

In the
United States Court of Appeals
For the Seventh Circuit

No. 23-3162

GWYNETH GILBERT, *et al.*,

Plaintiffs-Appellants,

v.

LANDS' END, INC., *et al.*,

Defendants-Appellees.

Appeal from the United States District Court for the
Western District of Wisconsin.

Nos. 3:19-cv-00823 & 3:19-cv-01066 — **James D. Peterson**, *Chief Judge*.

ARGUED NOVEMBER 14, 2024 — DECIDED OCTOBER 23, 2025

Before JACKSON-AKIWUMI, PRYOR, and MALDONADO,
Circuit Judges.

JACKSON-AKIWUMI, *Circuit Judge*. Delta Airlines partnered with outfitter Lands' End to update Delta employee uniforms. Lands' End, working with manufacturers and suppliers across the world, delivered nearly one hundred different types of garments to the airline. After donning the new uniforms, hundreds of Delta employees complained about

garment dye leaching onto their property. Many also complained that they experienced a wide array of medical symptoms.

Several hundred Delta employees sued Lands' End. Some brought breach of warranty claims against the outfitter as intended beneficiaries of the apparel contract Lands' End had with Delta. Others brought personal injury claims for the medical symptoms caused by dye transfer. Discovery ensued—the record contained laboratory test results and reports by experts in textile chemistry, epidemiology, toxicology, and dermatology. After discovery, the district court granted Lands' End summary judgment on the breach of warranty and personal injury claims. Plaintiffs ask this court to reverse both decisions, but we affirm.

I

Lands' End partnered with fabric mills and factories overseas, including in China, Sri Lanka, and Vietnam, to produce uniforms for Delta Airlines. The new uniforms were then distributed to 64,000 Delta employees. Not long after the garments arrived, complaints started streaming in. Employees informed Lands' End that the uniforms transferred dye (or crocked, as commonly referred to in the textile industry) onto other surfaces and made them sick. Employees complained of rashes, itchiness, fatigue, headaches, anxiety, memory issues, coughing, breathing difficulties, and vocal cord issues soon after they started wearing the uniforms.

Two groups of Delta employees, the “Gilbert plaintiffs” and “Andrews plaintiffs,” brought lawsuits against Lands' End. The five Gilbert plaintiffs filed a putative class action seeking to recover for the damage the leaching dye caused to

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their property—clothes, accessories, sheets, towels, furnishings, and other items. The Gilbert plaintiffs also sought recovery for breach of express warranties under Delta’s contract with Lands’ End which stated that the uniforms would be free of defects in material and workmanship, and that plaintiffs would be 100% satisfied with them. The Andrews plaintiffs, comprised of 605 individually named Delta employees, brought products liability claims against Lands’ End for their personal injuries. They alleged that the uniforms were defectively manufactured and defectively designed, and that Lands’ End failed to warn of the defects. Before discovery, the district court consolidated the two actions into a single case and set different briefing schedules depending on whether an issue affected large groups of plaintiffs or individual plaintiffs.

After discovery, Lands’ End moved for summary judgment and prevailed across the board. In the outfitters’ motion for summary judgment on the Andrews plaintiffs’ personal injury claims, the company argued that plaintiffs presented no credible expert testimony in support of their contention that the uniforms were defective or caused their injuries. The district court granted that motion after excluding three of the Andrews plaintiffs’ expert opinions. Meanwhile, the Gilbert plaintiffs and Lands’ End cross-moved for partial summary judgment on plaintiffs’ claim that the 100% satisfaction guaranteed warranty had been breached. The district court again ruled in favor of Lands’ End.

Both sets of plaintiffs appealed.¹ The Andrews plaintiffs challenge the district court’s grant of summary judgment to

¹ Several of the Gilbert plaintiffs’ requests for relief are not, or are no longer, on appeal. First, the Gilbert plaintiffs moved for partial summary

Lands' End on the personal injury claims. Relatedly, they challenge the district court's exclusion of their expert witnesses. The Gilbert plaintiffs challenge the district court's grant of summary judgment to Lands' End on the breach of warranty claims.

II.

We review grants of summary judgment de novo. *Thompson Corrugated Sys., Inc. v. Engico, S.R.L.*, 111 F.4th 747, 751 (7th Cir. 2024). Summary judgment is appropriate where “the movant shows that there is no genuine dispute as to any material fact and that the movant is entitled to judgment as a matter of law.” Fed. R. Civ. P. 56(a).

We have two standards of review for questions involving expert witness testimony. We review the application of Federal Rule of Evidence 702, which governs the district court in qualifying expert witnesses, de novo. *Chi. Joe's Tea Room, LLC v. Vill. of Broadview*, 94 F.4th 588, 596 (7th Cir. 2024). But we review “more specific decisions to admit or exclude expert testimony—once properly classified as such—for an abuse of discretion.” *Id.*; see also *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 592–95 (1993). Thus, “so long as the district court adhered to *Daubert's* requirements, we shall not disturb the district court's findings unless they are manifestly

judgment on their claim for breach of the warranty guaranteeing defect-free uniforms. The district court denied the motion, and the Gilbert plaintiffs do not appeal that denial. Second and third, the Gilbert plaintiffs moved for class certification and summary judgment on their property damage claims. The district court denied the motions for class certification and summary judgment. The Gilbert plaintiffs initially appealed the denial of these two motions but announced in their reply brief that they were withdrawing the appeals. Therefore, we discuss these subjects no further.

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erroneous.” *Naeem v. McKesson Drug Co.*, 444 F.3d 593, 607–08 (7th Cir. 2006) (citation modified).

We begin with the Andrews plaintiffs’ personal injury claims and end with the Gilbert plaintiffs’ breach of warranty claims.

A. Personal Injury Claims

The Andrews plaintiffs pursued three products liability claims in their effort to recover from Lands’ End for their personal injuries. These three claims were for manufacturing defect, design defect, and failure to warn.

We apply Wisconsin state law to these claims because it is “the substantive law of the state in which the federal court sits” in this action based on diversity jurisdiction and because “there is no dispute over which state’s law applies.” *Kolchinsky v. W. Dairy Transp., LLC*, 949 F.3d 1010, 1013 n.2 (7th Cir. 2020) (per curiam).

1. Proof of Defect

To make out any of their personal injury claims, the Andrews plaintiffs needed to present evidence that the garments were defective. *See Godoy ex rel. Gramling v. E.I. du Pont de Nemours & Co.*, 2009 WI 78, ¶ 29 (manufacturing defect claims require evidence that the offending product “deviate[d] from the manufacturer’s specifications, and that deviation cause[d] it to be unreasonably dangerous.”); *id.* (design defect claims require evidence that “the design itself is the cause of the unreasonable danger”); *id.* (failure to warn claims require evidence that “an intended use of the product is dangerous, but the manufacturer did not provide sufficient warning or instruction”). Plaintiffs relied on laboratory tests to determine what, if any, harmful substances the garments contained and

expert witness testimony to prove defect. We first describe the results of those tests and then the reliability of the expert witness testimony interpreting those results.

a. Test Results

Plaintiffs allege that the garments were defective because they leached harmful chemicals and heavy metals alongside the dye that crocked onto wearers. Plaintiffs subjected many of the garments to tests designed to detect dye and chemical transfer in hopes of proving a defect. These tests had mixed results. The tested garments scored between 3.5 and 5 (out of 5) for crocking (meaning they did, in fact, crock). Yet, laboratory technicians who conducted the crocking tests noted that all the tested garments “met general industry standards ... for crockfastness.” X-Ray tests measuring chemical transfer established that some of the garments transferred fluorine, sodium, magnesium, and silicon. The technicians who conducted those tests did not note on the reports whether the transfer of these chemicals was harmful or common in the industry.

Other chemical transfer tests found that the garments “contain[ed] several chemicals that are known to be irritating and potentially toxic.” One such test found that several garments contained potentially harmful substances like perfluorooctanoic acid, heavy metals (e.g. antimony, chromium, mercury, etc.), formaldehyde, and bromine.

Worn garments generally contained harmful substances in higher concentrations than unworn garments. Some data collection technicians speculated that worn garments had higher concentrations of these substances because of chemical

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reactions between the garments and deodorants, lotions, perfumes, and laundry detergents used by the wearer.

b. Expert Witnesses

As the district court recognized and as the parties do not dispute, a jury would not be able to determine the existence of a defect by independently reviewing the test results; expert witness testimony is necessary to assist. *See City of Cedarburg Light & Water Comm'n v. Allis-Chalmers Mfg. Co.*, 148 N.W.2d 13, 16–17 (Wis. 1967). To that end, the Andrews plaintiffs presented three expert witnesses in support of their defect argument: Dr. Peter J. Hauser (a textile expert), Dr. Fred Apple (a toxicologist), and Dr. Pamela Scheinman (a dermatologist and medical expert).

Dr. Hauser opined in his report that the garments were defective because they “transfer[red] ... colorant from the surface of the fabric” to other surfaces like the wearers’ skin and property. He stated that the garments crocked because Lands’ End employed a dye process that “was improper, inadequate, defective, and not in compliance with industry standards” and did not “properly afterwash[] or otherwise scour[]” the uniforms. Dr. Hauser also confirmed that the garments transferred fluorine, sodium, magnesium, aluminum, and silicon when crocking, as the tests showed. Importantly, Dr. Hauser did not opine on whether, how, or at what concentrations such chemical transfer would qualify as a defect.

Dr. Hauser’s report was straightforward and definitive. But during his deposition, he was rather equivocal on the issue of defect when it came to the personal injury claims. Dr. Hauser did not discuss whether the dye was itself harmful to human health. He also did not testify whether it was the dye

as opposed to something else that transferred any of the other chemicals or heavy metals found in the garments. Rather, Dr. Hauser stated that the five chemicals listed above (fluorine, sodium, magnesium, aluminum, and silicon) were routinely found in garments and were not present at concerning levels in the tested uniforms. Strikingly, when asked to describe industry standards for colorfastness, Dr. Hauser seemed to undermine his report's findings on the inadequacy of the dye process. Whereas his report stated in absolute terms that the garments were defective, his testimony was that no broad industry standards for colorfastness exist. Instead, Dr. Hauser explained, retailers and consumers together set acceptable limits during contract negotiations.

Plaintiffs' toxicology expert, Dr. Fred Apple, reviewed the lab tests and opined in his report that the garments contained "elevated and sometimes dangerous levels of" chemicals and heavy metals. Although Dr. Apple also opined that wearers were exposed to these substances through transferred dye as the uniforms crocked, he did not state whether the garments were defective. Like Dr. Hauser, Dr. Apple's deposition testimony was more equivocal. When deposed, Dr. Apple testified that he was not knowledgeable about the permissible limits of any of the substances found in the garments or the pathways by which such substances might be transferred from garment to wearer.

Plaintiffs' medical expert Dr. Pamela Scheinman, unlike Drs. Hauser and Apple, did not interpret any of the laboratory test results. Instead, Dr. Scheinman's report assumed that plaintiffs were exposed to harmful chemicals and metals by wearing the garments and exclusively considered whether such exposure could cause their personal injuries. In forming

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her opinion, Dr. Scheinman reviewed some plaintiffs' medical records, but did not independently examine any plaintiffs. From this, she concluded that the garments caused plaintiffs' symptoms. Like the other experts, Dr. Scheinman did not reach any conclusions about whether the garments were defective.

This evidence, taken together, does not support the conclusion that the uniforms were defective. Dr. Hauser's expert report comes closest when stating that Lands' End employed a defective dye process that caused dye to crock onto wearers' skin and property. Standing alone, this might have qualified as admissible expert defect testimony for plaintiff's property damage claims. Yet, the report and testimony were not sufficient for the personal injury claims. Dr. Hauser expressly disclaimed the opinion that crocking routinely results in the transfer of fluorine, sodium, magnesium, aluminum and silicon. Going even further, he declined to opine on whether these chemicals were transferred to wearers at concentrations that could cause injury. In retrospect, this is unsurprising because Dr. Hauser's report focused only on the questions raised by plaintiffs' property damage claims.

Despite this, plaintiffs argue that Dr. Hauser's statement that some garments transferred the five chemicals when crocking is sufficient to establish defect because the statement proves the garments were "dangerous to an extent beyond that which would be contemplated by the ordinary consumer ... with the ordinary knowledge common to the community as to its characteristics." *Murphy v. Columbus McKinnon Corp.*, 2022 WI 109, ¶ 21. This argument is unconvincing because Dr. Hauser never makes any such finding. Far short of testifying that the transferred chemicals were dangerous, he testified

that the five chemicals at issue were commonly found in textiles and were present at routine concentrations in the garments. And his report and testimony are entirely silent on the other chemicals and heavy metals (i.e. perfluorooctanoic acid, antimony, chromium, mercury, formaldehyde, and bromine) found in the garments.

Dr. Apple and Scheinman's reports and testimony are similarly insufficient to prove defect. Plaintiffs are correct that these two experts testified that the laboratory tests showed the garments contained several metals and chemicals. But neither expert tied the presence of these substances to a defect in the uniforms. This too is understandable because, as toxicology and medical experts, they would not be qualified to opine on the garment manufacturing process.

In sum, plaintiffs have not demonstrated a genuine factual dispute as to the existence of a defect. At best, the laboratory results and expert opinions show that some garments leached dye, that some garments contained chemicals and heavy metals at varying levels, and that some crocking resulted in non-threatening chemical transfer. None of the experts' findings permit a jury to conclude that the hundreds of garments plaintiffs wore were defective in a manner resulting in the transfer of toxins.

2. Proof of Causation

As we just discussed, the Andrews plaintiffs' failure to present sufficient evidence as to the existence of a defect defeats their suit. *Tanner v. Shoupe*, 596 N.W.2d 805, 811 (Wis. Ct. App. 1999) (noting that the existence of a defect is a necessary element of a products liability claim). But their suit encounters a second obstacle. The record lacks sufficient evidence for

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a jury to find that Lands' End caused plaintiffs' personal injuries.

To make out any of the products liability claims asserted in this case (manufacturing defect, design defect, and failure to warn), plaintiffs must establish that "the defect was a cause of the plaintiff's injuries or damages." *Godoy*, 2009 WI 78, ¶ 16 n.7. According to the parties, plaintiffs must prove both general and specific causation.² General causation asks whether the toxic substance "had the capacity to cause the harm alleged." *C.W. ex rel. Wood v. Textron, Inc.*, 807 F.3d 827, 831 (7th Cir. 2015) (citation modified). "Specific causation, by contrast, examines whether the substance did, *in fact*, cause the harm alleged." *Id.*

² The parties misstate the standard. Wisconsin law does not require a showing of general and specific causation as routinely stated in the common law. Rather, assuming *arguendo* that the dye transfer is a valid defect, plaintiffs were required to present evidence that this defect "was a substantial factor in causing" their injuries. See *Burton v. E.I. du Pont de Nemours & Co.*, 994 F.3d 791, 824, 827 (7th Cir. 2021) (emphasis added); see also *Sumnicht v. Toyota Motor Sales, U.S.A., Inc.*, 360 N.W.2d 2, 11 (Wis. 1984). This standard requires a showing "that the conduct has such an effect in producing the injury as to lead a reasonable person to regard it as a cause, using that word in the popular sense." *Pieper v. Neuendorf Transp. Co.*, 274 N.W.2d 674, 677 (Wis. 1979); see also *Murphy*, 2022 WI 109, ¶ 19 n.14 (Wis. 2022).

We need not consider what impact, if any, this different standard may have on plaintiffs' appeal because neither party raised the issue in their briefs, thereby waiving any argument related to the standard. Additionally, any failure to cite the correct substantive state law is immaterial to our decision because we find the district court acted within its discretion to exclude Dr. Freeman's causation opinion for lack of reliability under federal procedural law.

Whether plaintiffs succeeded in making this showing comes down to their causation expert Dr. Michael Freeman.³ Dr. Freeman, after reviewing questionnaire responses from plaintiffs, concluded that the defective garments generally and specifically caused plaintiffs' injuries. The district court ruled that Dr. Freeman's report and testimony were inadmissible under Federal Rule of Evidence 702, a decision plaintiffs challenge on appeal. The ruling had significant consequences since, as with the question of defect, plaintiffs needed expert testimony to assist the jury in deciding whether Lands' End caused plaintiffs' personal injuries. See *City of Cedarburg Light & Water Comm'n*, 148 N.W.2d at 16–17.

Rule 702 requires parties to demonstrate that expert witness testimony is “based on sufficient facts or data” and “the product of reliable principles and methods,” and that the expert “reliabl[y] appli[ed] ... the principles and methods to the facts of the case.” Fed. R. Evid. 702. District courts play an important gatekeeping function under Rule 702 and *Daubert* to ensure that an expert's testimony “is not only relevant, but

³ As Lands' End points out, the December 2023 amendments to Rule 702 alter its reliability subsection to require that “the expert's opinion reflect[] a reliable application of the principles and methods to the facts of the case.” Fed. R. Evid. 702. This amendment was made to clarify that “questions of the sufficiency of an expert's basis[]” go to admissibility just as with questions of “the application of the expert's methodology.” Fed. R. Evid. 702 advisory committee's note to 2023 amendment. Lands' End, seeing this amendment as helpful to its case, advocates for its application and suggests that it is in tension with this court's precedent distinguishing between reliable methodology and “the quality of an expert's data and conclusions.” *Manpower, Inc. v. Ins. Co. of Pa.*, 732 F.3d 796, 806 (7th Cir. 2013). Because our conclusion is the same even under *Manpower's* more strict formulation of the standard, we will apply the pre-amendment Rule just as the district court did.

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reliable.” 509 U.S. at 589. District courts enjoy “substantial latitude in making the findings necessary to fulfill this gatekeeping role,” but “must provide more than just conclusory statements of admissibility.” *Von Duprin LLC v. Major Holdings, LLC*, 12 F.4th 751, 772 (7th Cir. 2021).

In the next sections, we consider whether the district court abused its discretion in finding that Dr. Freeman unreliably applied epidemiological principles when forming his causation opinion. We ultimately conclude the district court did not abuse its discretion by finding that Dr. Freeman: (1) failed to apply reliable epidemiological methods to a dataset; and (2) did not reliably apply two epidemiological causation frameworks.

a. Data Analysis

We begin with Dr. Freeman’s data analysis. To form his causation opinion, Dr. Freeman relied exclusively on data collected from questionnaires sent to nearly one thousand Delta employees.⁴ Lands’ End had prepared the questionnaire during discovery in hopes of streamlining litigation. It asked respondents to list what, if any, personal ailments they experienced after wearing the new uniforms and the timing of their symptoms.

The district court found the questionnaire was riddled with design flaws that could produce biased results. For one, only Delta employees who were already suing Lands’ End and therefore had a financial interest in the outcome of the

⁴ Though the district court excluded Dr. Apple and Dr. Scheinman’s causation opinions under Rule 702, plaintiffs only appeal the exclusion of Dr. Freeman’s expert opinion. We therefore limit our analysis accordingly.

litigation received the questionnaires. Two, the questionnaires were created to streamline discovery, not to form the basis of a multifaceted epidemiological study. Three, many respondents gave erroneous or nonsensical responses, as Dr. Freeman himself admitted at his deposition.

Dr. Freeman failed to recognize, let alone control for, any of these shortcomings in his expert report. He only cursorily acknowledged some of these issues during his deposition when questioned by opposing counsel. This, to the district court, constituted a failure to employ the routine methodology of Dr. Freeman's field, and it led the court to exclude his causation opinions under Rule 702 and *Daubert*.

Plaintiffs argue that the district court improperly scrutinized their data's quality rather than considering the reliability of their expert's methodology. We have indeed distinguished between Rule 702 challenges to the reliability of an expert's *methodology* and the reliability of an expert's *conclusion*. A district court is tasked under Rule 702 with "determin[ing] that the expert used reliable methods," but this obligation "does not ordinarily extend to the reliability of the conclusions those methods produce—that is, whether the conclusions are unimpeachable." *Stollings v. Ryobi Techs., Inc.*, 725 F.3d 753, 765 (7th Cir. 2013). District courts can "usurp[] the role of the jury ... if [they] unduly scrutinize[] the quality of an expert's data and conclusions rather than the reliability of the methodology the expert employed." *Manpower*, 732 F.3d at 806. The line between data quality and methodological reliability "is not always an easy [one] to draw," *id.*, because "conclusions and methodology are not entirely distinct from one another," *Gen. Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997).

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But we encounter little difficulty here concluding that the district court did not abuse its discretion in finding that Dr. Freeman failed to employ the routine methodology of his field.

As background, when faced with problems in their datasets, epidemiologists “must identify potential biases and analyze the amount or kind of error that might have been induced by the bias.” Federal Judicial Center, *Reference Manual on Scientific Evidence* 583 (3d ed.). Hence, epidemiologists in the normal course would have produced an analysis that at least acknowledged some of the data quality problems the district court identified.

That is on full display in the Harvard Flight Attendant Study Report that Dr. Freeman cites extensively in his report. The study generally tracked the health outcomes of several hundred flight attendants over several years. In the report, epidemiologists compared the health outcomes of a group of Alaska Airlines flight attendants who, like plaintiffs, alleged their uniforms had made them sick against a control group. Eileen McNeely et al., *Symptoms Related to New Flight Attendant Uniforms*, 927 BMC PUB. HEALTH 1 (2017). When compiling their research findings, the epidemiologists acknowledged that the widespread complaints circulating among the flight attendants regarding uniform-related adverse health outcomes had the potential to increase symptom reporting among their study participants. *Id.* at 5. The study authors then noted that this bias risk was minimized by “the more general purpose of the survey in which hundreds of data points were gathered” about respondents’ health. *Id.*

Dr. Freeman did not attempt this minimal amount of identifying or controlling for error. That goes to the heart of

the reliability of his methodology. Dr. Freeman’s professional burden was clearly not an onerous one—we see from the Harvard study that simply acknowledging potential weaknesses in the data and considering a remedy may have been sufficient. To satisfy Rule 702, Dr. Freeman did not have to go to the lengths of collecting the questionnaire data himself, reviewing plaintiffs’ medical records, or employing a controlled study, though such measures would aid him on cross-examination. Less was required but not done here. Therefore, the district court did not abuse its discretion in finding that Dr. Freeman failed to employ reliable data analysis principles common to his field.

While we are able to affirm the district court’s decision to grant summary judgment in Lands’ End’s favor on this ground alone, we will discuss the remainder of plaintiffs’ causation arguments. We next consider whether Dr. Freeman reliably applied two epidemiological causation frameworks—the Bradford-Hill criteria and Naranjo algorithm—for his causation opinions.

b. Bradford-Hill Criteria

To determine whether the garments could have caused plaintiffs’ physical symptoms, Dr. Freeman used a “distilled” three-step version of the Bradford-Hill analysis. The standard Bradford-Hill analysis is a widely implemented nine-part epidemiological framework used to determine whether a causal relationship exists between a stimulus and symptomatic response. *See Reference Manual on Scientific Evidence* 599–600; *see also In re Zolofit (Sertraline Hydrochloride) Prods. Liab. Litig.*, 858 F.3d 787, 795 (3d Cir. 2017) (finding the framework “generally reliable”); *Wendell v. GlaxoSmithKline LLC*, 858 F.3d 1227, 1235 n.4 (9th Cir. 2017) (same).

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Before conducting a Bradford-Hill analysis, an expert must first conduct an associational analysis to determine whether the stimulus and health response “occur together more frequently than one would expect by chance.” *Reference Manual on Scientific Evidence* 566. This is most often done by comparing the health outcomes of those exposed to a toxic substance with an unexposed control group. *Id.* at 218–19. Dr. Freeman never engaged in this preliminary step before conducting his distilled version of the Bradford-Hill analysis. The district court found that this was a failure to reliably apply clear epidemiological principles and was sufficient grounds to exclude Dr. Freeman’s report.

Plaintiffs ask us to overlook Dr. Freeman’s oversight on appeal. They argue that his passing reference to two instances of alleged uniform-associated illness that struck Alaska Airlines and American Airlines flight attendants in 2011 and 2016 was a sufficient associational analysis. The district court reasonably found this insufficient for two reasons.

First, and most importantly, there is no evidence that Lands’ End manufactured or worked with the same garment producers involved in making the flight attendant uniforms for Alaska Airlines and American Airlines. Yet, Dr. Freeman did not control for this variance as is necessary when comparing association between multiple study groups. *See Reference Manual on Scientific Evidence* 571.

Second, associational values normally are expressed as numerical values calculated from one of several statistical formulas. *See id.* at 566–71; *see also* McNeely, *supra*, at 6 (reporting numerical association values). This is demonstrated in the Harvard study. That study determined from Alaska Airlines flight attendants’ self-reported health symptom data that

“flight attendant uniforms w[ere] associated with quantifiable health effects.” See *McNeely, supra*, at 5–7. The study went on to quantify the strength of those associations on a per-symptom basis before undertaking its own causation analysis. *Id.* Dr. Freeman’s report never similarly quantified the association between garment exposure and any of plaintiffs’ personal injuries.

Beyond this preliminary step, Dr. Freeman’s report also failed to reliably apply the Bradford-Hill criteria. The nine Bradford-Hill variables are: (1) plausibility; (2) strength of association; (3) consistency; (4) biological gradient (dose-response relationship); (5) specificity of the association; (6) analogy; (7) temporality; (8) experiment (cessation of exposure); and (9) coherence. Austin Bradford-Hill, *The Environment and Disease: Association or Causation?*, 58 PROC. ROYAL SOC’Y MED. 295, 295–99 (1965). Instead of considering these nine variables, Dr. Freeman employed a distilled test that used three variables as stand-ins for the full Bradford-Hill analysis. This tripartite analysis considered: “1) the plausibility of the suspected causal relationship ... ; 2) the temporal aspects of the relationship ... ; and 3) the likelihood that an alternative cause other than the suspected cause accounts for the observed relationship.”

The district court did not disqualify Dr. Freeman’s analysis as unreliable merely because it lists fewer factors; we will not either. The strict construction of a test is of less concern so long as it faithfully applies reliable methodology. See *Etherton v. Owners Ins. Co.*, 829 F.3d 1209, 1218–23 (10th Cir. 2016) (considering reliability of expert’s distilled causation analysis). Nevertheless, we see no reason to undo the district court’s conclusion that Dr. Freeman’s three-step

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analysis falls short because it fails to sufficiently account for the established Bradford-Hill criteria.

First, Dr. Freeman's report does not discuss how the three variables in his distilled analysis align with the nine in the standard analysis. Dr. Freeman does not explain how plausibility, temporality, and alternative causation alone account for the other standard factors. And the academic articles that Dr. Freeman relies on similarly fail to connect the dots between a distilled analysis and the standard framework.

Second, the articles Dr. Freeman cites apply distilled Bradford-Hill analyses in epidemiological contexts rather dissimilar from this case. Those studies applied a distilled analysis in the study of vehicle crash trauma, arthritis, fibromyalgia, and rotator-cuff injuries. Yet, Dr. Freeman does not consider how those studies tend, or fail, to shed light on the applicability of the truncated analysis to the toxic tort arena.

Even still, plaintiffs argue that Dr. Freeman was not obligated to consider each of the original nine Bradford-Hill factors because "there is no threshold number [of factors] that must exist" to establish causation. *Reference Manual on Scientific Evidence* 599–600. Though it is true that "[o]ne or more factors may be absent even when a true causal relationship exists," this is only true where an expert has reliably applied the Bradford-Hill analysis to begin with. *Id.* at 600. Plaintiffs' argument that causation may be made out where only eight of the nine variables are present does not bear on whether Dr. Freeman reliably distilled the factors from nine down to three. Therefore, we cannot say that the district court abused its discretion by highlighting Dr. Freeman's failure to bridge the

analytical gap between the cited literature and the facts of this case. *See C.W.*, 807 F.3d at 836.

c. Naranjo Algorithm

Dr. Freeman also used another framework—the Naranjo algorithm—to construct his general and specific causation findings. The Naranjo algorithm is a test designed to determine whether a drug can cause a certain adverse reaction. The algorithm consists of ten questions, the responses to which are assigned a score. The questions ask, for example, whether there were prior reports of similar adverse health reactions; whether symptoms occurred following exposure and improved with decreased exposure; whether alternative causations could explain the reaction; and if the toxins were detected in blood or other bodily fluids. The sum of the individual scores then determines the strength of the causal relationship, if one exists. Dr. Freeman modified the Naranjo algorithm for his analysis and used many of the same findings and data from his distilled Bradford-Hill analysis to find that the garments generally and specifically caused plaintiffs' injuries.

Lands' End argued before the district court that the scientific literature did not support the application of the Naranjo algorithm outside of the adverse drug context, and that Dr. Freeman inappropriately altered the analysis to favor plaintiffs' preferred outcome. Plaintiffs argued in response that the Naranjo algorithm is widely used, and that Dr. Freeman employed it as part of a totality-of-the-evidence analysis as laid out in *Milward v. Acuity Specialty Product Group*, 639 F.3d 11, 17–18 (1st Cir. 2011). The district court did not acknowledge or discuss Dr. Freeman's general causation opinion based on the Naranjo algorithm. The court did exclude his Naranjo algorithm causation opinion on the grounds that Dr. Freeman

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never undertook any of the six *Milward* steps involved in a totality-of-the-evidence approach, and Dr. Freeman's analysis was plagued by the same uncritical use of the questionnaire data we discussed earlier. See *supra* Part III.A.2.a.

Plaintiffs ask us to remand this case for the district court to address whether Dr. Freeman reliably applied the Naranjo algorithm in his alternative general causation analysis and in his specific causation determination. While the district court ought to have considered these issues in the first instance, remand is unnecessary because plaintiffs have failed to carry their burden as to the existence of a defect and as to causation based on Dr. Freeman's usage of the questionnaire data. See *O'Brien v. Caterpillar Inc.*, 900 F.3d 923, 928 (7th Cir. 2018) (we may affirm summary judgment on any ground supported by the record).

For these reasons, we affirm the district court's exclusion of the Andrews plaintiffs' expert opinions on defect and causation and the ultimate grant of summary judgment in Lands' End's favor. That brings us to the Gilbert plaintiffs' breach of warranty claim.

B. Breach of Warranty

The Gilbert plaintiffs brought a breach of express warranty claim under the contract that governed Delta's purchase of garments from Lands' End—the Uniform Apparel Agreement (“UAA”). Plaintiffs sought summary judgment as intended beneficiaries under this contract, claiming that Lands' End breached a provision of the UAA guaranteeing that “if at any time, for any reason, ... any actively employed Employee is not 100% satisfied with their Products (even if they have been washed, worn and/or embroidered), they can return

them at any time ... for a refund or exchange.” The contract mandated that “[a]ll returns and exchanges w[ould] be accompanied by a return/exchange form, as mutually agreed by the parties.” Plaintiffs argue that Lands’ End breached this provision by failing to issue refunds despite plaintiffs’ blanket demand letter requesting them.

Lands’ End cross-moved for summary judgment on this claim, arguing that they could not have breached the express warranty provision given that plaintiffs failed to return their garments as required under the UAA’s terms. The district court sided with Lands’ End. The court noted that the unrebutted evidentiary record showed that Lands’ End always issued refunds or exchanges to Delta employees who returned their garments and plaintiffs failed to submit any evidence establishing that Delta employees who returned their garments were denied a refund.

On appeal, plaintiffs argue that the district court erred by requiring plaintiffs’ strict compliance with the UAA’s requirement that plaintiffs return their uniform because the contract’s terms were confidential, so plaintiffs could not have complied. They also argue that the requirement runs afoul of the Uniform Commercial Code’s bar on unreasonable restraints of express warranties. We conclude that summary judgment in Lands’ End’s favor is appropriate.

Before addressing the merits, we must determine which state’s substantive law to apply. The UAA had a choice of law provision mandating the application of Delaware law. Because the district court had diversity subject-matter jurisdiction, it was required to apply Wisconsin choice of law rules to determine what law to apply. *Tanner v. Juniper Realty Corp.*, 433 F.3d 913, 915 (7th Cir. 2006). Wisconsin law honors choice

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of law provisions in duly enacted contracts so long as doing so would not run afoul of the state's public policies. *Drinkwater v. Am. Fam. Mut. Ins. Co.*, 2006 WI 56, ¶ 25. We agree with the district court that no such policy concerns exist here, so, like the district court, we will apply Delaware law and Delaware's version of the Uniform Commercial Code.

Under Delaware law, a beneficiary's rights can be "expressly or impliedly limit[ed]" by the terms of an agreement. *Crispo v. Musk*, 304 A.3d 567, 573 (Del. Ch. 2023). The same is true of express warranty provisions so long as limitations on the exercise of such warranties are reasonable. See 6 Del. C. § 2-316(1) ("Words or conduct relevant to the creation of an express warranty and words or conduct tending to negate or limit warranty shall be construed wherever reasonable as consistent with each other."). We have observed in other contexts that this requirement "has been understood to forbid the complete negation of an express warranty." *Bushendorf v. Freightliner Corp.*, 13 F.3d 1024, 1027 (7th Cir. 1993). After all, "a clause in the same contract disclaiming [an express warranty] ... suggests some deep confusion which may warrant reparative efforts by the court." *Id.*

The UAA's language easily passes muster under these standards. The conditions precedent to a refund – that plaintiffs return their garments and fill out a form – are not so onerous that they completely negate the express warranty. Neither are the conditions unreasonable limitations on the warranty.

Plaintiffs make much of the fact that they were not shown the UAA's terms. But it is common practice to condition a refund on the return of the sold goods. That is borne out by the fact that many Delta employees knew to return their uniforms

in exchange for a refund without being made aware of the contract's terms. Further, plaintiffs' counsel certainly became aware of the UAA's terms during this litigation given that they brought claims based on the contract's terms in their operative complaint. Yet, counsel appears to have failed to advise their clients to pursue this expedient route to relief despite Lands' End stating in its response to plaintiffs' demand letter that all plaintiffs would receive refunds upon return of their garments.

For these reasons, summary judgment on this claim was appropriate.

III

In sum, we affirm the grant of summary judgment to Lands' End on the Andrews plaintiffs' personal injury claims. **None of plaintiffs' experts offered testimony establishing that the uniforms were defective, and the district court did not abuse its discretion by excluding Dr. Freeman's testimony after finding that he uncritically relied on faulty data in reaching his causation opinions.**

Summary judgment in Lands' Ends favor on the Gilbert plaintiffs' breach of warranty claims was also appropriate because plaintiffs failed to abide by the warranty's reasonable terms. The judgment of the district court is AFFIRMED.