s requirements and take a flexible, relaxed approach, inappropriately leaving any debate over science to the jury.

On the other hand, judges in states that have not adopted the federal approach sometimes take a strong gatekeeping role.

They may scrutinize expert testimony under a state-variant of *Frye*, a hybrid approach, or a state’s own standard.

Since federal courts and the vast majority of states now have Rule 702 and purport to follow *Daubert* or a *Daubert*-like approach, this paper summarizes concerns with how that standard has been misapplied.

Weight Versus Admissibility

At the very core of expert testimony concerns is whether objections go to the weight or credibility of the testimony (for the jury to evaluate) or to its admissibility (for the judge’s determination). Courts often decide that such an objection “goes to the weight, not the admissibility of the evidence” to permit expert testimony that relies on outlier or weak studies that are contrary to the scientific consensus, allow use of cherry-picked data or made-for-litigation theories, or excuse flaws in study design, gaps in reasoning, or outright prejudice.⁹¹

Plaintiffs’ lawyers and judges that lean toward them believe that courts should admit dubious expert testimony so long as a witness qualifies as an expert and his or her theories have some root in scientific studies or other recognized methods. Judges following this approach may allow an expert who can produce any support for

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causation between a product or substance and an illness to go to a jury. Even some balanced judges may feel they have little choice but to admit highly questionable expert testimony. That is because, as discussed below, some appellate courts have found that “weak” or “shaky” expert testimony is admissible, often (whether knowingly or not) citing to pre-2000 and sometimes pre-*Daubert* case law.⁹² Rather than find that a “close call” requires rejection of the proposed expert’s theory because it suggests that jurors reach a conclusion that scientists have not reached outside the courtroom, some judges will place a plaintiff’s “day-in-court” above the law’s demand that they exclude unreliable expert testimony.

The Factual Basis of Expert Testimony: Credibility or Admissibility?

Over 200 federal court rulings over the past five years have incorrectly stated that “the factual basis of an expert opinion goes to the credibility of the testimony, not its admissibility,” according to comments submitted to the Advisory Committee.⁹³ That statement originates from *Loudermill v. Dow Chemical Co.*, a 1988 Eighth Circuit

decision that pre-dates *Daubert*.⁹⁴ It is directly contrary to Rule 702(b), which establishes that it is the court’s responsibility to determine whether expert testimony is based on sufficient facts or data before admitting the evidence. As a result, some judges focus exclusively on an expert’s methodology and fail to properly consider whether the expert relied on facts that are at odds with the case before the court. Rather than adhering to Rule 702 and carrying out their gatekeeping duty, some courts admit the defective testimony and place the burden on a defendant to convince a jury of such flaws at trial through cross-examination.

The Burden of Establishing Admissibility

Generally, the proponent of evidence has the burden of establishing its admissibility.⁹⁵ With respect to the admissibility of lay testimony, the bar is low. As discussed earlier, lay testimony only needs to satisfy a minimal standard of relevancy (i.e., it makes a fact at issue more or less probable). In *Daubert*, the Supreme Court indicated that the party seeking admission of expert testimony has the burden of showing that it is more likely than not reliable.⁹⁶ The

Committee Notes to Rule 702's 2000 amendment recognize that "the proponent has the burden of establishing that the pertinent admissibility requirements are met by a preponderance of the evidence."⁹⁷

When deciding the admissibility of expert testimony, however, some courts have flipped the burden of proof. They have applied a false "presumption of admissibility," requiring parties to demonstrate why their opponents' proffered expert testimony does not meet the requirements of Rule 702.⁹⁸

Other courts reach the same result by mischaracterizing the rule as intending a "liberal" standard favoring admissibility. While the Supreme Court stated in *Daubert* that "[t]he rules' basic standard of *relevance* thus is a liberal one" and recognized the "liberal thrust" of the federal rules of "relaxing the traditional barriers to 'opinion' testimony,"⁹⁹ these statements are contrary to a trial court's gatekeeping role as established by Rule 702.

The Eighth Circuit, for example, has instructed trial courts to exclude an expert's opinion "only if it is so fundamentally unsupported that it can offer no assistance to the jury."¹⁰⁰ This approach pre-dates *Daubert* and is incompatible with the 2000 amendment to Rule 702, but nevertheless continues to be applied.¹⁰¹

A bias favoring admissibility of expert testimony is particularly harmful because once faulty scientific evidence is admitted, it may spur more litigation and pressure a company to settle meritless cases.

For example, in *Berg v. Johnson & Johnson*,¹⁰² the case that touched off the

nationwide talcum powder litigation, the plaintiff sued Johnson & Johnson, alleging that its talc products had caused her ovarian cancer. Before moving for summary judgment, Johnson & Johnson challenged the testimony of Ms. Berg's experts, including an epidemiologist who had conducted a prior study of ovarian cancer, but whose methodology was clearly problematic. Among other flaws, the epidemiologist had not ruled out any alternative causes of ovarian cancer, his testimony conflicted with the existing peer-reviewed literature, his data was "'cherry-picked' ... solely for purposes of litigation," and his conclusions conflicted with his non-litigation research.¹⁰³ Despite conceding the existence of these problems, the trial court admitted the expert's testimony on the basis that it was "biologically plausible" that talc use causes ovarian cancer and framed the defendant's

“When deciding the admissibility of expert testimony, however, some courts have flipped the burden of proof. They have applied a false ‘presumption of admissibility,’ requiring parties to demonstrate why their opponents’ proffered expert testimony does not meet the requirements of Rule 702.”

objections as challenges to credibility that can be attacked during cross-examination. In doing so, the trial court relied on the Eighth Circuit's low bar, finding the testimony "sufficient to assist the trier of fact in deciding the issues in this case."¹⁰⁴

The Lack of Sufficient Evidence of Causation

When courts do not demand that experts testifying on causation support their conclusions with sound scientific evidence, they present an opportunity for unwarranted mass tort litigation that imposes defense costs and liability that can drive products from the market. Tort law requires evidence of general causation (that a product or substance is capable of causing a particular injury) and specific causation (that use of the product or exposure to the substance, and not some other factor, actually caused the individual plaintiff's injury). Courts that take a relaxed approach may allow plaintiffs' experts to circumvent either of these requirements.

Mass tort litigation is particularly susceptible to what is known as the *post hoc ergo propter hoc* fallacy (*post hoc* fallacy), which is Latin for "after this, therefore because of this." In other words,

it assumes that since event X is followed by event Y, event Y must have been caused by event X. Of course, if it does not rain whenever I take an umbrella, that does not mean that my umbrella causes the sun to keep shining.

In mass tort litigation, plaintiffs' lawyers may identify a common illness or condition that has an unknown cause or numerous risk factors, then match it with exposure to a commonly used product. For example, the claim is that a woman regularly used baby powder, therefore she developed ovarian cancer. Yet, over 20,000 women develop ovarian cancer each year, which has various risk factors, and millions of people have used baby powder for a century. Another example would be to claim that a landscaper used Roundup, therefore he developed non-Hodgkin's Lymphoma (NHL). About 80,000 people are diagnosed with NHL each year, which is influenced by age, gender, past infections, and other factors. The same applies to litigation alleging that use of a prescription drug causes a condition, such as a birth defect. Each of these situations presents plaintiffs' lawyers with a large population of potential clients. If those plaintiffs' illnesses can be tied to a business's product or conduct by an "expert," sympathetic juries

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are likely to render large damage awards, which generate more litigation.

To combat the *post hoc* fallacy or what courts sometimes refer to as testimony on causation based on the *ipse dixit* of the expert (meaning “he said it himself”), rigorous judicial gatekeeping must demand sufficient scientific evidence supporting the link.

Some experts may rely on studies in which animals were given extraordinary doses of the substance at issue to establish that significantly lower, longer term exposure causes harm to humans. They may also rely on isolated, limited, or outlier studies that suggest a risk or indicate the need for further research, while ignoring more solid studies that do not find causation. As discussed above, some courts wrongly find that objections to such testimony go to its weight, rather than its admissibility.

A related issue occurs when courts allow experts to engage in guesswork through the guise of engaging in a “differential diagnosis.” Doctors use differential diagnoses to treat a person’s ailment when multiple illnesses share similar symptoms. Courts allow experts to testify on causation by listing the possible causes of a person’s condition, then eliminating the unlikely causes until one cause remains. This process, sometimes referred to as a differential etiology, only works if courts ensure that experts “rule in” causes supported by science and do not include those that are contradicted by epidemiological studies that serve as the best evidence of causation. Courts must also reject testimony where an expert has not adequately explained why he or she “ruled out” plausible alternative causes,

such as obesity, smoking, preexisting health conditions, or other risk factors.¹⁰⁵

A differential diagnosis or etiology is also improper when science has not established the possible causes of a disease or condition. As the Restatement Third of Torts: Liability for Physical and Emotional Harm observes, “When the causes of a disease are largely unknown ... differential etiology is of little assistance.”¹⁰⁶ As some courts have properly found in cases involving birth defects, asthma, and autism, for example, it is impossible to rule out causes of a disease or condition when the causes are largely unknown.¹⁰⁷

In some cases, however, courts overemphasize temporal relationships or allow experts to testify through a differential diagnosis that is rigged to reach the predetermined “cause.”¹⁰⁸ They have also allowed experts to make bold expressions of confidence or certainty in the relationship between a product or substance and a disease, which is not supported by this approach or other scientific methodologies.¹⁰⁹

When Judges Rigorously Scrutinize Expert Testimony, They Risk Reversal

Although the abuse of discretion standard should apply equally to decisions excluding and admitting expert testimony, some federal appellate courts are more prone to reverse judges who exclude expert testimony (which may result in dismissal of the case) than those who admit such testimony.

A 2019 analysis by Jessica Miller and her colleagues at Skadden Arps found that over

“ [S]ome federal appellate courts are more prone to reverse judges who exclude expert testimony ... than those who admit such testimony. ”

the preceding five years, the Ninth Circuit reversed 50 percent of trial court decisions excluding expert testimony.¹¹⁰ This reversal rate is extraordinary, particularly given the deferential abuse of discretion standard that appellate courts are supposed to apply to trial court decisions on admissibility of evidence. It also stands in stark contrast to the rates of other circuits during this period. The Third and Eleventh Circuits, for example, reversed just 2 of 40 such cases.¹¹¹

Miller attributes this discrepancy to the Ninth Circuit’s rejection of a principle endorsed in the Notes to Rule 702’s 2000 amendment and applied in other circuits: The lack of reliability in “any step” of an expert’s analysis renders his or her opinion inadmissible. The Ninth Circuit, however, has ignored this standard, signaling instead a willingness to admit “imperfect” application of “sufficiently accepted” scientific techniques.¹¹² In a series of cases, Ninth Circuit panels have indicated an approach to admitting expert testimony that places the “interests of justice” over the Rule’s requirement of accuracy.¹¹³

Trial court judges have received this message, as occurred in the Roundup litigation, where the Northern District of California acknowledged that the Ninth Circuit prefers a policy approach that is “more tolerant of borderline expert opinions than in other circuits.”¹¹⁴ In that litigation, the court admitted plaintiffs’ expert testimony, finding it did not rise to the level of “unreliable nonsense opinion.”¹¹⁵ That is far from the rigorous gatekeeping approach demanded by Rule 702 and *Daubert*.

The same phenomenon can be seen in some state courts where trial court judges who closely scrutinize expert testimony are told on appeal that they crossed the line from gatekeeping to weighing the credibility of expert testimony, as has occurred in the New Jersey cases discussed above.

Use of Unsound Expert Testimony to Support Class Certification

Class action litigation often relies on expert testimony offering dubious theories to create a common injury or damages where there is none. A plain-text reading of the rules indicates that class certification should be governed by the same standard as other hearings before a court, meaning any evidence submitted should be admissible under the Federal Rules of Evidence, including Rule 702.¹¹⁶

Nonetheless, the Eighth Circuit has decided that, because of the “preliminary nature” of class certification hearings, they do not require expert evidence that is admissible under Rule 702; instead the evidence submitted is subject to a more relaxed

“ [T]he Eighth Circuit has decided that, because of the ‘preliminary nature’ of class certification hearings, they do not require expert evidence that is admissible under Rule 702; instead the evidence submitted is subject to a more relaxed ‘tailored Daubert analysis.’ ”

“tailored *Daubert* analysis.”¹¹⁷ Similarly, the Ninth Circuit has held that evidence submitted in support of class certification does not need to meet the admissibility requirements of Rule 702, reasoning that it has “evidentiary freedom” at this stage.¹¹⁸

These rulings contradict the text of Rule 702 and ignore clear direction from the U.S. Supreme Court.¹¹⁹ These rulings also ignore the reality of class actions. Both the Eighth and Ninth Circuits justify their deviations by pointing to the “preliminary nature” of the class certification hearing.¹²⁰ The truth is, however, that class certification is often the single most important hearing in the life of a class action.¹²¹ A decision to certify the class action significantly raises the stakes, creating bet-the-company litigation that a business will often feel pressured to settle. On the other hand, denial of class certification usually either leads to settlement of only the named class representative’s claim or abandonment of

the litigation. In fact, the class certification decision is important enough to justify its own rule allowing interlocutory review.¹²²

The end result is that trial courts in these jurisdictions can certify class actions based on evidence that would not be admissible at summary judgment or an actual trial, including expert evidence that has not passed the scrutiny required by Rule 702.

For example, the Northern District of California certified a class of cereal purchasers alleging that health representations on the boxes were misleading.¹²³ The court did so despite conceding that the defendants had raised “a number of valid critiques about the expert’s survey methodology,” because the Ninth Circuit had held—in a case predating Rule 702—that “challenges to survey methodology go to the weight given the survey, not its admissibility.”¹²⁴ This was not a single error; the court repeatedly

“ Both the Eighth and Ninth Circuits justify their deviations by pointing to the ‘preliminary nature’ of the class certification hearing. The truth is, however, that class certification is often the single most important hearing in the life of a class action. ”

“Over the past two decades, however, the high court has not addressed the admissibility of expert testimony in civil litigation.”

acknowledged that the defendant raised valid questions about the reliability of the expert's testimony, but reasoned that the Ninth Circuit's holdings required it to ignore these concerns.¹²⁵ The end result was that the court certified a class, despite the fact that doing so required relying on faulty expert testimony.¹²⁶

Similarly, in the Eighth Circuit, a trial court admitted expert testimony supporting certification even though it conceded that the “corridor damage theory” the expert offered in support of certification likely lacked adequate support in the industry, and that the expert's calculations might not be reliable.¹²⁷ The Western District of Missouri relied on this expert testimony when it certified a class later that month.¹²⁸

Other federal appellate courts do not cast aside Rule 702 when deciding whether to certify class actions. The Third, Fifth, and Seventh Circuits have required trial courts to decide admissibility questions about expert evidence at the class certification stage, at least in cases in which expert testimony is central to certification.¹²⁹ This is the proper approach.

The Teacher has Left the Classroom

As discussed earlier, in the 1990s, the U.S. Supreme Court accepted review of three cases in which it adopted *Daubert* and instructed courts on how that standard should apply.

The high court last addressed the admissibility of expert testimony in *Weisgram v. Marley Co.*, ruling in 2000 that an appellate court may direct dismissal of a case when it finds a trial court improperly admitted expert evidence and the remaining, properly admitted evidence is insufficient to support the verdict.¹³⁰ In that decision, the Court reaffirmed that *Daubert* establishes “exacting standards of reliability.”¹³¹

Over the past two decades, however, the high court has not addressed the admissibility of expert testimony in civil litigation. It has not expanded on the *Daubert* trilogy and it has never ruled on the application of Rule 702 as amended in 2000.

By staying on the sidelines, the Supreme Court has allowed some trial court judges to take a relaxed approach to admissibility of expert testimony, which some circuit courts have endorsed, as discussed earlier. It has also failed to provide guidance to courts applying these standards in the context of today's growing mass tort and class action litigation, as further discussed below.

While a U.S. Supreme Court decision on expert testimony admissibility principles is not binding on state courts, those that follow *Daubert* are likely to give significant weight to a decision from the Court providing guidance on its application.

Recommendations for Promoting Reliability in Expert Testimony

The system for admission of expert testimony can be improved through seeking rule changes, filing amicus briefs to educate courts on the broader ramifications of admitting unsound testimony, supporting judicial education programs, and engaging in public outreach.

Amend Rule 702

It has been 20 years since the last amendment of Rule 702, which, as discussed earlier, was intended to establish uniform rigor in evaluating the admissibility of expert testimony but has been misunderstood or disregarded by some judges.

Meanwhile, mass tort litigation has exploded. In recent years, MDL cases have constituted roughly one-half of the entire federal civil docket (excluding most prisoner and social security cases). In fact, since the *Daubert* trilogy and the 2000 amendment of Rule 702, the number of pending cases in MDLs has increased 650 percent.¹³² About 90 percent of cases in MDLs are product

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liability claims involving pharmaceuticals, medical devices, and consumer products. A single ruling on the admissibility of expert testimony addressing causation in one of these litigations may mean the difference between ending thousands of claims that are contrary to scientific evidence or allowing the suits to advance to trial, placing substantial pressure on defendants to settle and remove what may be a safe and beneficial product from the market.

The amount of class action litigation in federal courts has also substantially grown.¹³³ The 2005 enactment of the Class Action Fairness Act, which expanded federal court jurisdiction over multi-state class actions, increases the importance of applying consistent expert testimony standards in these high-stakes cases that may involve thousands or even millions of members.

The Advisory Committee is considering the possibility of amending Rule 702 to clarify areas in which courts have disregarded or misunderstood its requirements. In November 2020, the U.S. Chamber Institute for Legal Reform submitted comments to the Advisory Committee recommending that it amend Rule 702 to:

- Provide explicit direction that the proponent of expert testimony must establish each element of Rule 702 by a preponderance of the evidence.
- Clarify that the standards set by the rule apply to expert testimony in support of or in opposition to class certification, regardless of how “preliminary” the court considers the hearing.¹³⁴

Scholars¹³⁵ and organizations have also suggested a wide range of changes to the

rule’s text and commentary.¹³⁶ These amendments would realign the courts with the intended operation of Rule 702 and lead to more consistency in judicial gatekeeping. Included in these recommended changes are amendments that would:

- Indicate that there is no presumption of admissibility of expert testimony.
- Instruct that the proponent of expert testimony bears the burden of establishing the expert’s qualification, helpfulness, and reliability for each opinion expressed.
- Clarify that the sufficiency of the factual basis for the expert’s testimony and its reliable application are questions of admissibility for the court’s determination.
- Require testimony to be the product of reliable and objectively reasonable principles and methods, which is intended to require testability.
- Incorporate a reliability requirement into Rule 702(b) by indicating that testimony must be based on sufficient facts and data that reliably support the expert’s opinion. This is intended to preclude testimony that relies on unlikely real-world conditions—an animal being injected with massive quantities of a substance, for example.
- Reaffirm that qualifications alone do not render an expert’s opinion admissible or permit speculation. Courts must focus on the reliability of the expert’s methodology, not credentials.
- Recognize that conclusions and methodology are not distinct from each other.

- Expressly reject conclusions resulting from “unsupported speculation.”
- Address the misuse of “differential etiology” and “differential diagnoses.”
- Provide that an expert may not assert a degree of confidence in opinions and conclusions unless they independently satisfy the requirements of Rule 702.
- Codify the abuse of discretion standard and indicate that it applies equally to testimony that is admitted or excluded so that appellate courts do not reexamine the evidence when a trial court judge excludes expert testimony as unreliable.

When federal procedural rules including evidence rules are amended, some states automatically or as a matter of practice consider conforming their state rules for consistency. While the admissibility of expert testimony can be addressed through legislation, such changes may face constitutional challenges in some states and, even when permissible, could spark judicial resistance in implementation.

U.S. Supreme Court Intervention

Advocates for reliability in expert testimony should identify a case in which a federal court admitted unreliable expert testimony where there are significant public policy implications. While the U.S. Supreme Court grants certiorari in only about 100 of 7,000 cases it is asked to review each year, the growth of federal multidistrict litigation since the high court last considered expert testimony makes the issue particularly ripe. Now, a single ruling on the admissibility of expert testimony can lead to thousands of cases moving toward trial and immense settlement pressure.

Change the Terminology

Lawyers should consider referring to “Rule 702” rather than “*Daubert*” when talking about admissibility standards for expert testimony. Because it was promulgated pursuant to the Rules Enabling Act, Rule 702 is the legal standard the Supreme Court and Congress have established for courts to follow. In addition, for some judges, “*Daubert*” may be viewed as synonymous with “tort reform.” These judges may recoil when attorneys use the phrase “*Daubert* hearing” or “*Daubert* motion,” viewing it as a backdoor attempt to limit liability through the courts. Some judges may be more likely to favorably respond to following a rule of evidence than what some may reactively view as an attempt to exclude plaintiffs’ experts and dismiss a complaint.

Judicial Education

If judges are to be comfortable in their gatekeeping role and be willing to exclude an expert opinion, with the effect of ending thousands of cases by people who may be ill, they must feel confident with science and technology. They must understand the strengths and vulnerabilities of various methodologies. They need to be able to compare epidemiological research, such as case-control and cohort studies, and understand principles of scientific validity and reliability. They must understand statistics, including confidence intervals. They must understand the significance of sample sizes and when it is appropriate to apply findings in animal studies to humans. In sum, they must be able to sift through the expert testimony offered by each side and sort the reliable evidence from flawed, made-for-litigation opinion. Without this educational background, judges may be no

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more likely to understand the science than jurors, and they are therefore likely to take a “let the jury decide” approach.

The federal judiciary publishes a Reference Manual on Scientific Evidence, which is a valuable resource for judges.¹³⁷ The Federal Judicial Center (FJC) first published the Manual in 1994, in the wake of *Daubert*. The Manual is now in its third edition. It objectively walks through many of the concepts above and specifically addresses such areas as survey research, epidemiology, toxicology, medical testimony, statistics, and engineering, but it is spread over 1,000 pages through a series of papers. A survey of federal judges conducted by the FJC in 2009 confirmed that while judges embraced the Manual, “[j]udges expressed interest in educational programs that would allow them to work through material encountered at *Daubert* hearings” and felt they could substantially benefit from actual training on the topics covered in the manual.¹³⁸

Some educational institutions and organizations offer programs for judges to help them better understand scientific and technical principles so that they can confidently and properly evaluate expert testimony. A 2013 paper by the George Mason Antonin Scalia Law School’s Law and Economics Center, however, found

that this need remained largely unmet by public programs, while there are more extensive privately-financed judicial education programs that appear to have resulted in judges engaging in a more confident and sophisticated assessment of scientific evidence.¹³⁹ These types of programs, when offered by reputable educational, legal, and scientific organizations in a balanced way, may have more impact on admissibility of expert testimony than whether a state applies *Daubert*, *Frye*, or some other standard.

Public Outreach

It is important to educate policymakers and the public on how their lives are affected in a tangible way by court decisions that admit unreliable expert testimony. When courts take such action, it has practical effects. The result may be that talc-based baby powder is no longer sold in the United States, or that there are limited options to treat morning sickness, or that wildfires are more likely to spread because effective herbicides are not available. Expert testimony based on bad science and admitted into court in contravention of the rules may also mean higher prices for medications, ridiculous warnings on food and other products that they cause cancer (when they do not), and a loss of jobs due to the expense of litigation.

Conclusion

Over the past two decades, it has become increasingly clear that U.S. Supreme Court rulings and existing court rules have not fully achieved their promise of eliminating unreliable expert testimony from the nation's courts. Judicial gatekeeping is inconsistent and sometimes disregarded in favor of a send-everything-to-the-jury approach, and appellate review varies from circuit to circuit. A consensus is emerging among judges, scholars, and practitioners that it is time to close the gaps in the gate.

Over the past two years, businesses, trade associations, civil justice groups, law firms, academics, and practitioners have provided suggestions to the Federal Advisory Committee on Rules of Evidence on how to address these problems. They have identified inconsistencies, misunderstandings, and misapplication of the standards governing admissibility of expert testimony. This is an opportunity for the federal judiciary to clarify Rule 702's requirements, reject errant caselaw, and set a positive example for state courts.

In the meantime, trial court judges should rigorously scrutinize the reliability of proposed expert testimony and not permit "shaky," speculative, outlier, and litigation-driven theories in court. Appellate courts, for their part, should treat well-reasoned rulings excluding experts with the same

degree of deference and respect as rulings permitting experts to testify.

The stakes are high. As discussed in this paper, allowing hired-gun experts to mislead juries into imposing liability where unsupported by science has real-world consequences for the public. Science should be developed for the pursuit of knowledge, not for the pursuit of expert witness fees or high-dollar verdicts. It should be developed in laboratories, and through tests and experiments, not made to advance litigation. As Judge Richard Posner recognized two decades ago, "[t]he courtroom is not the place for scientific guesswork, even the inspired sort. Law lags science; it does not lead it."¹⁴⁰

Endnotes

- † We would like to thank Alex Dahl, General Counsel of Lawyers for Civil Justice, for his counsel and contributions to this paper, especially as they relate to the process and importance of amendments to the Federal Rules of Evidence.
- 1 Federal Rule of Evidence (FRE) 401.
 - 2 FRE 402.
 - 3 FRE 403.
 - 4 FRE 407.
 - 5 FRE 703.
 - 6 See Victor E. Schwartz & Cary Silverman, *The Draining of Daubert and the Recidivism of Junk Science in Federal and State Courts*, 35 Hofstra L. Rev. 217, 224-25 (2006).
 - 7 The Journal of the American Medical Association recently published the results of an original investigation in which it found that, after examining four cohort populations involving more than 250,000 women, “there was not a statistically significant association between use of [talcum] powder in the genital area and ovarian cancer.” Katie M. O’Brien et al., *Association of Powder Use in the Genital Area with Risk of Ovarian Cancer*, 323 JAMA 49, 49-59 (2020).
 - 8 Vanessa Roma, *Johnson & Johnson Stops Selling Talc-Based Baby Powder in U.S. and Canada*, NPR, May 19, 2020.
 - 9 Amanda Bronstad, *Expert Ruling Was ‘Tipping Point’ for J&J’s Talc Withdrawal, Lawyers Say*, Law.com, May 22, 2020.
 - 10 Jeff Feeley et al., *Imerys Talc Units File Bankruptcy as Cancer-Suit Risk Soars*, Bloomberg.com, Feb. 13, 2019.
 - 11 Jonathan Stempel, *Mediator Reports ‘Substantial Progress’ by Bayer in Resolving Roundup Cancer Lawsuits*, Insurance J., Nov. 10, 2020; Dave Simpson, *Bayer’s Roundup Settlements Back on After ‘Slight Hiccup,’* Law360, Sept. 15, 2020.
 - 12 *In re Roundup Prods. Liab. Litig.*, 390 F. Supp. 3d 1102, 1114 (N.D. Cal. 2018).
 - 13 *Id.*
 - 14 *Id.* at 1140.
 - 15 *Id.* at 1109.
 - 16 *Id.* at 1113 (quoting *Alaska Rent-a-Car, Inc.*, 738 F.3d at 969); see also *In re Roundup Prods. Liab. Litig.*, 358 F. Supp. 3d 956, 957 (N.D. Cal. 2019) (admitting testimony but noting that plaintiffs’ experts “barely inched over the line”).
 - 17 *In re Roundup Prods. Liab. Litig.*, 390 F. Supp. 3d at 1113.
 - 18 U.S. Env’tl Protection Agency, *Glyphosate Interim Registration Review Decision*, Case No. 0178, at 10 (Jan. 2020).
 - 19 See *Nat’l Ass’n of Wheat Growers v. Becerra*, No. 2:17-cv-2401, 2020 WL 3412732, at *8 (E.D. Cal. Jun. 22, 2020), *appeal filed* (9th Cir. Sept. 11, 2020).
 - 20 Ludwig Burger, *Bayer CEO’s Term Extended, Makes Progress on Roundup Settlement*, Reuters, Sept. 10, 2020.
 - 21 Daniel Fisher, *Law Firm Hit With \$428,000 Verdict Over Faked Asbestos Suits*, Forbes, Dec. 21, 2012; Jonathan D. Glater, *Reading X-Rays in Asbestos Suits Enriched Doctor*, N.Y. Times, Nov 29, 2005. A study found that of 492 chest radiographs read as showing signs of asbestosis by radiologists with B-reader certification selected by plaintiffs’ attorneys, just 4.5 percent were interpreted in the same manner by independent B-readers. Joseph N. Gitlin et al., *Comparison of “B” Readers’ Interpretations of Chest Radiographs for Asbestos Related Changes*, 11 Academic Radiology 843-56 (2004).
 - 22 Victor E. Schwartz & Cary Silverman, *Hedonic Damages: The Rapidly Bubbling Cauldron*, 69 Brook. L. Rev. 1037, 1062-67 (2004); see also *Smith v. Dorchester Real Estate, Inc.*, 732 F.3d 51 (1st Cir. 2013) (“The overwhelming majority of courts have concluded that [Dr. Smith’s]

- “willingness-to-pay” methodology is either unreliable or not likely to assist the jury in valuing hedonic damages, or both.”); *Johnson v. Redd*, No. HUD-L-855-11, at 15-16 (N.J. Super. Ct., Hudson County, Nov. 12, 2013) (excluding testimony under *Frye*).
- 23 See, e.g., Iowa Code § 147.139 (enacted 2017) (providing that a person may qualify to testify as an expert witness on the standard of care only if that person is licensed to practice in the same or a substantially similar field as the defendant, and actively practiced or was a qualified instructor in that field in the five years preceding the act or omission alleged to be negligent, among other requirements).
 - 24 Dan Fisher, *Trial Lawyers are Paying Millions to a Handful of Experts Necessary to Push Their Talc Cases*, Legal Newsline, Feb. 26, 2019.
 - 25 Douglas Starr, *Expert Witness David Egilman Wins Billions—and Makes Enemies—As He Fights Companies Over Public Health*, Science, Jan. 24, 2019.
 - 26 ABA Model Rules of Professional Conduct R. 3.4, cmt. 3 (“The common law rule in most jurisdictions is that it is improper to pay an occurrence witness any fee for testifying and that it is improper to pay an expert witness a contingent fee.”); see also Restatement (Third) of the Law Governing Lawyers § 117, cmt. D (2002) (“A witness may not be bribed or offered compensation that is contingent on the witness’s testimony or the result in the litigation.”).
 - 27 *In re: Depuy Orthopaedics, Inc., Pinnacle Hip Implant Prod. Liab. Litig.*, 888 F.3d 753, 791 (5th Cir. 2018).
 - 28 See, e.g., Stephanie Domitrovich, *Fulfilling Daubert’s Gatekeeping Mandate Through Court-Appointed Experts*, 106 J. Crim. L. & Criminology 35 (2016).
 - 29 *Frye v. United States*, 293 F. 1013 (1923).
 - 30 For background on the murder, trial, and its aftermath, see Kenneth J. Weiss et al., *Frye’s Backstory: A Tale of Murder, a Retracted Confession, and Scientific Hubris*, 42 J. Am. Academy of Psychiatry & the Law Online 226 (June 2014); Brett A. Stern & Donald J. Krapohl, *The Infamous James Alphonso Frye*, 32 Polygraph 188 (2003).
 - 31 *Id.* at 1014.
 - 32 28 U.S.C. § 2071-77; *Amchem Prod., Inc. v. Windsor*, 521 U.S. 591, 620 (1997) (“The text of a rule thus proposed and reviewed limits on judicial inventiveness.”); *In re National Prescription Opiate Litig.*, Case Nos. 19-4097/4099, 2020 WL 5701916, at *8 (6th Cir. Sept. 24, 2020).
 - 33 See David E. Bernstein & Eric G. Lasker, *Defending Daubert: It’s Time to Amend Federal Rule of Evidence 702*, 57 William & Mary L. Rev. 1, 4 (2015).
 - 34 *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579 (1993).
 - 35 *General Electric Co. v. Joiner*, 522 U.S. 136, 141-43 (1997).
 - 36 *Id.* at 146.
 - 37 *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 151 (1999).
 - 38 Advisory Committee on Evidence Rules: Conference on Best Practices for Managing Daubert Questions, 88 Fordham L. Rev. 1215, 1226 (2020) (conference transcript).
 - 39 *Id.*
 - 40 *Daubert*, 509 U.S. at 588.
 - 41 *Id.* at 594.
 - 42 *Id.* at 593.
 - 43 See *id.* at 593-95.
 - 44 *Id.* at 596.
 - 45 Report of the Committee on Evidence Rules to the Standing Committee on Rule of Practice and Procedure, at 7 (May 1, 1999).
 - 46 FRE 702, Committee Notes on Rules—2000 Amendment (quoting *In re Paoli R.R. Yard PCB Litig.*, 35 F.3d 717, 745 (3d Cir. 1994)).
 - 47 See 28 U.S.C. § 2071-77; *Amchem* at 620; *In re National Prescription Opiate Litig.* at *8.
 - 48 *Id.* (quoting *United States v. 14.38 Acres of Land Situated in Leflore County, Mississippi*, 80 F.3d 1074, 1078 (5th Cir. 1996)).
 - 49 Memorandum from Debra Ann Livingston, Chair, Advisory Committee Evidence Rules, to David G. Campbell, Chair, Committee on Rules of Practice and Procedure (May 14, 2018), Committee on Rules of Practice and Procedure, Agenda Book, at 402 (June 12, 2018).

- 50 Memorandum from Daniel J. Capra, Reporter, to the Advisory Committee on Evidence Rules (Apr. 1, 2018), Advisory Committee on Rules of Evidence, Agenda Book, at 52 (Apr. 26-27, 2018).
- 51 Memorandum from David G. Campbell, Chair, Standing Committee on Rules of Practice and Procedure to Hon. Debra A. Livingston, Chair, Advisory Committee on Rules of Evidence, June 1, 2020, at 3.
- 52 *Id.*
- 53 *Id.* at 4.
- 54 *Id.*
- 55 See Advisory Committee on Rules of Evidence, Agenda for Committee Meeting, Nov. 13, 2020.
- 56 *Rochkind v. Stevenson*, No. 47, 2020 WL 5085877, at *1 (Md. Aug. 28, 2020) (internal quotations omitted).
- 57 Some states apply hybrid or *Daubert* or *Frye*-like approaches, or apply different standards based on the type of cases or evidence involved. Thus, counts of “how many states follow *Daubert*” may reach different tallies.
- 58 See, e.g., Ala. Code § 12-21-160; *Marron v. Stromstad*, 123 P.3d 992, 1004-07 (Alaska 2005); *McClue v. Safeco Ins. Co.*, 354 P.3d 604 (Mont. 2015).
- 59 See, e.g., *State v. Vliet*, 19 P.3d 42 (Haw. 2001); *Steward v. State*, 652 N.E.2d 490, 498 (Ind. 1995); *State v. O’Key*, 899 P.2d 663 (Or. 1995).
- 60 *Rochkind*, 2020 WL 5085877, at *2-3.
- 61 *Id.* at *14 (quoting *United States v. Horn*, 185 F. Supp. 2d 530, 553 (D. Md. 2002)).
- 62 *Id.* at *17-18.
- 63 Victor E. Schwartz, *Expert Testimony Needs Judges to Act as “Gatekeepers”*: The Maryland Court of Appeals Teaches Why, 13 J. of Tort Law 229 (2020).
- 64 See *id.*
- 65 Fla. Ch. 2013-107 (amending Fla. Code Ann. 90.702 and 90.704).
- 66 The Florida Bar’s Code and Rules of Evidence Committee (CREC) tentatively voted to adopt the *Daubert* statute as a rule of evidence in 2013, but reversed itself in a final vote of 16-14 to recommend against doing so the following year (after its membership shifted to include more plaintiffs’ lawyers). The Florida Bar’s Board of Governors, with a plaintiffs’ lawyer majority, endorsed continuation of the *Frye-Marsh* standard in 2015 by a 33-9 margin. See *Frye Standard Endorsed by Board of Governors*, Florida Bar News, Jan. 1, 2016.
- 67 See *DeLisle v. Crane Co.*, 258 So.3d 1219 (Fla. 2018); see also *In re Amendments to the Fla. Evid. Code*, 210 So.3d 1231, 1239 (Fla. 2017) (declining to adopt the *Daubert* statute “to the extent it is procedural”).
- 68 *In re: Amendments to the Fla. Evid. Code*, 278 So.3d 551, 552 (Fla. 2019).
- 69 *Id.* at 554.
- 70 *In re Accutane Litig.*, 2015 WL 753674 (N.J. Super. Law. Feb. 20, 2015).
- 71 *Id.* at *18.
- 72 *Id.* at *21.
- 73 *In re Accutane Litig.*, 165 A.3d 832, 855 (N.J. Super. App. Div. 2017).
- 74 See *id.* at 856.
- 75 *In re: Accutane Litig.*, 191 A.3d 560, 593 (N.J. 2018).
- 76 *Id.* at 592, 594-95. The court adopted use of the *Daubert* factors, but “stop[ped] short of declaring ourselves a ‘*Daubert* jurisdiction.’” *Id.* The court retained the general acceptance test for criminal matters and did not adopt the full body of *Daubert* case law as binding in New Jersey. *Id.*
- 77 *Carl v. Johnson & Johnson*, 237 A.3d 308 (N.J. Super. App. Div. 2020).
- 78 *Carl v. Johnson & Johnson and Balderrama v. Johnson & Johnson*, Nos. ATL-L-6546-14, ATL-L-6540-14, 2016 WL 4580145, at *21 (N.J. Super. Ct., Atlantic County, Sept. 2, 2016).
- 79 *Carl*, 237 A.3d at 339.
- 80 *Id.*
- 81 See Order Promulgating Amendments to the Rules of Evidence, Adm10-8047, at 7 (Minn. Nov. 16, 2018).
- 82 H.B. 153 (Mo. 2017) (amending Mo. Rev. Stat. § 490.065).

- 83 *State ex rel. Gardner v. Wright*, 562 S.W.3d 311, 319 (Mo. 2018).
- 84 *Id.* at 312.
- 85 *Id.* at 317.
- 86 *Motorola, Inc. v. Murray*, 147 A.3d 751 (D.C. 2016).
- 87 *Id.* at 757.
- 88 *Id.*
- 89 *Id.*
- 90 *Id.* at 758.
- 91 See, e.g., *Zollicofer v. Gold Standard Baking, Inc.*, 2020 WL 152903, at *15 (N.D. Ill. Mar. 31, 2020); *Hosp. Auth. of Metropolitan Gov't v. Momenta Pharma, Inc.*, 333 F.R.D. 390, 402 (M.D. Tenn. 2019); *In re Nat'l Prescription Opiate Litig.*, 2019 WL 3934597, at *10 (N.D. Ohio Aug. 20, 2019); *Taylor v. Trapeze Mgm't, LLC*, 2019 WL 1977514, at *3 (S.D. Fla. Feb. 28, 2019).
- 92 See, e.g., *City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036 (9th Cir. 2014); *Milward v. Acuity Specialty Products Group, Inc.*, 639 F.3d 11, 22 (1st Cir. 2011); *Liquid Dynamics Corp. v. Vaughan Corp.*, 449 F.3d 1209, 1221 (Fed. Cir. 2006) (relying on *Wilmington v. J.I. Case Co.*, 793 F.2d 909, 920 (8th Cir. 1986)).
- 93 See Letter from Scott S. Partridge, General Counsel, Bayer U.S., to Rebecca A. Womeldorf, Secretary, Committee on Rules of Practice and Procedure, Amending Federal Rule of Evidence 702, Sept. 30, 2020, at 1; Lawyers for Civil Justice, Comment to the Advisory Committee on Evidence Rules and its Rule 702 Subcommittee, *Why Loudermill Speaks Louder than the Rule*, Oct. 20, 2020, at 4 n.11.
- 94 *Loudermill v. Dow Chem. Co.*, 863 F.2d 566, 570 (8th Cir. 1988).
- 95 *Bourjaily v. United States*, 483 U.S. 171, 175-76 (1987).
- 96 *Daubert*, 509 U.S. at 592 n.10.
- 97 Fed. R. Evid. 702, Committee Note on Rules—2000 Amendment (citing FRE 104(a) and *Bourjaily*).
- 98 See, e.g., *Borawick v. Shay*, 68 F.3d 597, 610 (2d Cir. 1995); *Price v. General Motors, LLC*, 2018 WL 8333415, at *1 (W.D. Okla. Oct. 3, 2018); *Chen-Oster v. Goldman, Sachs & Co.*, 114 F. Supp.2d 110, 115 (S.D.N.Y. 2015); *Powell v. Schindler Elevator Corp.*, 2015 WL 7720460, at *2 (D. Conn. Nov. 30, 2015); *Advanced Fiber Tech. (AFT) Trust v. J&L Fiber Servs., Inc.*, 2015 WL 1472015, at *20 (N.D.N.Y. Mar. 31, 2015).
- 99 *Daubert*, 509 U.S. at 587-88 (emphasis added).
- 100 *Wood v. Minn. Mining & Mfg. Co.*, 112 F.3d 306, 309 (8th Cir. 1997).
- 101 See, e.g., *Sappington v. Skyjack, Inc.*, 512 F.3d 440, 448 (8th Cir. 2008); *Lauzon v. Senco Prods., Inc.*, 270 F.3d 681, 686 (8th Cir. 2001); *Arcoren v. United States*, 929 F.2d 1235, 1239 (8th Cir. 1991).
- 102 940 F. Supp. 2d 983 (D. S.D. 2013).
- 103 *Id.* at 991-92.
- 104 *Id.*
- 105 See *Tamraz v. Lincoln Elec. Co.*, 620 F.3d 665, 673 (6th Cir. 2010) (enumerating three questions that must be answered affirmatively to establish the reliability of a differential etiology or diagnosis: "(1) Did the expert make an accurate diagnosis of the nature of the disease? (2) Did the expert reliably rule in the possible causes of it? (3) Did the expert reliably rule out the rejected causes?").
- 106 Restatement Third of Torts: Liability for Phys. & Emot. Harm § 28, cmt. c(4) (2010). The Reference Manual on Scientific Evidence similarly recognizes that differential etiologies are only valid if general causation exists and a substantial proportion of competing causes is known, making its use improper for birth defects. Reference Manual on Scientific Evidence at 618.
- 107 See, e.g., *Bland v. Verizon Wireless, (VAW) L.L.C.*, 538 F.3d 893, 897 (8th Cir. 2009) (asthma); *Doe 2 v. OrthoClinical Diagnostics, Inc.*, 440 F. Supp.2d 465, 477-78 (M.D.N.C. 2006) (autism).
- 108 See Victor E. Schwartz & Cary Silverman, *The Draining of Daubert and the Recidivism of Junk Science in Federal and State Courts*, 35 Hofstra L. Rev. 217, 248-55 (2006) (providing examples).
- 109 See, e.g., *Costa v. Wyeth, Inc.*, 2012 WL 1069189, at *4 (M.D. Fla. Mar. 29, 2012); *In re Trasylol Prods. Liab. Litig.*, 2010 WL 8354662, at *8, *11 (S.D. Fla. Nov. 23, 2010).

- 110 Jessica Miller et al., *Defendants' Chances on Daubert May Vary by Circuit*, Law360, Oct. 1, 2019.
- 111 See *id.*
- 112 *City of Pomona v. SQM N. Am. Corp.*, 750 F.3d 1036, 1047-48 (9th Cir. 2014).
- 113 See *Wendell v. GlaxoSmithKline LLC*, 858 F.3d 1227, 1237-38 (9th Cir. 2017), *cert. denied sub nom.*; *Teva Pharms. USA, Inc. v. Wendell*, 138 S. Ct. 1283 (2018) (reversing exclusion of expert evidence, finding the "interests of justice favor leaving difficult issues in the hands of the jury"); *Messick v. Novartis Pharms. Corp.*, 747 F.3d 1193, 1198-99 (9th Cir. 2014) (reversing summary judgment, finding the trial court erred in excluding expert testimony as scientifically unreliable); *Alaska Rent-a-Car, Inc. v. Avis Budget Group, Inc.*, 738 F.3d 960, 969 (9th Cir. 2013) (reversing exclusion of expert, stating "[b]asically, the judge is supposed to screen the jury from unreliable nonsense opinions, but not exclude opinions merely because they are impeachable").
- 114 *In re Roundup Prods. Liab. Litig.*, 358 F. Supp.2d 956, 959 (N.D. Cal. 2019).
- 115 *In re Roundup Prods. Liab. Litig.*, 390 F. Supp.3d 1102, 1113 (N.D. Cal. 2018) (quoting *Alaska Rent-a-Car, Inc. v. Avis Budget Group, Inc.*, 739 F.3d 960, 969 (9th Cir. 2013)).
- 116 See FRE 1101 (rules of evidence apply to all proceedings before district court with specified inapplicable exceptions).
- 117 *Cox v. Zurn Pex, Inc.*, 644 F.3d 604, 613-14 (8th Cir. 2011).
- 118 *Sali v. Corona Reg'l Med. Ctr.*, 909 F.3d 996, 1005-06 (9th Cir. 2018), *cert. petition dismissed*, 139 S. Ct. 1651 (2019).
- 119 *Wal-Mart Stores, Inc. v. Dukes*, 564 U.S. 338, 354 (2011) ("The District Court concluded that *Daubert* did not apply to expert testimony at the certification stage of class action proceedings. We doubt that is so ...") (internal citation omitted).
- 120 *Zurn Pex*, 644 F.3d at 613; *Sali*, 889 F.3d at 631.
- 121 See *Marcus v. BMW of N. Am., LLC*, 687 F.3d 583, 591 n.2 (3d Cir. 2012) ("As a practical matter, the certification decision is typically a game-changer, often the whole ballgame, for plaintiffs and plaintiffs' counsel."); *Prado-Steiman v. Bush*, 221 F.3d 1266, 1274 (11th Cir. 2000) (granting certification may "raise [] the cost and stakes of the litigation so substantially that a rational defendant would feel irresistible pressure to settle").
- 122 See Fed. R. Civ. P. 23(f).
- 123 *Hadley v. Kellogg Sales Co.*, 324 F. Supp. 3d 1084, 1090 (N.D. Cal. 2019).
- 124 *Id.* at 1107 (citing *Wendt v. Host Int'l, Inc.*, 125 F.3d 806, 814 (9th Cir. 1997)). Note that this case predates the 2000 Amendments to Rule 702.
- 125 *Id.* at 1108-10.
- 126 *Id.* at 1121.
- 127 *Barfield v. Sho-Me Power Elec. Coop.*, No. 11-cv-04521-NLL, 2013 WL 12145824, *3 (W.D. Mo. July 8, 2013).
- 128 2013 WL 3872181, at *4 (W.D. Mo. July 25, 2013).
- 129 See, e.g., *In re Blood Reagents Antitrust Litig.*, 783 F.3d 183, 187 (3d Cir. 2015); *Messner v. Northshore Univ. Health Sys.*, 669 F.3d 802, 812 (7th Cir. 2012); *Unger v. Amedisys, Inc.*, 401 F.3d 316, 325 (5th Cir. 2005). Unpublished decisions from the Sixth and Eleventh Circuits also support this approach. See *In re Carpenter Co.*, No. 14-cv-0302, 2014 WL 12809636, at *3 (6th Cir. 2014); *Sher v. Raytheon Co.*, 419 F. App'x 887, 890 (11th Cir. 2011).
- 130 *Weisgram v. Marley Co.*, 528 U.S. 440 (2000).
- 131 *Id.* at 455.
- 132 At the close of FY 2000, there were 39,799 cases pending in MDLs. See Judicial Panel on Multidistrict Litigation, Statistical Analysis of Multidistrict Litigation (FY 2000). At the time of publication, there are now 331,400 actions pending in 180 MDLs. See Judicial Panel on Multidistrict Litigation, MDL Statistics Report - Distribution of Pending MDL Dockets by Actions Pending (Nov. 16, 2020). Even excluding 208,859 earplug product liability cases in a single MDL established in April 2019, the number of pending cases in MDLs has more than tripled since 2000. See Judicial Panel on Multidistrict Litigation, Statistical Analysis of Multidistrict Litigation (FY 2019) (indicating 156,511 and 134,462 pending cases in MDLs at the close of FY 2018 and FY 2019, respectively).

- 133 Emery G. Lee III & Thomas E. Willging, The Impact of the Class Action Fairness Act of 2005 on the Federal Courts: Fourth Interim Report to the Judicial Conference Advisory Committee on Civil Rules 1 (Fed. Jud. Ctr. Apr. 2008) (finding a 72 percent increase in class action activity when comparing the period of July through December 2001 to January through June 2007, including a “dramatic increase” in class action filings after CAFA’s effective date, primarily alleging consumer protection, contracts, and torts-property damage claims).
- 134 Letter from Harold Kim, President, U.S. Chamber Inst. for Legal Reform to Rebecca A. Womeldorf, Secretary, Committee on Rules of Practice and Procedure, Amending Rule of Evidence 702, Nov. 9, 2020.
- 135 See, e.g., David E. Bernstein & Eric G. Lasker, *Defending Daubert: It’s Time to Amend Federal Rule of Evidence 702*, 57 William & Mary L. Rev. 1 (2015).
- 136 Suggestions for amendments to the Federal Rules of Evidence are available at <https://www.uscourts.gov/rules-policies/records-and-archives-rules-committees/rules-suggestions?committee=44&year%5Bvalue%5D%5Byear%5D> and can also be found in Advisory Committee on Evidence Rules – November 2020 agenda book at <https://www.uscourts.gov/rules-policies/archives/agenda-books/advisory-committee-evidence-rules-november-2020>.
- 137 Federal Judicial Center, Reference Manual on Scientific Evidence, Third Edition (Nat’l Academies Press 2011).
- 138 Committee on the Evaluation of the Reference Manual on Scientific Evidence; National Research Council, Evaluation of the Reference Manual on Scientific Evidence: Letter Report, at 12 (2009).
- 139 The Value of Judicial Training in Quantitative and Scientific Methods, at 4 (LEC White Paper, draft Apr. 8, 2013).
- 140 *Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996).



U.S. CHAMBER

Institute for Legal Reform

202.463.5724 main
202.463.5302 fax

1615 H Street, NW
Washington, DC 20062

instituteforlegalreform.com