Expert Testimony in Federal Civil Trials
A Preliminary Analysis

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Introduction

In 1998, the Federal Judicial Center surveyed federal judges about their experiences with expert testimony in civil cases. Judges answered specific questions about their most recent relevant civil trial, as well as questions drawing on their overall experience with expert testimony in civil cases. The Center conducted a similar survey of judges in 1991, shortly before the Supreme Court issued a ruling in *Daubert v. Merrell Dow Pharmaceuticals, Inc.,* 509 U.S. 579 (1993). Preliminary analysis of the aggregated data has focused on (1) comparing judges' experiences with expert testimony before and after *Daubert* and (2) exploring the current concerns of judges regarding expert testimony in civil cases. Additional data have since been collected from attorneys in the trials described in the 1998 survey. A more thorough analysis of findings is under way and soon will be released.

Preliminary findings include the following:

- Experts testified most frequently in tort cases.
- Medical and mental health experts were the most common broad *category* of testifying experts, although economists were the single most frequent specific *type* of expert. Experts from scientific specialties testified in only a small proportion of cases.
- Judges were more likely to scrutinize expert testimony before trial and less likely to admit expert testimony in 1998 than in 1991. Attorneys report filing motions in limine, challenging the admissibility of expert testimony, more frequently after *Daubert*.
- The two most common problems cited by judges were experts who were not objective and the excessive expense of expert testimony. In general, judges' assessments of problems with expert testimony did not differ greatly from 1991 to 1998.

The remainder of this brief report describes the results in more detail. Information about the survey method and the contents of the questionnaire appears in an appendix.

Determining Which Cases Involved Experts

Using docket information provided by the respondent judges, we determined the types of cases going to trial involving presentation of expert testimony. The survey results also provided information about the types of experts who testified, the number of experts offered by each side, and the issues they addressed.

Types of Cases Involving Expert Testimony

The most frequent types of trials involving experts—45% of those case types reported—were tort cases, primarily those involving personal injury or medical malpractice. Tort cases were followed in frequency by civil rights cases (23%); contract cases (11%); intellectual property cases, primarily patent cases (10%); labor cases (2%); prisoner cases (2%); and other civil cases (8%).

To gauge whether expert testimony is differentially associated with certain case types, we compared the distribution of the case types from our survey with the distribution of all civil cases terminating during or after a bench or jury trial in the two years preceding our survey. Compared to all civil trials, experts were overrepresented in tort cases (which constituted

only 26% of all civil trials) and intellectual property cases (3% of all civil trials). Experts were under-represented in civil rights cases (31% of all civil trials), contract cases (14% of all civil trials), labor cases (4% of all civil trials), and prisoner cases, nearly all of them civil rights actions (14% of all civil trials). In cases classified as "other" civil trials, experts were represented in equal proportion to the general case type (8%).

Areas of Expertise of Testifying Experts

In both the judge and attorney surveys, we asked respondents to describe the types of experts who testified and the issues addressed by their testimony. Using the descriptions given by respondents, we then re-coded them into specific categories of experts. Table 1 shows the types of experts in each category presented by plaintiffs and defendants.

Medical and mental health specialists were the most frequently presented category of experts, accounting for more than 40% of the experts presented overall. More specifically, medical doctors (from all specialties) accounted for approximately one-third of all experts presented. This frequency is not surprising in light of the large number of tort cases represented in the survey responses. Within this group, the specific types most frequently represented were treating physicians, surgeons, and psychiatrists (each 3.8% of the total experts). Mental health experts, particularly clinical psychologists, but also including social workers and counselors, accounted for almost 4% of the experts presented.

Engineers and other safety or process specialists accounted for 24% of the experts presented, making them the second-most-frequent category of experts. The most frequent type of engineering testimony came from mechanical or industrial engineers, who accounted for nearly 5% of experts overall.

Experts from business, law, and financial specialties made up the next-most-frequent category of experts, accounting for 22% of all experts. By far the largest type within this group was economists, who were the most frequently used type of expert overall, representing almost 11% of all experts.[1] Accountants were also presented frequently, making up more than 3% of all experts.

Experts from scientific specialties accounted for slightly more than 7% of all experts. In this group, chemists were the most frequent type, representing 1.6% of the total number of experts.

Overall, these results are quite consistent with those from a 1991 FJC survey of federal judges regarding experts in civil cases. As with the 1998 survey, medical and mental health specialists were the most frequent general category in the 1991 survey (around 40% of the total), followed by safety/process/engineering experts (26%) and business/law/financial experts (about 26%). Experts from scientific specialties in the earlier survey amounted to 8% of the total, consistent with the current survey. As with the current survey, economists were the most frequent specific type of testifying expert.

1. Economists were placed in this category rather than with scientists because their testimony often uses well-established techniques to estimate lost wages and other forms of economic harm in individual cases; they usually do not offer scientific testimony regarding economic theories and econometric methods.

Table 1
Expertise of Witnesses Offering Expert Testimony in 297 Federal Civil Trials in 1998

Specialty	Count	% of Total
Medical/Mental Health	**520**	**43.2**
Physician (unspecified)	66	5.5
Physician (treating)	46	3.8
Surgeon	46	3.8
Psychiatrist	46	3.8
Neurologist/neurosurgeon	43	3.6
Psychologist (clinical)	39	3.2
Family/general practitioner	30	2.5
Obstetrician/gynecologist	24	2.0
Other medical/mental health [a]	180	15.0
Engineering/Process/Safety	**290**	**24.1**
Mechanical/industrial engineer	58	4.8
Other engineering experts	33	2.7
Accident reconstruction expert	31	2.6
Police procedure expert	31	2.6
Products engineer	28	2.3
Other engineering/process/safety [b]	109	9.1
Business/ Law/ Financial	**266**	**22.1**
Economist	131	10.9
Accountant	37	3.1
Patent/trademark expert	18	1.5
Other business/law/financial experts [c]	80	6.7
Scientific Specialties	**88**	**7.3**
Chemist	19	1.6
Toxicologist	10	0.8
Statistician	7	0.6
Metallurgist	7	0.6
Other scientific specialties [d]	45	3.7
Other Specialty	**39**	**3.2**

[a] Category includes the following: Radiologist; Vocational Rehabilitation Specialist; Pathologist/Medical Examiner; Orthopedist; Internist; Rehabilitation Specialist; Cardiopulmonary physician; Nurse; Pediatrician; Oncologist; Social worker/counselor; Dentist; Anesthesiologist; Physical therapist; Chiropractor; Ophthalmologist/optometrist; Osteopath; Pharmacist; Other. No single contribution accounted for more than 1.7% of the total.

[b] Category includes the following: Safety expert (non-engineer); Fire/arson investigator; Ballistics expert; Electrical engineer; Biomedical engineer; Sea captain; Human factors expert; Mechanic; Surveyor; General contractor; Environmental engineer; Chemical engineer; Safety engineer; Security expert; Land use/urban planner; Architect; Aerospace engineer. No single contribution accounted for more than 1.3% of the total.

[c] Category includes the following: Appraiser (not real estate); Attorney (as expert on law); Expert in business practices; Appraiser (real estate); Insurance expert; Securities/Banking/ Pension; Attorney (as expert on professional standards); Other. No single contribution accounted for more than 1.4% of the total.

[d] Category includes the following: Meteorologist; Social/behavioral scientist; Epidemiologist; Geologist; Physicist; Agricultural scientist; Molecular biologist/Geneticist; Computer scientist; Other specialties represented by a lone testifying expert. No single contribution accounted for more than 0.58% of the total.

What Issues Are Addressed by Expert Testimony?

In a separate question, we asked about the specific legal issues to which expert testimony had been directed in the reported trial. Judges reported that the most frequent issues addressed were the existence, nature, or extent of injury or damage (68% of the trials) and the cause of injury or damage (64%), a finding that is consistent with the fact that tort cases represented almost half of all cases reported. Testimony as to the amount of recovery to which plaintiff was entitled was offered by experts in 44% of trials, likely accounting for the large number of economists reported. Other issues addressed by expert testimony were the reasonableness of a party's actions (in 34% of trials), industry standards/"state of the art" (30%), standard of care owed by a professional (25%), design or testing of a product (25%), and knowledge or intent of a party (16%).

Judges' Decisions About Admissibility of Expert Testimony

We asked judges several questions about how they screened expert testimony in the reported case, whether the admissibility of any expert testimony was disputed, and whether they limited or excluded any proffered expert testimony in the reported case. It is important to keep in mind that these questions do not shed light on the general frequency of admissibility disputes and exclusion of expert testimony, because cases in which all expert testimony was excluded would not have been reported in response to our survey inquiry, which asked about recent civil trials in which expert testimony was presented. The cases described here represent instances in which there was sufficient admissible expert evidence to merit a trial.

For almost half of the reported cases (46%), the judge indicated that admissibility was not disputed. For cases in which admissibility was raised as an issue, it most frequently came up in the context of either a motion in limine (72%) or in response to an objection made at trial (64%). Rarely (3% of the time) did the judge raise a question of admissibility if it was not disputed by the parties.

When asked whether they limited or excluded expert testimony in the reported case, 59% of judges said they had allowed all of the proffered testimony without limitation. This is lower than the 75% of judges who, in response to a similar survey question in 1991, said they had allowed all proffered testimony. The parallel survey of attorneys confirms that judges are more likely since *Daubert* to examine the basis of expert testimony before trial and then exclude at least some of the expert testimony. Plaintiff and defendant counsel were asked to choose from items on a list to indicate how their practice changed following *Daubert*. The attorneys' most common response, chosen by 32% of the respondents, was "I make more motions *in limine* to exclude opposing experts."[2] The biggest changes in judicial practices, according to the attorneys with pre-*Daubert* trial experience, was that judges are less likely to admit some types of expert evidence (65%) and more likely to hold pretrial hearings regarding admissibility of expert testimony (60%).

2. This was followed closely by "I scrutinize more closely the credentials of expert witnesses I am considering," chosen by 29% of the attorneys.

Judges who had excluded some testimony were asked why they had done so. The most frequent reasons cited by judges relate to traditional rules governing expert testimony; that is, judges most frequently excluded testimony because it was not relevant (47%), because the witness was not qualified (42%), or because the proffered testimony would not assist the trier of fact (40%). Other reasons that served as a basis for exclusion in more than 15% of trials were that the facts or data on which the expert's testimony was based were not reliable (22%), that the prejudicial nature of the testimony outweighed its probative value (21%), or that the principles and methods underlying the expert's testimony were not reliable (18%).[3]

Problems with Expert Testimony

The final section of the survey sought information from respondents about the frequency and nature of problems encountered with expert testimony across all civil cases in which they had some involvement (i.e., not just in the reported case). We provided respondents with a list of potential problems, and for each problem, asked them to rate its frequency on a scale of 1 (very infrequent) to 5 (very frequent). We then calculated mean responses for each problem and derived ranks to determine the relative reported frequency of each problem.

Table 2 shows the judges' and attorneys' ratings of problem frequency. Interestingly, when compared to results from a 1991 judges' survey that asked an identical question, the judge rankings have changed very little over time. The most frequent problem cited by judges in both surveys was experts who "abandon objectivity and become advocates for the side that hired them." In the current survey, the mean reported frequency for this problem was 3.69, indicating a problem that is quite frequent. Only one other problem—"excessive expense of party-hired experts"—received a mean rating above 3 (3.05). Other problems rated above the midpoint of the 5-point scale were "expert testimony appears to be of questionable validity or reliability" (2.86); "conflict among experts that defies reasoned assessment" (2.76); and "disparity in level of competence of opposing experts" (2.67). Attorneys' ranking of frequency of problems follows the judges' ranking quite closely. The only notable difference is that attorneys are somewhat more likely to perceive problems arising from experts who are poorly prepared to testify, an item that received the lowest rank among the judges.

3. The percentages do not add to 100% because judges were able to give more than one reason for having excluded expert testimony.

Table 2
Frequency of Problems with Expert Testimony in Civil Cases as Reported in the FJC Surveys of Judges and Attorneys

Problem	Mean Judge Rating[a]	Judge Rank	Mean Attorney Rating	Attorney Rank
Experts abandon objectivity and become advocates for the side that hired them.	3.69	1	3.72	1
Excessive expense of party-hired experts.	3.05	2	3.40	2
Expert testimony appears to be of questionable validity or reliability.	2.86	3	3.05	4
Conflict among experts that defies reasoned assessment.	2.76	4	3.13	3
Disparity in level of competence of opposing experts.	2.67	5	3.02	5
Expert testimony not comprehensible to the trier of fact.	2.49	6	2.66	6
Expert testimony comprehensible but does not assist the trier of fact.	2.43	7	2.63	7
Failure of parties to provide discoverable information concerning experts.	2.43	7 (tie)	2.62	8
Attorneys unable adequately to cross-examine experts.	2.32	9	2.05	11
Indigent party unable to retain expert to testify.	2.10	10	2.13	10
Delays in trial schedule caused by unavailability of experts.	2.03	11	1.76	12
Experts poorly prepared to testify.	1.98	12	2.29	9

[a] Mean rating is the average rating from all judges on a scale of 1 ("Very infrequent") to 5 ("Very Frequent") of the frequency with which judges observed this problem in their civil cases with expert testimony.

Appendix: Survey Method & Design

Judge Survey

The most recent judge survey was mailed in November 1998 to all active U.S. district court judges. Judges who had not responded within a few weeks received a postcard prompting them to complete the survey; judges who did not respond to the prompt were sent a second survey several weeks later. Surveys were accepted from the field until late May 1999, resulting in 303 usable surveys and a response rate based on usable returns of 51%.[4] Procedures used to gather data from judges in November 1991 were similar.

The response rate from the 1998 survey was somewhat lower than the 65% rate of return obtained from the survey we mailed in 1991. We believe the difference is due to the more detailed information requested on the latter survey, information that required a review of court files. To determine if nonresponse bias was detectable in the recent survey, we conducted two sets of additional analyses. We first examined late-arriving surveys on a number of dimensions to determine if they differed in meaningful ways from promptly returned surveys (they did not).[5] We then contacted a random selection of non-responding judges by phone to investigate their reasons for not returning the questionnaire. All of the contacted judges had at least one year of experience on the bench before the survey mail date and presided over two or more civil trials in the preceding two fiscal years. Most of the judges offered, as reasons, variations on the following: (1) their workload was too pressing, (2) the survey came at a bad time, or (3) the survey was too long. The analyses do not suggest a problem with the representativeness of the data, but neither are they conclusive on the question of whether nonresponse bias exists.

The questionnaire mailed to judges consisted of three sections. The first section sought general information regarding the judge's most recently completed civil trial involving expert testimony. This part of the questionnaire asked for information about the type of trial; which parties presented expert testimony; the type of experts testifying; the issues addressed in testimony; and how much trial time was taken by examination of the expert witnesses. The data from the first part of the questionnaire provided information about the relative frequency of different types of expert testimony and about the characteristics of trials in which expert testimony was presented. The information does *not* respond to questions about the absolute frequency of expert testimony in civil trials, since we have no estimate of the number of trials in which there is no expert testimony.

In addition to collecting general information about the target case, the first section of the questionnaire asked for the docket number of the case. We obtained this identifying infor-

4. Twenty-five judges responded that they were unable to complete the survey. Of that total, twenty-one noted the absence of a recent relevant trial. None of these judges are counted in the response rate.

5. The analyses examined (1) response and nonresponse patterns by district, (2) the time spent at trial receiving expert testimony, (3) the total cumulative time devoted to trial in the cited case, (4) items involving questions about the admissibility of expert testimony in the cited case, (5) items involving limits or exclusions to expert testimony in the cited case, (6) an index of the frequency of problems observed generally in civil cases with expert testimony, (7) items involving experience of the respondents with expert reports, and (8) whether the respondent sat on the bench before *Daubert*.

mation to permit later matching of the case to attorneys in the case and nature of suit codes from administrative records.

The second section of the questionnaire sought detailed information about the characteristics of the expert testimony in the identified case. Judges reported on the issues that were addressed by experts; the existence of admissibility issues; how admissibility issues were handled; the existence of limitations on proffered testimony; the bases for excluding or limiting proffered testimony; and the nature of any excluded or limited expert testimony.

The third section of the questionnaire asked about general experience with expert testimony in civil cases. Judges reported on the use of various procedures for managing expert testimony; the use of procedures they reserve for cases with complicated scientific or technical evidence; the frequency with which they encountered problems relating to expert testimony; problems that had decreased (as well as increased) in frequency in the past five years; the effects of a procedural rule requiring parties to exchange written reports of experts expected to testify at trial; and changes in procedures they used to assess the admissibility of scientific evidence following *Daubert*.

The 1998 questionnaire for judges contained more items than the 1991 questionnaire. A few of the items included in the 1991 version were modified for use in 1998, but comparability can be presumed unless otherwise noted.

Attorney Survey

Using docket information to access electronic court records, we identified 458 lead attorneys for plaintiff and defendant parties in the cases reported on by judges. We began to survey counsel for additional information and views on expert testimony in the spring of 1999. A single mailing and reminder postcard resulted in the return of 302 surveys with usable data, a 66% response rate. Returned questionnaires were evenly split between plaintiff and defense counsel.

The questionnaire mailed to attorneys consisted of two sections. The first section sought information about the targeted case, including information about the discovery of expert reports; the exchange of expert reports; effects of the exchange requirement; problems with the reports; non-testifying experts; and the existence of admissibility issues.

The second section asked attorneys about their general views on expert testimony. The questionnaire asked attorneys with pre- and post-*Daubert* experience in federal civil cases to report on changes in judicial practices used to assess expert testimony, as well as changes in their own approach to handling expert evidence. Questionnaire items on potential problems with expert testimony that appeared in the judge survey were reproduced in the attorney survey to provide comparable reports on both the frequency with which attorneys encountered problems relating to expert testimony and problems they believed had decreased (as well as increased) in frequency since *Daubert*. Attorneys offered their views about the impact of exchanging expert reports on the litigation process and provided information about the nature of their law practice.

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