THE SUPREME COURT OF NEW HAMPSHIRE

Hillsborough-northern judicial district

No. 2001-272

BAKER VALLEY LUMBER, INC.

v.

INGERSOLL-RAND COMPANY & a.

Argued: September 11, 2002

Opinion Issued: December 12, 2002

Upton & Hatfield, L.L.P., of Concord (Russell F. Hilliard and David P. Slawsky on the brief, and Mr. Hilliard orally), for the plaintiff.

Nelson Kinder Mosseau & Saturley, P.C., of Manchester (Richard C. Nelson & a. on the brief, and Mr. Nelson orally), for defendant Ingersoll-Rand Company, Inc.

Bouchard & Kleinman, P.A., of Hampton (Kenneth G. Bouchard on the brief and orally), for defendant Air Services of NH, Inc.

Duggan, J. The plaintiff, Baker Valley Lumber, Inc. (Baker Valley), appeals a ruling by the Superior Court (Sullivan, J.) barring the testimony of its expert witnesses under New Hampshire Rule of Evidence 702 and dismissing its negligence and products liability claims against defendants Ingersoll-Rand Company (Ingersoll-Rand) and Air Services of NH, Inc. (Air Services). We reverse the dismissals and remand to the trial court.

On March 25, 1995, a fire destroyed the Baker Valley sawmill in Rumney. Employee witnesses and the fire marshal's investigation identified the room housing the mill's air compressor as the source of the fire. On January 9, 1998, Baker Valley commenced litigation against Ingersoll-Rand, the manufacturer of the compressor, and Air Services, which serviced and maintained the compressor.

To prove its claims at trial, Baker Valley planned to introduce testimony from two experts: Richard W. Jones, a fire investigator, and Dr. Igor Paul, an adjunct professor of mechanical engineering at the Massachusetts Institute of Technology (MIT). Both experts concluded that a defect in the compressor's hose or fitting allowed highly-pressured oil to escape from the compressor. They believed that a spark then ignited this oil, causing the fire. Jones reached this conclusion by studying the charred air compressor, the fire marshal's report and the relevant depositions, and by conducting an experiment. By eliminating other possible causes, he concluded that the defect in the air compressor caused the fire. Dr. Paul's methodology involved studying the timing of the fire, the behavior of hydraulic vapor in the compressor, the color of the fire's smoke, and the appearance of the fire. Dr. Paul arrived at his conclusion largely by eliminating other possible causes.

The defendants challenged the admission of this testimony under New Hampshire Rule of Evidence 702. At the defendants' request, the trial court conducted a three-day hearing to determine whether the plaintiff's expert testimony was sufficiently reliable to be admissible. During this hearing, the defendants called their own expert, Dr. John Wilson, who testified, inter alia, that the temperature in the compressor room was too cold for the oil to become pressurized as the plaintiff's experts theorized. In response, the plaintiff called Jones to testify. Jones reiterated his theory and submitted to an extensive voir dire from the defendants' lawyers. The plaintiff also introduced the deposition of Dr. Paul.

On the second day of the hearing, the trial court ruled that Jones was not qualified to testify as an expert about his theory of the fire's causation. Several months later, the trial court issued an extensive opinion barring Dr. Paul's testimony as well. Although the court ruled Dr. Paul was qualified as an expert, the court concluded that the plaintiff had "failed to establish that Dr. Paul's theory is scientifically reliable" under either the standards established in Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993), or the "general acceptance" test established in Frye v. United States, 293 F. 1013, 1014 (D.C. Cir. 1923). Consequently, the trial court granted the defendants' motion to dismiss, and this appeal followed.

After we accepted this appeal, we authorized the trial court to decide two pending motions relating to Air Services. The trial court held that: (1) Dr. Paul could not, in any event, testify against Air Services because the plaintiff had not properly disclosed him to Air Services under Superior Court Rule 35(f); and (2) Jones was not qualified to testify about the service practices of Air Services.

On appeal, the plaintiff argues that the trial court erred in finding Jones unqualified as an expert, in ruling that the theory presented by the plaintiff's experts was unreliable, and in determining that it had not properly disclosed the witness under Rule 35(f). The plaintiff has not briefed the trial court's determination that Jones was not qualified to testify about the service practices of Air Services, and thus we decline to review this ruling. We address the remaining issues in turn.

We first consider whether the trial court erred in ruling that Jones is unqualified to testify as an expert concerning the plaintiff's pressurized oil theory. New Hampshire Rule of Evidence 702 states that an expert may be qualified on the basis of "knowledge, skill, experience, training, or education." N.H. R. Ev. 702. We will reverse a trial court's determination of expert qualification if we find it to be an unsustainable exercise of discretion. See State v. Santamaria, 145 N.H. 138, 143 (2000); see also State v. Lambert, 147 N.H. 295, 296 (2001) (explaining unsustainable exercise of discretion standard).

The record establishes that Jones had over fifty years of experience investigating fires, and fifty years of experience working with compressors. Jones, in fact, testified that he had personally investigated "more than a dozen" cases involving air compressors, although he had never before concluded that an air compressor was the cause of a fire. Despite Jones' extensive background, the trial court found him unqualified because he lacked personal experience with cases involving "a spray or mist turning into . . . a gas and filling the atmosphere so it could float into an ignition source."

The threshold for expert qualification, however, does not require the degree of specialization mandated by the trial court. "While the trial court may rule that a certain subject of inquiry requires that a member of a given profession . . . be called, usually a specialist in a particular branch within a profession will not be required." Mankoski v. Briley, 137 N.H. 308, 312-13 (1993) (brackets and quotation omitted). In Mankoski, we held that an orthopedic surgeon was not per se unqualified from testifying as an expert about the psychological health of his patient. More recently, we ruled that a serologist was qualified to testify about the source of blood taken from a victim's vaginal smear, despite her lack of specific knowledge regarding the age and condition of the victim. See State v. Newman, 148 N.H. ___, ___ (decided September 13, 2002). Thus, in this case, Jones' extensive background in the profession of fire investigation was sufficient to qualify him to testify about the plaintiff's causation theory despite his lack of experience with the specific type of fire causation alleged in this case.

The trial court also based its decision upon Jones' lack of knowledge about the scientific processes in his theory and his unfamiliarity with the relevant scientific literature. Formal academic knowledge, however, is only one means by which an expert may be qualified to testify under Rule 702. In this case, Jones' extensive expertise in

"practical engineering," acquired from his work in fire investigation and with compressors, was sufficient to qualify him based upon his "knowledge, skill, experience, training, or education." N.H. R. Ev. 702.

Finally, the trial court noted that Jones did not conduct an experiment that successfully recreated his explanation of the fire's cause. This fact is not relevant to his qualification as an expert, but instead relates to the weight and credibility of his testimony, which is to be evaluated by the fact-finder. See Emerson v. Bentwood, 146 N.H. 251, 253 (2001). Because the record fails to support the trial court's conclusion that Jones was not qualified to testify about the plaintiff's theory, we hold that the trial court's disqualification on this ground was an unsustainable exercise of discretion.

The trial court ruled that the plaintiff's other expert witness, Dr. Paul, was qualified to testify about the plaintiff's theory concerning the cause of the fire. At oral argument, counsel for Air Services suggested that the trial court's determination was incorrect. This issue, however, is not raised in either of the defendants' briefs, and so we decline to address it.

Given that both Jones and Dr. Paul are qualified as experts, we next consider whether their testimony is admissible. Rule 702 states that a qualified expert may offer testimony if "scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue." N.H. R. Ev. 702. Thus, expert testimony "must rise to a threshold level of reliability to be admissible." State v. Cressey, 137 N.H. 402, 405 (1993). For many years, New Hampshire followed Frye, which held that expert opinion must "have gained general acceptance in the particular field in which it belongs" to be admissible. Frye, 293 F. at 1014; see State v. Coolidge, 109 N.H. 403, 421-22 (1969), rev'd on other grounds, 403 U.S. 443 (1971). Following the enactment of the Federal Rules of Evidence, the United States Supreme Court abandoned the Frye test in Daubert, establishing a more flexible standard of reliability that places special emphasis on four factors: (1) "whether a theory or technique . . . can be (and has been) tested"; (2) "whether the theory or technique has been subjected to peer review and publication"; (3) "the known or potential rate of error" of a particular technique; and (4) the Frye "general acceptance" test. Daubert, 509 U.S. at 593-94.

Although Daubert is binding only in federal court, the text of New Hampshire Rule of Evidence 702 is identical to the federal rule at the time of the Daubert decision. Compare Daubert, 509 U.S. at 588 (quoting the 1993 version of Federal Rule of Evidence 702) with N.H. R. Ev. 702. Among the States that have adopted Rule 702's wording, the vast majority have accepted the Daubert standard as their own evidentiary rule. See Note, The Movement From Frye to Daubert: Where Do the States Stand?, 38 Jurimetrics J. 201, 208-09 (1998) (concluding that thirty-three out of forty-six Rule 702 States, as of 1998, had adopted Daubert "in essence"); see also Com. v. Lanigan, 641 N.E.2d 1342, 1348-49 (Mass. 1994) (accepting "the basic reasoning" of Daubert). Accordingly, in State v. Hungerford, 142 N.H. 110 (1997), we declined to use the Frye test. See also State v. Cavaliere, 140 N.H. 108, 109 (1995) (adopting the Daubert standard by consent of the parties). Instead, we recognized that the Daubert factors were "helpful" and used them to fashion a test to determine the reliability of expert testimony concerning repressed memories. Hungerford, 142 N.H. at 121, 125-26. Today, we apply the Daubert standard to New Hampshire Rule of Evidence 702.

The trial court concluded that Dr. Paul's testimony was unreliable under both the Frye and Daubert standards. Because New Hampshire Rule of Evidence Rule 702 supersedes the Frye test, cf. Daubert, 509 U.S. at 589, we need only review the court's Daubert analysis. The standard for reversal of a trial court's determination of expert reliability under Rule 702 is whether the court committed an unsustainable exercise of discretion. State v. Cort, 145 N.H. 606, 611 (2000); see also Lambert, 147 N.H. at 296.

The trial court relied upon a four-part test derived from State v. Cressey as a framework for its reliability analysis. This test considers: (1) the presence of objective, quantifiable evaluation results; (2) the existence of a logical nexus between the expert's observations and conclusions; (3) the verifiability of any interpretive steps; and (4) the likely difficulty of effective cross-examination of the expert. Cressey, 137 N.H. at 408-10. The Cressey test differs from the Daubert standard in that it focuses not only upon the reliability of an expert's methodology, but also the reliability of the conclusions and results of that methodology. Under Daubert, "the focus [of the reliability analysis] . . . must be solely on principles and methodology, not on the conclusions they generate." Daubert, 509 U.S. at 595. While the more searching Cressey inquiry may be appropriate for the

controversial child psychology and repressed memory expert testimony involved in that case, we have never used this test in other contexts. Thus, we conclude that the trial court erred in using the Cressey standard as its framework.

The trial court also found that Dr. Paul's theory of fire causation was unreliable based upon several gaps in his testimony. At the hearing, the defendants' expert, Dr. Wilson, testified that the low vapor pressure of the compressor oil, combined with the temperature of the compressor room, would tend to compress the oil rather than vaporize it. Dr. Paul did not specifically address these arguments in his prior deposition, nor did he explain how the compressor produced the spark that he believed caused the fire. Dr. Paul's failure to address certain counter-arguments or to explain certain aspects of his theory, however, does not make his testimony per se unreliable. Rather, these omissions concern the relative weight and credibility of competing expert testimony rather than the basic reliability of such testimony, and are the province of the fact-finder, not the trial court. See Emerson, 146 N.H. at 253. As such, we hold that the trial court erred in considering these omissions in its reliability analysis.

To the extent that the trial court relied on the Daubert factors, it erred by focusing upon the reliability of the expert's conclusion, rather than the reliability of the underlying technique used to reach that conclusion. See Daubert, 509 U.S. at 592-93. Thus, the court concluded that "the only test conducted by plaintiff's experts to verify plaintiff's [oil ignition] theory failed to yield positive results," that the scientific literature submitted by the plaintiff failed to document any fires that "started in the manner described in Dr. Paul's theory," and that there was no evidence of support in the scientific community for the oil ignition theory. In essence, the trial court reached its own conclusion regarding the validity of the expert's opinion. However, "[o]bjections to the basis of an expert's opinion go to the weight to be accorded the opinion evidence, and not to its admissibility. The appropriate method of testing the basis of an expert's opinion is by cross-examination of the expert." Cort, 145 N.H. at 614. Thus, we hold that the trial court's conclusion based on the Daubert factors was an unsustainable exercise of discretion.

The proper focus for the trial court is the reliability of the expert's methodology or technique. The trial court functions only as a gatekeeper, ensuring a methodology's reliability before permitting the fact-finder to determine the weight and credibility to be afforded an expert's testimony. Daubert, 509 U.S. at 592-95. Thus, the trial court must "decide whether this particular expert had sufficient specialized knowledge to assist the jurors in deciding the particular issues in the case." Kuhmo Tire Co. v. Carmichael, 526 U.S. 137, 156 (1999) (quotation omitted).

In this case, Dr. Paul's hypothesis about the origin of the fire was based largely upon his elimination of other possible causes. We agree with the plaintiff that this sort of methodology may be described as a "differential etiology." Although courts have found differential etiology reliable in medical diagnoses, see, e.g., Westberry v. Gislaved Gummi AB, 178 F.3d 257, 262-63 (4th Cir. 1999), the record contains no evidence of whether Dr. Paul's methodology was reliable in the fire investigation involved in this case.

We remand this question to the trial court. Specifically, the court must determine whether the differential etiology employed by Dr. Paul was reliable in this particular fire investigation. In determining reliability, the court may find the four factors outlined in Daubert to be helpful. These factors consider: (1) whether the results of the differential etiology used in this fire investigation are capable of being tested; (2) whether the use of such a differential etiology has been subjected to peer review and publication; (3) the error rate of fire investigation conclusions based upon this differential etiology, and (4) whether there is general acceptance in the scientific community of the use of such etiology in fire investigations. See Daubert, 509 U.S. at 593-94; Hungerford, 142 N.H. at 121-22. These factors, however, are not a "definitive checklist or test." Daubert, 509 U.S. at 593. Because the Daubert analysis is flexible and tied to the facts of a given case, a methodology may be reliable even if it fails to meet one or more of these factors. See Kuhmo Tire, 526 U.S. at 150. Likewise, in an appropriate case the trial court may fashion additional factors to determine the reliability of the testimony. See Daubert, 509 U.S. at 593. In no case, however, may such factors be based upon the credibility or weight the court attributes to the expert's conclusions. See Emerson, 146 N.H. at 253.

We also remand the issue of the reliability of Richard Jones' expert testimony. Jones stated in his affidavit that he "considered every possible cause of this fire that I could imagine and assessed the likelihood of each," that he specifically eliminated a number of likely causes, and that he concluded that the fire must have started in the compressor. We conclude from these statements that Jones' opinion also relied upon a differential etiology. On remand, the trial court must determine, referencing the same factors outlined above, whether this differential etiology was reliable in Jones' fire investigation. See Kumho Tire, 526 U.S. at 147-49 (holding that rationale of Daubert is not limited to scientific theory and applies to all specialized knowledge).

We emphasize that our adoption of Daubert does not require a trial court to conduct a pre-trial hearing in every case involving disputed expert testimony. The decision to hold such an evidentiary hearing rests within the trial court's sound discretion. See, e.g., United States v. Charley, 189 F.3d 1251, 1266 (10th Cir. 1999). In cases where the testimony's reliability is "properly taken for granted," Kuhmo Tire, 526 U.S. at 152, or where the information before the court is sufficient to reach a reliability determination, see, e.g., United States v. Majors, 196 F.3d 1206, 1215 (11th Cir. 1999), the trial court need not and should not conduct an evidentiary hearing. Pre-trial hearings, thus, should be limited to the "less usual or more complex cases where cause for questioning the expert's reliability arises." Kuhmo Tire, 526 U.S. at 152.

Finally, we address the disclosure violation found by the trial court. The court determined that the plaintiff violated Superior Court Rule 35(f) by failing to disclose that Dr. Paul would be a witness against Air Services, and therefore ruled that Dr. Paul's testimony could not be used against Air Services. We review a court's exclusion of expert testimony for an unsustainable exercise of discretion. See Santamaria, 145 N.H. at 143; see also Lambert, 147 N.H. at 296.

The relevant language of Superior Court Rule 35(f) requires a party to "state the subject matter on which the expert is expected to testify." We have held that the "subject matter" of expert testimony includes "the substance of the facts and opinions" about which the expert is expected to testify. O'Donnell v. Moose Hill Orchards, 140 N.H. 601, 604 (1996). The remedy for a violation is the exclusion of the expert's testimony in the undisclosed matter "unless good cause is shown to excuse the failure to disclose." Id.

In this case, consistent with Superior Court Rule 35(f), the plaintiff filed a timely disclosure explaining that Dr. Paul "is expected to provide expert testimony with respect to the claim against Ingersoll-Rand," and briefly describing Dr. Paul's theory of the fire's origin. Because this disclosure says nothing about testimony concerning inadequate servicing or maintenance of the compressor, we agree that Dr. Paul cannot testify about these matters against Air Services.

The trial court also prohibited Dr. Paul from testifying against Air Services regarding the subject matter contained in the plaintiff's disclosure. As best as we can determine, the argument advanced by Air Services is that the identity of the defendant against whom the witness will offer testimony is part of the "subject matter" of that testimony. Thus, Air Services contends that by failing to identify the defendant against whom the expert testimony will be used, a plaintiff forfeits the ability to use that expert against that defendant. We decline to adopt this reasoning under the circumstances of this case. First, because the theory of fire causation advanced by Dr. Paul is a necessary predicate to the claims against both Ingersoll-Rand and Air Services, the plaintiff's disclosure filed with the court was sufficient to put Air Services on notice that Dr. Paul's testimony could be used against it. Second, Air Services was clearly not prejudiced by the plaintiff's method of disclosure. Air Services' counsel, in fact, appeared at Dr. Paul's deposition subsequent to the disclosure and asked him a series of questions. We thus hold that the trial court's exclusion of all his disclosed testimony against Air Services was an unsustainable exercise of discretion.

Reversed and remanded.

BRODERICK, NADEAU and DALIANIS, JJ., concurred.