United States Court of Appeals

FOR THE DISTRICT OF COLUMBIA CIRCUIT

Argued November 17, 2006 Decided June 8, 2007

No. 05-7134

PAULA J. GALVIN,
APPELLANT

v.

ELI LILLY AND COMPANY,
APPELLEE

Appeal from the United States District Court
for the District of Columbia
(No. 03cv01797)

Aaron M. Levine argued the cause for appellant. With him on the briefs was *Brandon J. Levine*.

James J. Dillon argued the cause and filed the brief for appellee.

Before: GINSBURG, *Chief Judge*, and RANDOLPH and ROGERS, *Circuit Judges*.

Opinion for the Court filed by *Chief Judge* GINSBURG.

Dissenting opinion filed by *Circuit Judge* ROGERS.

GINSBURG, *Chief Judge*: Paula J. Galvin appeals the summary judgment entered by the district court in favor of defendant Eli Lilly and Company. Galvin claims she suffered injuries resulting from her exposure to Diethylstilbesterol (DES) manufactured by Lilly. The district court concluded Galvin failed to present sufficient evidence to demonstrate she was exposed to DES made by Lilly rather than by another company. We affirm the judgment.

I. Background

DES, also known as stilbesterol, is a synthetic estrogen that was prescribed in the middle third of the twentieth century to prevent miscarriage and premature birth. *Gassmann v. Eli Lilly & Co.*, 407 F. Supp. 2d 203, 205 (D.D.C. 2005). Later research revealed that the children of women who took DES while pregnant are more likely to have certain health problems, including infertility. *Id.*

In 1964 and 1965 Elizabeth Keller, while pregnant with Galvin, was prescribed 25 mg DES pills, which she purchased from the Crowell Ash Drug Store in Pittsburg, Kansas. Some 40 years later, Galvin filed this suit against Lilly, claiming Keller had purchased DES manufactured by Lilly and she was infertile as a result of her exposure to the drug *in utero*.

After discovery Lilly moved for summary judgment, arguing that Galvin could not show the DES Keller had taken was more likely than not made by Lilly. The Company provided evidence from various directories of drug manufacturers (the 1964-65 Blue Book and the 1964 and 1965 editions of the Red Book, respectively) listing 32, 104, or 97 firms that manufactured DES in the relevant years. According to Lilly, Galvin had presented only two items of evidence relevant to product identification: Keller's description of the pill she took

and a statement by Bill Waltrip, a pharmacist who had worked at the Crowell Ash Drug Store, discussing the store's stocking practices and suggesting the only DES it carried in the 1960s was made by Lilly. Keller had described the pill she took as a round "little white pill with a cross" and had answered "no" when asked whether she could remember (1) any other markings on the pill, (2) whether it had any coating, (3) what package the pill came in, or (4) anything about the label on the package. Lilly contended Keller's description of the pill was insufficiently specific; it identified not only Lilly's pill but also two other pills, one manufactured by Squibb (now Bristol-Myers Squibb) and one manufactured by Marsh Parker. As for the Waltrip statement, Lilly noted Waltrip did not start working for the Crowell Ash Drug Store until 1967 — two years after Keller had last purchased DES — and therefore lacked relevant personal knowledge.

In response Galvin sought to introduce supplemental affidavits by Keller and Waltrip. Keller's supplemental affidavit stated "[t]o the best of my recollection, the [DES] pills were small, round, white, and cross-scored without any writing on either side of the pill" and, referring to a photograph of a DES pill manufactured by Lilly, added "[a]s I stated in my deposition, the attached photograph shows the pills I ingested." Waltrip's supplemental affidavit stated that in 1967 he talked to other pharmacists at the drugstore and observed the practices and procedures of the store, from which it was apparent to him that the practices and procedures in 1967 did not differ from those followed in 1964-65. Galvin also noted she had presented expert testimony indicating no other DES pill matched Keller's description and evidence suggesting Lilly had the "lion's share" of the market. She also argued that her mother could not have purchased either the Squibb pill or the Marsh Parker pill because the Squibb pill had "Squibb" imprinted on the side and therefore

did not match her description and the Marsh Parker pill was no longer sold in 1965.

The district court refused to consider Keller's supplemental affidavit because "it was not included in the discovery .... Plaintiff is not entitled to recharacterize and modify to her advantage statements made in the course of depositions after Defendant has relied on those depositions in drafting a dispositive motion." The court similarly refused to consider the Waltrip supplement, calling it an inappropriate "post hoc recalibration." The court then concluded Kansas law governed the claim, wherefore Galvin had to prove by a preponderance of the evidence that the Lilly product was the actual cause of her injury, and she had not done so. Although the Squibb pill could be eliminated as a possible culprit because it was for a different dosage, the Marsh Parker pill could not be discounted. Therefore, even if Keller's supplemental affidavit were considered, the court reasoned, there was no evidence suggesting the Marsh Parker pill differed in appearance from the Lilly pill, and Galvin's contention that Marsh Parker was not in the market at the time was refuted by its listing in the Red Book. Galvin had also submitted two documents indicating the market shares of various DES manufacturers during 1964 and 1965 that did not identify Marsh Parker as a producer, but the district court rejected them because it appeared they did not encompass the Kansas market. The court therefore concluded Galvin "cannot demonstrate that she was injured by Lilly DES rather than DES produced by a different company" and accordingly granted summary judgment in favor of the defendant.

Galvin filed a motion to amend the judgment, arguing in relevant part that the court had erred in refusing to consider the supplemental affidavits. The district court denied the motion, opining that Keller's supplemental affidavit "fundamentally change[d] the nature of [her] earlier deposition testimony" and

that it was in any event irrelevant. As for Waltrip's supplemental affidavit, the court said, "Plaintiff cannot receive Defendant's motion for summary judgment and then go in search of new evidence with which to attack Defendant's arguments. This contradicts the very notion of a discovery process."

II. Analysis

On appeal, Galvin challenges the district court's refusal to consider the two supplemental affidavits and its grant of summary judgment for Lilly.

A. Admissibility of Supplemental Affidavits

A party opposing summary judgment may submit affidavits in support of its position provided such affidavits meet the requirements of Federal Rule of Civil Procedure 56(e). Virtually every circuit has adopted a form of the so-called "sham affidavit rule," which precludes a party from creating an issue of material fact by contradicting prior sworn testimony unless the "shifting party can offer persuasive reasons for believing the supposed correction" is more accurate than the prior testimony. *Pyramid Sec. Ltd. v. IB Resolution, Inc.*, 924 F.2d 1114, 1123 (D.C. Cir. 1991); *see Cleveland v. Policy Mgmt. Sys. Corp.*, 526 U.S. 795, 806-07 (1999) (collecting cases). *See generally* 10A CHARLES ALAN WRIGHT, ARTHUR R. MILLER, & MARY KAY KANE, FEDERAL PRACTICE & PROCEDURE § 2726, at 448-52 (3d ed. 1998).[*] If the supplemental affidavit does not contradict but

[*] Although we have not formally addressed the standard applicable to review of a district court decision to treat an affidavit as a sham, *Pyramid* suggests the determination is part of our overall review of summary judgment and accordingly subject to de novo review. *See* 924 F.2d at 1123-24. Similarly, the Second Circuit has implied this

instead clarifies the prior sworn statement, then it is usually considered admissible. *See, e.g.*, *Selenke v. Med. Imaging of Colo.*, 248 F.3d 1249, 1258 (10th Cir. 2001); *Slowiak v. Land O'Lakes, Inc.*, 987 F.2d 1293, 1297 (7th Cir. 1993); *see also Aka v. Wash. Hosp. Ctr.*, 156 F.3d 1284, 1296 n.14 (D.C. Cir. 1998) (en banc); WRIGHT, MILLER, & KANE, *supra*.

The district court refused to consider the supplemental Keller and Waltrip affidavits on the ground it was improper for the affiants to "recharacterize" their prior testimony after the close of discovery. We agree that "parties' opportunism should not readily imperil summary judgment," *Pyramid*, 924 F.2d at 1124; *see also Cowan v. Prudential Ins. Co. of Am.*, 141 F.3d 751, 756 (7th Cir. 1998) ("[A] deposition is the time for the plaintiff to make a record capable of surviving summary judgment — not a later filed affidavit"), and also recognize that a district court has broad discretion with respect to discovery, *see Hussain v. Nicholson*, 435 F.3d 359, 363 (D.C. Cir. 2006). A supplemental affidavit filed by an interested party should not be deemed inadmissible solely because it was filed in response to a motion for summary judgment, however; the important considerations are whether the affidavit contradicts a prior sworn statement without justification or the filing party breached its obligations in discovery. *See* FED. R. CIV. P. 37.

---

determination is a matter of law, while the First, Sixth, Seventh, Tenth, and Eleventh Circuits have treated this issue as an evidentiary one subject to review for abuse of discretion. *Compare Langman Fabrics v. Graff Californiawear, Inc.*, 160 F.3d 106, 112 (2d Cir. 1998), *with Torres v. E.I. Dupont De Nemours & Co.*, 219 F.3d 13, 21 (1st Cir. 2000); *Briggs v. Potter*, 463 F.3d 507, 512-13 (6th Cir. 2006); *Kalis v. Colgate-Palmolive Co.*, 231 F.3d 1049, 1055-56 (7th Cir. 2000); *Lantec, Inc. v. Novell, Inc.*, 306 F.3d 1003, 1016 (10th Cir. 2002); *Telfair v. First Union Mortg. Corp.*, 216 F.3d 1333, 1342-43 (11th Cir. 2000).

Galvin contends the supplemental affidavits do not contradict but merely clarify the affiants' prior statements. Because we conclude there would not be a genuine dispute over a material fact even if the supplemental affidavits were admitted, we find it unnecessary to rule upon their actual admissibility. Were it otherwise, we would have to determine whether these affidavits contradict or clarify prior statements and possibly also whether the sham affidavit rule should be applied to a non-party witness.

B. Summary Judgment

We review the district court's grant of summary judgment de novo. *See Flynn v. R.C. Tile*, 353 F.3d 953, 957 (D.C. Cir. 2004). Summary judgment is appropriate only if "there is no genuine issue as to any material fact and ... the moving party is entitled to a judgment as a matter of law," FED. R. CIV. P. 56(c); *see Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247 (1986); there is such a "genuine issue" if "a reasonable jury could return a verdict for the nonmoving party." *Anderson*, 477 U.S. at 248. Applying that standard, "[w]e view the evidence in the light most favorable to the nonmoving party and draw all reasonable inferences in its favor." *Mastro v. Potomac Elec. Power Co.*, 447 F.3d 843, 850 (D.C. Cir. 2006).

It is uncontested on appeal that Kansas law governs this case and Galvin's burden is therefore to prove Lilly's product was more likely than not the cause of her injury. *See Lyons v. Garlock, Inc.*, 12 F. Supp. 2d 1226, 1228-29 (D. Kan. 1998); *Lenherr v. NRM Corp.*, 504 F. Supp. 165, 168 (D. Kan. 1980); *see also Yount v. Deibert*, 147 P.3d 1065, 1072-74 (Kan. 2006); *Mays v. Ciba-Geigy Corp.*, 661 P.2d 348, 360 (Kan. 1983); *cf. Sindell v. Abbott Labs.*, 607 P.2d 924, 936-38 (Cal. 1980) (holding DES manufacturers liable under California law in proportion to their market shares). This she may do by means

of circumstantial evidence, *see Arterburn v. St. Joseph Hosp. & Rehab. Ctr.*, 551 P.2d 886, 890 (Kan. 1976), but the "circumstances shown must justify an inference of probability as distinguished from mere possibility." *Mays*, 661 P.2d at 360; *see also Arterburn*, 551 P.2d at 892 ("There must be a rational basis for concluding it is more probable than not that the defendant's negligence caused the plaintiff's damage. It is not necessary for the plaintiff to eliminate all other possible causes of his injury in order to present a jury question."). Therefore, to avoid summary judgment Galvin need provide only evidence sufficient for a reasonable juror, drawing all reasonable inferences in her favor, to conclude she was more probably than not exposed to DES manufactured by Lilly. *See Shields v. Eli Lilly & Co.*, 895 F.2d 1463, 1465 (D.C. Cir. 1990); *Yount*, 147 P.3d at 1074. It follows that, because Lilly presented an alternative theory, Galvin — though she need not disprove that alternative — must give some credible reason for a juror to accept her theory over the alternative. *Cf. Siegel v. Mazda Motor Corp.*, 878 F.2d 435, 439 (D.C. Cir. 1989) ("When the record thus contains competing, unrebutted hypotheses consistent with driver error, proof that a mechanical defect was merely 'capable of' causing the accident does not satisfy the standard ... that such an explanation be 'more probable than not'").

Galvin contends she met this standard by presenting (1) Keller's physical description of the pills she took, (2) Waltrip's testimony regarding practices at the drugstore where Keller purchased her DES, (3) expert testimony suggesting the Lilly pill is unique, (4) a hospital ("labor and delivery") record indicating Keller took "Stilb 25 mg," (5) testimony suggesting the wholesaler that supplied the Crowell Ash Drug Store would have provided DES made by Lilly to fill Keller's prescription, and (6) evidence relating to Lilly's share of the DES market. Galvin acknowledges these "proofs might be peripheral,

angulated and fragmented," but contends they interlock to form a "mosaic" showing she was exposed to Lilly's product. Just as a jigsaw puzzle cannot be solved if a piece is missing, however, Galvin cannot survive summary judgment if there is a gap in the causal chain between Lilly and Keller.

Galvin's evidence suggests two possible theories linking Lilly to Keller. First, Keller's description of the pills she took, in combination with Galvin's evidence negating alternatives, might be sufficient. Second, the evidence regarding the sales and stocking practices of the Crowell Ash Drug Store, together with the evidence regarding the purported business practices of the store's purported supplier of DES, might do the job. There are, however, problems with each theory.

1. The Description

Keller described the pill she took as small, round, white, and cross-scored, and she picked the Lilly pill out of a photo array. Of the approximately 20 pills she was shown, however, no other pill was round, white, and cross-scored and Keller admitted that seeing the photos probably reminded her of what the pill she took looked like. In any event, as Lilly points out, her description is insufficient to allow a reasonable juror to conclude Keller purchased Lilly's brand of DES because it also describes the Marsh Parker pill.[*]

---

[*] Galvin claims she was blindsided by Lilly's evidence of the Marsh Parker pill, but her objection comes too late. Lilly introduced Marsh Parker as an alibi pill in its motion for summary judgment, supported by deposition testimony given in a different case by Robert Anderson, a pharmacist in Massachusetts. Galvin suggests that Lilly's failure to disclose the deposition earlier was unfair because Galvin had asked Lilly during discovery to disclose the identity of any individuals who had information regarding possible alternative pills and Lilly had not

Lilly reasons that, because the Marsh Parker pill shows Keller's description is not unique to Lilly's product, it might apply to any number of DES pills manufactured in 1964-65. Lilly's point is that Keller's description could not prove she took a Lilly pill even if Galvin could prove Keller did not purchase the Marsh Parker pill. This approach implies a burden shifting sequence for product identification through physical description: First, Galvin must provide a physical description that matches the Lilly pill. Then, to avoid judgment, Lilly must show that at least one other DES pill matches Keller's description, in which event Galvin, finally, must show not only that Keller did not take the matching pill(s) identified by Lilly but also that Keller did not take any other pill identified by Lilly as having been in the market but not otherwise described. Because we hold that Galvin has not eliminated the Marsh Parker pill from consideration, we reach no conclusion regarding Lilly's approach.

Keller's supplemental affidavit, assuming it was admissible, does not help Galvin eliminate the Marsh Parker pill. Although the supplemental affidavit includes a photograph of a Lilly DES pill as a purported description of the pills Keller took, it does not indicate that Keller selected the Lilly pill in a pairwise comparison against the Marsh Parker pill. The photograph is therefore only a visual representation of Keller's earlier verbal description, not her identification of the Lilly pill, and as such

---

listed Anderson. She also notes that Anderson gave an affidavit after summary judgment in this case disavowing his prior testimony regarding the Marsh Parker pill. Galvin, however, did not object to the Anderson testimony at summary judgment, and the district court's rejection of Anderson's post-judgment affidavit was not an abuse of discretion. *See Thompson v. Evening Star Newspaper Co.*, 394 F.2d 774, 777 (D.C. Cir. 1968).

does not show that Keller took a pill manufactured by Lilly rather than by Marsh Parker.

Galvin also presented the affidavits of Harold Sparr and Philip Cafferty stating that no company other than Lilly manufactured a round, white, cross-scored DES pill. Rule 56(e) requires admissible affidavits to be made "on personal knowledge, ... set forth such facts as would be admissible in evidence, and ... show affirmatively that the affiant is competent to testify to the matters stated therein." Sparr and Cafferty do not lay claim to the personal knowledge necessary to meet this requirement. Sparr recounts that he is a former President of the Massachusetts Board of Registration in Pharmacy, former President of the Massachusetts College of Pharmacy and Health Sciences Alumni Association, and twice a delegate to the U.S. Pharmacopoeia, which sets standards for all medicines and other healthcare products manufactured and sold in the United States, *see* The United States Pharmacopeial Convention, Inc., About USP, http://www.usp.org/aboutUSP. Cafferty is a pharmacist and former Eli Lilly district manager for Rhode Island and Massachusetts. Although well-credentialed experts, their self-described experiences are almost exclusively limited to New England; the only experiences remotely suggesting that either might have any knowledge of the DES market outside New England are, in Sparr's case, attendance at the U.S. Pharmacopoeia, but he does not indicate when he was a delegate nor what his role was, and in Cafferty's, his position at Lilly, though he provides no information about it to suggest as much. Nothing in their affidavits do anything to establish their competence to testify as to what brands of DES were available in Kansas in 1964-65. No reasonable juror therefore could find their assertions regarding the DES market credible with reference to any place other than New England.

Galvin suggests the Marsh Parker pill was unavailable in Kansas in 1964-65 because, of the three drug directories in the record, only the Red Book lists Marsh Parker as a manufacturer then. Furthermore, market share analyses done for DES litigation in New York and California do not include the Marsh Parker pill.

This evidence would not permit a reasonable juror to infer that Marsh Parker was not in the Kansas market during the relevant time period. The market share analysis in the California litigation concerned a different product — 5 mg pills, not the 25 mg pills at issue in this case — and it is unclear whether the market being evaluated even included Kansas. California law requires market share liability to be calculated using an analysis of the "relevant DES market," *Brown v. Superior Court*, 751 P.2d 470, 486 (Cal. 1988), and the record does not indicate whether the relevant market for that litigation is the California market, some smaller local or larger regional market, or the national market. The market share analysis used in the New York litigation was national in scope, *see Hymowitz v. Eli Lilly & Co.*, 539 N.E.2d 1069, 1078 (N.Y. 1989), but a reasonable juror could not infer anything from the one page Galvin put into the record. That page covers only about 30 percent of the market during the relevant time; Lilly represents and Galvin does not deny that only 56 percent of the market was allocated to specific companies even in the complete analysis. Furthermore, the page we have appears to be an alphabetical listing of manufacturers from "H" to "Re," but many of the listed manufacturers are said to have been "granted summary judgment in the NY Market Share proceeding" (whatever that may be) and have no market share indicated; certain other manufacturers have no market share indicated without explanation. A reasonable juror therefore could not infer anything from Marsh Parker's absence from the list, and would have no basis for concluding Marsh Parker's national market

share was not part of the unallocated 44 percent. Finally, Galvin concedes the Physicians' Desk Reference (PDR), which she put into the record, is not an exhaustive list of manufacturers;[*] nor does she challenge the accuracy of the 1964 and 1965 Red Books in which Marsh Parker is listed.

Galvin does argue that, because the 1964 and 1965 Red Books do not distinguish between regional and national manufacturers or contain any information about "availability, popularity or accessibility," no reasonable juror could infer from them that Marsh Parker then sold 25 mg DES pills in the Kansas market. Relatedly, Galvin suggests Lilly must provide evidence showing Marsh Parker was stocked at the Crowell Ash Drug Store. It is Galvin's burden, however, to show Keller more likely than not took DES manufactured by Lilly; noting that a listing in the Red Book is consistent both with Marsh Parker selling in Kansas and not selling in Kansas does not help meet that burden.

---

[*] Galvin nonetheless argues that Lilly's exclusive listing in the PDR, which she calls the "Bible of Drugs," should allow a reasonable juror to infer that Lilly was the market leader in DES, or at least had a greater market share than did Marsh Parker. The dissent relatedly suggests Marsh Parker's absence from the PDR and the Blue Book allows the inference that "Marsh Parker was not a major producer of DES during the relevant period." For this to be a reasonable inference from the materials cited, however, there would have to be evidence indicating how the Blue Book and the PDR were compiled. If there were evidence that the winnowing criterion was market share, then the inference would indeed be reasonable, but there is no such evidence in the record. (In fact, Galvin's Reply Brief implies a listing in the PDR had to be purchased.) On the present record, the only thing that reasonably can be inferred from the Blue Book, the Red Book, or the PDR is that listed drugs were produced by the indicated manufacturer(s) at the time of publication.

Even if Marsh Parker was in the relevant market, Galvin suggests the evidence of Lilly's dominant market share would allow a reasonable juror to infer that Keller probably purchased a Lilly pill.[*] The case law on this issue is mixed, *compare, e.g.*, *Smith v. Rapid Transit*, 58 N.E.2d 754, 755 (Mass. 1945), *with Kramer v. Weedhopper of Utah, Inc.*, 490 N.E.2d 104, 107-08 (Ill. App. Ct. 1986), though we understand courts usually reject the argument Galvin is making. *See, e.g.*, FREDERICK SCHAUER, PROFILES, PROBABILITIES, AND STEREOTYPES 81 (2003). *But see* Ronald J. Allen & Brian Leiter, *Naturalized Epistemology and the Law of Evidence*, 87 VA. L. REV. 1491, 1524-25 (2001). *See generally* Jonathan J. Koehler, *When Do Courts Think Base Rate Statistics Are Relevant?*, 42 JURIMETRICS J. 373 (2002). Even if we were, however, to conclude that statistical evidence

---

[*] This argument is reminiscent of the familiar Blue Bus hypothetical, a popular topic among commentators. *See, e.g.*, Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1508-10 (1999); Richard W. Wright, *Causation, Responsibility, Risk, Probability, Naked Statistics, and Proof: Pruning the Bramble Bush by Clarifying the Concepts*, 73 IOWA L. REV. 1001 (1988). One formulation of the hypothetical is as follows:

> While driving late at night on a dark, two-lane road, a person confronts an oncoming bus speeding down the center line of the road in the opposite direction. In the glare of the headlights, the person sees that the vehicle is a bus, but he cannot otherwise identify it. He swerves to avoid a collision, and his car hits a tree. The bus speeds past without stopping. The injured person later sues the Blue Bus Company. He proves, in addition to the facts stated above, that the Blue Bus Company owns and operates 80% of the buses that run on the road where the accident occurred. Can he win?

Charles Nesson, *The Evidence or the Event? On Judicial Proof and the Acceptability of Verdicts*, 98 HARV. L. REV. 1357, 1378-79 (1985).

could by itself establish causation for the purpose of summary judgment, Galvin would still need to adduce statistics indicating it was more likely than not that Keller took pills manufactured by Lilly.

Galvin points to four pieces of evidence relating to Lilly's presence in the DES market. First, according to a market share analysis constructed for an unidentified lawsuit in New York, Lilly had 28.9 percent of the national market for 25 mg DES pills in 1964 and 27.5 percent in 1965. Second, as mentioned above, an analysis concerning 5 mg pills constructed for a lawsuit in California showed Lilly had a 47.8 percent share in 1964 and a 48.9 percent share in 1965 in some unspecified geographical market. Third, Galvin presented the 1960 testimony of a Lilly vice president that Lilly produced approximately 75 percent of the stilbesterol consumed in the United States. The probative value of this statement is essentially nil, however, because most stilbesterol was consumed by animals. Finally, Galvin cites the listing for diethylstilbesterol in the 1965 PDR, which identifies only Lilly as a manufacturer. Although Galvin concedes the PDR listing does not prove Lilly was the only manufacturer of DES that year, she does contend a reasonable juror could infer that Lilly was the dominant producer in the national market.

Based upon this evidence, a reasonable juror could not infer the probability Keller took a pill manufactured by Lilly is greater than 50 percent. Most of the evidence presented either does not directly address a relevant product or geographic market or, in the case of the PDR, is simply uninformative on the question whether Lilly accounted for more than 50 percent of the market. The most probative evidence is clearly the national market share analysis used in the New York litigation, and it suggests the probability that Keller purchased a Lilly pill is less than 30 percent — well below the "more likely than not"

standard. On this record, a reasonable juror could not conclude Lilly was more likely than not the manufacturer of the pills Keller took.

Finally, Galvin argues in essence that the whole of her evidence is greater than the sum of its parts. Put another way, she argues a juror could reasonably infer the white cross-scored pill Keller took was more likely manufactured by Lilly than by Marsh Parker because Lilly's share of the market for round white cross-scored DES pills was greater than Marsh Parker's at the relevant time. This argument may be consistent with our decision in *Shields*, *see* 895 F.2d at 1466, but Galvin simply has not provided the evidence — market share data for the Marsh Parker pill in a relevant market — necessary for a reasonable juror to conclude that a Lilly pill was probably the cause of her injury. She does submit a page from a market share analysis performed for New York litigation that reports Lilly had approximately 28-29 percent of the market during the relevant time and does not include Marsh Parker at all but, for the reasons noted above, no reasonable juror could infer anything from Marsh Parker's absence from that analysis.

2. Business Practices

Galvin makes two related arguments based upon evidence of business practices. She first notes that, according to the Waltrip affidavits, the Crowell Ash Drug Store sold only Lilly's brand of DES in the 1960s; therefore, when Keller purchased her DES, she must have received Lilly's product. The second argument is more complicated. Although her doctor's written prescription is not available, her labor and delivery record suggests he prescribed her "Stilb 25 mg," which Galvin contends would allow a reasonable juror to conclude the underlying prescription did not specify a particular brand. Other evidence suggests Lilly wholesalers provided Lilly products to

pharmacies when they received orders for drugs not specified by brand name. Finally, Waltrip in his affidavit states the Crowell Ash Drug Store ordered its DES from Pennington Wholesale Drug, which was a Lilly wholesaler. Galvin claims this evidence would make it reasonable for a juror to infer that Keller's doctor prescribed DES without specifying a brand, which led the Crowell Ash Drug Store to order DES from Pennington without specifying a brand, which then caused Pennington to provide DES manufactured by Lilly.

Both theories depend upon the Waltrip testimony, which the district court correctly held was inadmissible pursuant to Rule 56(e). As previously mentioned, Waltrip did not become a pharmacist until 1967 and he does not suggest he was personally familiar with the Crowell Ash Drug Store's stocking practices in 1964-65. Although his supplemental affidavit notes that upon arriving at the drugstore in 1967, he talked to and took instructions "from other pharmacists and observed the practices and procedures of the store, as they existed in the years prior," that demonstrates only that Waltrip's knowledge of practices in 1965 is based upon inadmissible hearsay.

Galvin suggests Waltrip's statement is reducible to admissible form as evidence of a routine practice, presumably pursuant to Federal Rule of Evidence 406.[*] Even if it is, that would not cure Waltrip's lack of personal knowledge for the

---

[*] Rule 406 states:

> Evidence of the habit of a person or of the routine practice of an organization, whether corroborated or not and regardless of the presence of eyewitnesses, is relevant to prove that the conduct of the person or organization on a particular occasion was in conformity with the habit or routine practice.

relevant time.[*] Galvin assumes Waltrip could reasonably infer the Crowell Ash Drug Store's stocking practices in 1967 were the same as its practices in 1965, but she cites no authority supporting this counter-intuitive proposition, nor has she presented any evidence suggesting the practice did not change in the interim. Merely to assume a practice in 1967 to have been the same as it was in 1965 is not reasonable, and we accordingly find the Waltrip testimony unhelpful to Galvin in opposing summary judgment.

So to say is not, as Galvin claims, to "g[ive] Lilly the benefit of the inference that the drugstore underwent a revamping or overhaul of its regular practices of ordering and stocking." We adopt a neutral posture, inferring neither change nor continuity at the drugstore. Still, a reasonable juror must have some reason to believe the practice followed in 1967 was the same as the practice followed in 1965. Galvin has provided none, and thus has failed to carry her burden as the plaintiff.

III. Conclusion

A reasonable juror considering only the evidence that satisfies the requirements of Rule 56(e) could not have found it more probable than not that Galvin ingested DES manufactured by Lilly. This remains so even if the supplemental affidavits of Keller and Waltrip are admissible. Accordingly, the judgment of the district court is

Affirmed.

---

[*] Our dissenting colleague suggests Waltrip's testimony is bolstered by the testimony of Sparr and Cafferty regarding Lilly's stocking practices. We fail to see how. Sparr and Cafferty do not claim to know anything about the Crowell Ash Drug Store's supplier in 1965, and what they may know about Lilly's "nationwide wholesale strategy" does not change that fact.

ROGERS, *Circuit Judge*, dissenting: Assuming, as the court does, that only two pills match the description given by Galvin's mother of the small, round, white, cross-scored pill that she took, Galvin has proffered evidence from which a reasonable jury could find that she was more probably exposed to diethylstilbestrol ("DES") manufactured by Lilly than the alternative manufactured by Marsh Parker. The events underlying Galvin's complaint occurred more than four decades ago. Hence, it is hardly surprising that evidence such as pharmacy business records from 1964-65 is unavailable to demonstrate with certainty which manufacturer produced the DES giving rise to Galvin's claims for relief. But Galvin need not produce at trial evidence of substantial certainty, and the court errs by holding her to a standard of proof greater than is required under the relevant State law, to wit: "more probable that the event was caused by the defendant than that it was not."

In a universe of two pills, any evidence tending to implicate the Lilly pill suffices to make that pill the more probable cause of Galvin's injuries. Galvin has proffered multiple pieces of evidence that, when viewed together as a mosaic, support the reasonable inference that among the small, round, white, cross-scored pills, her mother's DES pill was more probably manufactured by Lilly than by Marsh Parker. In response to Lilly's alternative theory that the Marsh Parker pill, which also matches Galvin's mother's description, may have caused Galvin's injuries, the court initially acknowledges that, as the non-moving party, Galvin "need not disprove that alternative." Op. at 8. This, however, is what the court requires her to do. Thus, having rejected the probative value of each piece of her evidence viewed in isolation, the court observes that "Galvin simply has not provided the evidence — market share data for the Marsh Parker pill in a relevant market — necessary for a reasonable juror to conclude that a Lilly pill was probably the cause of her injury." Op. at 16. But Galvin is not relying solely

on statistical evidence. *See* Op. at 14-16. Once that flaw in the court's analysis is removed the "mosaic" that emerges from Galvin's evidence, according her as we must the benefit of all reasonable inferences, suffices to defeat Lilly's claim that it is entitled to judgment as a matter of law, for at the summary judgment stage Galvin is not required to "produce evidence in a form that would be admissible at trial." *Celotex Corp. v. Catrett*, 477 U.S. 317, 324 (1986).

I.

"Under Rule 56(c), summary judgment is proper 'if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law.'" *Id.* at 322 (quoting FED. R. CIV. P. 56(c)). In other words, the "mosaic" approach, in contrast with the court's breaking up of Galvin's evidence under two theories of analysis, *see* Op. at 9, is consistent with the Supreme Court's instruction on summary judgment. Thus,

> the plain language of Rule 56(c) mandates the entry of summary judgment, after adequate time for discovery and upon motion, against a party who fails to make a showing sufficient to establish the existence of an element essential to that party's case, and on which that party will bear the burden of proof at trial.

Id. Galvin's proffer of evidence is not so deficient. At the summary judgment stage, "[t]he court's function is not to try disputed issues of fact, but only to ascertain whether such an issue is present, and any doubt on that score is to be resolved against the movant." *Abraham v. Graphic Arts Int'l Union*, 660 F.2d 811, 814 (D.C. Cir. 1981) (footnote omitted). Where any

such dispute exists after giving the non-movant "the most favorable view of the record," *Exxon Corp. v. FTC*, 663 F.2d 120, 126 (D.C. Cir. 1980); *see Celotex*, 477 U.S. at 330 n.2, summary judgment must be denied because "[t]rial by affidavit is no substitute for trial by jury which so long has been the hallmark of 'even handed justice.'" *Poller v. CBS, Inc.*, 368 U.S. 464, 473 (1962). At the summary judgment stage, Galvin's evidence "is to be believed, and all justifiable inferences are to be drawn in [her] favor." *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255 (1986). Additionally, she is "not require[d] . . . to discredit every conceivable alternative theory of causation." *Shields v. Eli Lilly & Co.*, 895 F.2d 1463, 1465 (D.C. Cir. 1990).

To determine whether a reasonable juror could find in Galvin's favor based on her proffered evidence, the court must apply the substantive law of Kansas. *See Erie R.R. Co. v. Tompkins*, 304 U.S. 64, 78 (1938). To prevail under Kansas law, a plaintiff must "'introduce evidence from which reasonable persons may conclude that it is more probable that the event was caused by the defendant than that it was not.'" *Yount v. Deibert*, 147 P.3d 1065, 1073 (Kan. 2006) (quoting PROSSER & KEETON ON TORTS § 41, at 269-70 (5th ed. 1984)). Kansas law does not hold the plaintiff "to a highly detailed burden of proof," *id.* at 1072, but simply requires "evidence which affords a reasonable basis for the conclusion that it is more likely than not that the conduct of the defendant was a cause in fact of the result," *id.* (quoting PROSSER & KEETON § 41, at 269-70). Thus, "triers of fact are allowed to draw upon ordinary human experience with regard to the probabilities of the case." *Id.* at 1073. To create a material issue of disputed fact, "circumstantial evidence in a civil case need not rise to that degree of certainty which will exclude every reasonable conclusion other than the conclusion sought to be established." *Lenherr v. NRM Corp.*, 504 F. Supp. 165, 168 (D. Kan. 1980). At trial, a jury is entitled to make a reasonable inference from

the evidence even if "some other inference equally reasonable might be drawn therefrom." *Arterburn v. St. Joseph Hosp. & Rehabilitation Ctr.*, 551 P.2d 886, 890 (Kan. 1976). In a products liability case, the evidence "must justify an inference of probability as distinguished from mere possibility." *Mays v. Ciba-Geigy Corp.*, 661 P.2d 348, 360 (Kan. 1983).

II.

The court declines to consider Lilly's contention that other manufacturers of DES may have made a pill that matches Galvin's mother's description because "Galvin has not eliminated the Marsh Parker pill from consideration." Op. at 10. Galvin is not required to do so in order to defeat summary judgment, *see* Part I, although the court repeatedly suggests that she must, *see* Op. at 10, 12-13, 15-16. Assuming, as the court does, that only two DES pills meet the description given by Galvin's mother, Op. at 10, Lilly has not offered any evidence suggesting that Galvin was probably exposed to the Marsh Parker pill, and the mosaic based on the evidence proffered by Galvin suffices to show that it is more probable that she was exposed to the Lilly pill. Even assuming no individual piece of evidence proffered by Galvin would alone suffice to meet her burden, she has offered evidence that begins with her mother's identification of the pill and her hospital records, continues with affidavits from several pharmacists — including an expert — concerning Lilly's nationwide agreements and stocking practices, and with Lilly's Warehousing and Distribution Service Agreement, and concludes with the druggists' reference books — the Physician's Desk Reference ("PDR") and the American Druggist Blue Book ("Blue Book") — and a national market-share matrix. The conclusion that Galvin has met her burden follows without deciding whether the district court properly denied Galvin's request to file supplemental affidavits, *see* Op. at 6, or whether this court errs by allowing Lilly to avoid

the result of a disavowing affidavit, *see* Op. at 9 n.*.

Galvin's mother gave a four-point description of the pill she took in 1964-1965 and hospital notes indicate that she was prescribed "Stilb 25 mg," which supports the reasonable inference that her prescription also indicated a generic name only. The initial affidavit of pharmacist Bill Waltrip provides information about the business practices with regard to DES at the drug store in Pittsburg, Kansas from which Galvin's mother obtained her DES pills; no records exist for the pharmacy from 1964-65. Waltrip states that, "[i]n the 1960's, Ash Drug Store only stocked and dispensed the [Lilly] brand of diethylstilbestrol." Waltrip asserts, "[b]ased on [his] personal observation of the habit and custom" of the drug store in the 1960's, that the Lilly brand of DES would have been dispensed to a "woman who came into the pharmacy with a prescription for 'DES', 'stilbestrol', or 'diethylstilbestrol.'" He also states that the prescribing obstetrician for Galvin's mother practiced in Ft. Scott, Kansas, and that the Ash Drug Store filled and dispensed many of his patients' prescriptions. Finally, Waltrip notes that the drug store ordered DES from Pennington Wholesale Drug located in Joplin, Missouri, which was a Lilly wholesaler.

Although Waltrip did not begin working at the Ash Drug Store until 1967, his affidavit establishes that at that time (1) Lilly DES was available in Kansas through a Lilly wholesaler, (2) it was sold at the same drug store where Galvin's mother's prescription was filled, and (3) no other DES was available at that drug store. The court rejects the probative value of Waltrip's testimony about stocking practices on the ground that it is adopting "a neutral posture, inferring neither change or continuity at the drugstore" since 1964-65. Op. at 18; *see id.* at 17 n.* (quoting FED. R. EVID. 406). On summary judgment, however, the court must give the non-moving party the benefit

of all reasonable inferences. *See Anderson*, 477 U.S. at 255. A reasonable jury could infer, when Galvin's other evidence is considered, that Waltrip's affidavit makes it more probable that Lilly DES was sold in the same drug store in 1964-65. The two-year period affects the strength of the inference that may reasonably be drawn; it does not eliminate its relevance. *See* FED. R. EVID. 401 advisory committee's note.

Bolstering the probative force of Waltrip's affidavit is the Lilly Warehousing and Distribution Service Agreement, which states that the wholesaler shall promote Lilly products and not give preference to any other brand when no brand is specified. Galvin's mother's hospital records indicate that she was prescribed "Stilb 25 mg" without specifying a brand. Op. at 16. Additionally, the affidavits of Harold B. Sparr and Philip J. Cafferty are relevant because of their personal familiarity with Lilly's literature, its nationwide wholesale strategy in the 1950s and 1960s, and the nature of its agreements with wholesalers throughout the United States. Both Sparr and Cafferty state that no manufacturer other than Lilly had a round, white, cross-scored DES pill without any other markings. Their evidence further bolsters the probative force of Waltrip's affidavit.

Sparr states that he was familiar with Lilly publications and its marketing and stocking practices in the 1950s and 1960s. He also states that he reviewed the sworn statements of over 105 pharmacists regarding the prevalence and availability of Lilly DES products in their stores in the 1950s and 1960s. Sparr is a registered pharmacist in Massachusetts, New York, and California; he holds a Masters in Health Care Management from Pacific Western University and has taught pharmacy at the Massachusetts College of Pharmacy and Northeastern; he has over forty-seven years of experience as a practicing pharmacist, beginning in the mid-1950s; he has served as President of the Massachusetts Board of Registration in Pharmacy and was

named Pharmacist of the Year in 1995 by the Massachusetts Pharmacy Association; and he was twice a delegate to the United States Pharmacopoeia.

According to Sparr, in the 1950s and 1960s "Lilly was the leading pharmaceutical manufacturer in America [] with top market popularity because of its reputation, quality, control, efficiency of inventory and distribution through wholesalers." He notes, among other things, that at that time "Lilly was the only major drug house that employed licensed pharmacists as detailmen" to restock drug stores with Lilly products and also employed unique stocking practices, enabling retail pharmacists to save money. Even though Sparr's pharmaceutical practice and teaching experiences were in New England, his familiarity with Lilly literature that was distributed nationwide and its nationwide stocking practices and its unique detailing practices lends support to the reasonable inference that the Ash Drug Store in Pittsburg, Kansas — which, according to Waltrip, obtained its DES from a Lilly wholesaler in 1967 — dispensed the Lilly DES pill to Galvin's mother. The affidavit of Philip Cafferty, a pharmacist since 1961, is to the same effect, noting also that for nineteen years, beginning in 1965, he was employed by Lilly as a professional representative or detailman and district manager in New England.

While it is possible, in the sense that anything is possible, that Lilly functioned in a different manner in Kansas in 1964-65, Sparr and Cafferty are familiar with Lilly's nationwide practices and top popularity in the relevant years. The court rejects their evidence because Sparr's and Cafferty's experiences were "almost exclusively limited to New England." Op. at 11. This overlooks not only that Lilly also relies on the testimony of a pharmacist who worked solely in Massachusetts, Op. at 9 n.*, but also that Sparr and Cafferty have undisputed knowledge of Lilly's nationwide practices when Galvin's mother was taking

DES. By proffering this evidence, Galvin has offered further support for the reasonable inference that a jury could draw that it was more probable than not that her mother took Lilly's DES pill.

Other support for the probative force of the inference about 1964-65 from Waltrip's affidavit is found in three survey-type references. The first two references are national catalogues listing brands of drugs. The Physician's Desk Reference ("PDR"), which Galvin asserts (and Lilly does not contest, a point overlooked by the court, Op. at 13 & n.*), is the "Bible of [d]rugs" that was "on the [d]esk of [e]very [d]octor in America," Appellant's Br. at 17, lists Lilly as the only brand of DES in the Twentieth Edition published in 1965. A second reference, proffered by Lilly, is the 1964-65 edition of the American Druggist Blue Book, which includes the catalogues of seventy-four manufacturers and describes itself as listing the latest products and price changes. The Blue Book also does not list Marsh Parker among the brands of DES.

The court dismisses the probative value of the PDR on the ground that Galvin concedes that it is not an exhaustive list of DES manufacturers and imposes on Galvin a unique burden to show the compilation methodologies used in the PDR and the Blue Book even though Lilly does not dispute Galvin's characterization of the PDR and Lilly proffered the Blue Book. *See* Op. at 13 & n.*. The court does not address the fact that Marsh Parker does not appear in the Blue Book other than to impose a compilation burden, Op. at 13 n.*, instead finding that the listing of Marsh Parker in the Red Book, also proffered by Lilly, is conclusive. *See* Op. at 12-13. No doubt the non-exhaustive nature of the listing means that the PDR is not complete proof. But Galvin, not Lilly, is entitled on summary judgment to all reasonable inferences and a reasonable juror could find that it is more probable that the more prominent and

more widely available drug would have been listed than the less prominent drug. From the absence of Marsh Parker from these two listings a reasonable juror could infer that Marsh Parker was not a major producer of DES during the relevant period. Although the Red Book for 1964 and 1965 lists both Lilly and Marsh Parker, a reasonable juror could accept that Marsh Parker was on the market in 1964-65 and still conclude that it is more probable than not that Galvin was exposed to Lilly DES. To the degree that the Red Book supports the contrary inference — that Galvin was exposed to Marsh Parker DES — under Kansas law, Galvin's burden at trial does not require her to exclude other reasonable inferences, *see Arterburn*, 551 P.2d at 890, much less offer mathematical proof of causation, *see Yount*, 147 P.3d at 1072-73.

The third reference is a national market share matrix developed in connection with litigation in New York. *See Hymowitz v. Eli Lilly & Co.*, 539 N.E.2d 1069, 1078 (N.Y. 1989). The matrix indicates that Lilly had a significant percentage — approximately 28% — of the national market in 1964-65. It does not list Marsh Parker at all. That summary judgment was granted to some drug manufacturers and that Galvin proffered only one page of the matrix, *see* Op. at 12, are red herrings, for Lilly was not among the manufacturers granted summary judgment and the single page is where Marsh Parker would have been listed in alphabetical order. The court also dismisses the probative value of this evidence because it shows that Lilly had less than 30% of the market. Op. at 15-16. Contrary to the court's implication, Op. at 14-16, Galvin is not relying on statistical evidence "by itself" to defeat summary judgment and, consequently, the court's expression of doubt about the probativeness of statistical evidence, *see* Op. at 14-16, misses the mark. But even accepting Lilly's bald assertion that the matrix leaves 44% of the market share unaccounted for, a reasonable juror could doubt, in view of Galvin's evidence, that

Marsh Parker was a dominant market force accounting for more than 28% of the remaining 44% but was somehow excluded from the PDR and the Blue Book and the matrix. Contrary to the court's conclusion, a reasonable juror need not believe that these reference materials have no probative value at all. Rather, they lend support to the reasonable inference that in 1964-65 Lilly DES was more prevalent than Marsh Parker DES, thus making it more probable that Galvin was exposed to Lilly's pill than Marsh Parker's.

In reaching a contrary conclusion about the probative force of the mosaic of evidence that Galvin has proffered, the court appears to suggest that Lilly is entitled to summary judgment because Galvin may not have proven that it is certain that she was exposed to Lilly's product or that it is significantly more probable that she was exposed to Lilly's product than to Marsh Parker's. *See* Op. at 9, 10, 12-13, 15-16. This is not her burden as the non-moving party. *See Anderson*, 477 U.S. at 248; *see also Yount*, 147 P.3d at 1072-73. At this stage of the proceedings, Galvin need only adduce evidence from which a reasonable juror could conclude that it is more probable — even if only slightly more probable — that she was exposed to Lilly's pill even if there is another reasonable inference. She has done so. The court's contrary conclusion stems from its failure to adhere to the summary judgment standard, *see, e.g.*, Op. at 13 n.*, 18 n.*, where the non-movant's evidence is to be taken as true and receive all reasonable inferences, *see Anderson*, 477 U.S. at 255, and Kansas law, which requires only more-probable-than-not proof of causation.

To the extent some courts insist on "direct" evidence of causation, *see, e.g.*, *Smith v. Rapid Transit, Inc.*, 58 N.E.2d 754 (Mass. 1945), while others permit circumstantial evidence to establish liability based on probabilities, *see, e.g.*, *Kramer v. Weedhooper of Utah, Inc.*, 490 N.E.2d 104, 107-08 (Ill. App. Ct.

1986); *cf. Kaminsky v. Hertz Corp.*, 288 N.W.2d 426 (Mich. 1979), we understand that "direct" evidence is not necessarily more accurate than statistical evidence of probabilities, both of which rely on a degree of generality. *See* FREDERICK SCHAUER, PROFILES, PROBABILITIES, AND STEREOTYPES 93-97 (2003); Michael J. Saks & Robert F. Kidd, *Human Information Processing and Adjudication: Trial by Heuristics*, 15 LAW & SOC'Y REV. 123, 151-56 (1980-81); *cf.* Ronald J. Allen, *A Reconceptualization of Civil Trials*, 66 B.U. L. REV. 401, 414-15 (1986); Daniel Shaviro, *Statistical-Probability Evidence and the Appearance of Justice*, 103 HARV. L. REV. 530, 538-39, 542-43 (1989). As one jurist has put it, "it is now generally recognized . . . that since all evidence is probabilistic — there are no metaphysical certainties — evidence should not be excluded merely because its accuracy can be expressed in explicitly probabilistic terms." Richard A. Posner, *An Economic Approach to the Law of Evidence*, 51 STAN. L. REV. 1477, 1508 (1999), *quoted in* Jonathan J. Koehler, *When Do Courts Think Base Rate Statistics Are Relevant?*, 42 JURIMETRICS J. 373, 373 & n.1 (2002).

Whatever may be the merits of the broader debate over whether courts should allow verdicts on the basis of statistical evidence, Galvin's mosaic of evidence suffices to meet her burden of proof and thus to defeat Lilly's motion for summary judgment. Although Lilly maintains that even if Galvin was not exposed to the Marsh Parker pill, she has not demonstrated that she was exposed to Lilly's pill because other manufacturers of DES in 1964-65 may have produced a pill that matches her mother's description, Lilly's alternative argument cannot prevail. The court suggests that mediating this contention would require consideration of a complex burden-shifting scheme in which the plaintiff is burdened with disproving all remaining alternatives. *See* Op. at 10. However, Galvin does not bear the burden of proving a certainty. *See, e.g.*, *Shields*, 895 F.2d at

1466. Galvin's mother offered a fairly precise description of the pill she took that provides four data points — it was small; it was white; it was round; and it was cross-scored. The court acknowledges that Galvin's mother was shown a photo array in which she identified the Lilly pill but deems significant the fact that the Lilly pill was the only pill among the twenty shown that matched her description. *See* Op. at 9. Galvin is, however, entitled to all reasonable inferences. The court fails to recognize that the photo array suggests that the four-point composite description given by Galvin's mother is uncommon. The only question this court must ask is whether a reasonable juror could infer that there are probably no additional DES pills that match this description. That Lilly could find one other matching pill — the Marsh Parker DES pill — would not make it unreasonable for a juror to infer that Lilly had probably found the only other matching pill.

Accordingly, because the court has improperly raised the standard for defeating summary judgment to require Galvin to produce evidence from which a reasonable juror could conclude that it was *significantly* more probable that Galvin was exposed to the Lilly DES, I respectfully dissent and would reverse in view of Galvin's Rule 56(e) evidence and reasonable inferences in her favor as the non-moving party, and remand the case to the district court.