

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF NORTH CAROLINA  
SOUTHERN DIVISION  
No. 7:23-CV-897**

IN RE: )  
CAMP LEJEUNE WATER LITIGATION )  
THIS DOCUMENT RELATES TO: )  
ALL CASES )

**ORDER**

On September 10, 2025, the United States of America (“defendant”) moved to exclude certain of the Plaintiffs’ Litigation Group’s (“PLG” or “plaintiffs”) expert opinions on general causation for their reliance on the “at least as likely as not” standard [D.E. 539]. See [D.E. 540]; Fed. R. Evid. 702, 704. That same day, the PLG moved to exclude certain of defendant’s expert opinions for failure to apply the “at least as likely as not” standard [D.E. 567]. See [D.E. 568]; Fed. R. Evid. 702. On November 10, 2025, the PLG responded in opposition to defendant’s motion to exclude [D.E. 690]. That same day, defendant responded in opposition to the PLG’s motion to exclude [D.E. 664]. On December 12, 2025, defendant replied to the PLG’s response in opposition [D.E. 767], and the PLG replied to defendant’s response in opposition [D.E. 762]. As explained below, Chief Judge Myers, Judge Boyle, and Judge Dever deny without prejudice defendant’s motion to exclude and deny the PLG’s motion to exclude. The parties shall file within 21 days a joint proposed order that identifies expert opinions to which this order applies. Judge Flanagan will separately resolve these issues in her cases.

I.

In August 2022, Congress enacted and President Biden signed the Camp Lejeune Justice Act of 2022 (“CLJA”). See Pub. L. No. 117-168, § 804, 136 Stat. 1759, 1802–04. On August 10, 2022, the CLJA became effective. The CLJA reads in relevant part:

(c) BURDENS AND STANDARD OF PROOF.—

(1) IN GENERAL.—The burden of proof shall be on the party filing the action to show one or more relationships between the water at Camp Lejeune and the harm.

(2) STANDARDS.—To meet the burden of proof described in paragraph (1), a party shall produce evidence showing that the relationship between exposure to the water at Camp Lejeune and the harm is—

(A) sufficient to conclude that a causal relationship exists; or

(B) sufficient to conclude that a causal relationship is at least as likely as not.

CLJA § 804(c) (emphasis added).

The parties dispute whether an expert’s use (or disuse) of the “at least as likely as not” burden-of-proof standard renders their opinion inadmissible. In subsection 804(c) of the CLJA, Congress “expressly departed” from the common-law preponderance burden of proof standard while retaining “the common-law causation framework.” In re Camp Lejeune Water Litig., 736 F. Supp. 3d 311, 323 (E.D.N.C. 2024) (citation omitted). Thus, “[t]he causal framework for a CLJA claim and the burden of proof applicable to that framework are interlocking parts” in that “Congress established a CLJA action as a modified form of toxic tort claim, requiring evidence of both general and specific causation, with a modified burden of proof.” Id. at 324. Yet no matter which claimant burden of proof Congress chose in the CLJA, that choice did not transport CLJA cases to “some kind of judicial border country, where the rules are few and the law rarely makes an appearance.” In re Nat’l Prescription Opiate Litig., 956 F.3d 838, 844 (6th Cir. 2020). Thus,

the Federal Rules of Evidence apply to CLJA cases. After all, the Federal Rules of Evidence are promulgated under the Rules Enabling Act, 28 U.S.C. §§ 2071–77, and are “in every pertinent respect, as binding as any statute duly enacted by Congress . . . .” Bank of Nova Scotia v. United States, 487 U.S. 250, 255 (1988).

Federal Rule of Evidence 702 governs the admission of expert testimony. See Fed. R. Evid. 702; Kumho Tire Co. v. Carmichael, 526 U.S. 137, 141–42 (1999); Gen. Elec. Co. v. Joiner, 522 U.S. 136, 142–43 (1997); Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 588 (1993); Engilis v. Monsanto Co., 151 F.4th 1040, 1046–50 (9th Cir. 2025); United States v. Forrest, 429 F.3d 73, 80–81 (4th Cir. 2005); Silicon Knights, Inc. v. Epic Games, Inc., No. 5:07-CV-275, 2011 WL 6748518, at \*5–6 (E.D.N.C. Dec. 22, 2011) (unpublished). Rule 702 provides:

A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if the proponent demonstrates to the court that it is more likely than not that:

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

Fed. R. Evid. 702. “In 2023, Rule 702 was amended to clarify that the proponent of expert testimony bears the burden of establishing its admissibility and to emphasize that an expert’s opinion must stay within the bounds of a reliable application of the expert’s basis and methodology.” EcoFactor, Inc. v. Google LLC, 137 F.4th 1333, 1339 (Fed. Cir. 2025); see also Fed. R. Evid. 702 advisory committee’s note to 2023 amendment (stating that the 2023 amendment

is intended “to emphasize that each expert opinion must stay within the bounds of what can be concluded from a reliable application of the expert’s basis and methodology”).

Rule 702 “assign[s] to the trial judge the task of ensuring that an expert’s testimony both rests on a reliable foundation and is relevant to the task at hand.” Daubert, 509 U.S. at 597; see Engilis, 151 F.4th at 1046–50; Cooper v. Smith & Nephew, Inc., 259 F.3d 194, 199–203 (4th Cir. 2001). In other words, Rule 702 requires that a trial judge “ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.” EcoFactor, 137 F.4th at 1339 (cleaned up); see Daubert, 509 U.S. at 597–98; Engilis, 151 F.4th at 1046–50. Determining admissibility, which falls within the gatekeeping role of the court, is separate from determining “weight and credibility, which are within the province of the jury in a jury case.” EcoFactor, 137 F.4th at 1339.

The proponent of expert testimony must establish its admissibility by a preponderance of the evidence. See Fed. R. Evid. 702, 104(a); Daubert, 509 U.S. at 592 n.10; Engilis, 151 F.4th at 1048–50; Cooper, 259 F.3d at 199; see also Huddleston v. United States, 485 U.S. 681, 687 n.5 (1988); Bourjaily v. United States, 483 U.S. 171, 175 (1987). Expert testimony is appropriate when it “will help the trier of fact to understand the evidence or to determine a fact in issue.” Fed. R. Evid. 702(a). A district court may permit a witness qualified by knowledge, skill, experience, training, or education to testify and state an opinion where the testimony will help the trier of fact understand the evidence or determine a fact in issue and “([1]) the testimony is based on sufficient facts or data, ([2]) the testimony is the product of reliable principles and methods; and ([3]) the expert’s opinion reflects a reliable application of the principles and methods to the facts of the case.” Fed. R. Evid. 702(b)–(d). Courts have distilled Rule 702’s requirements into three crucial inquiries: (1) whether the proposed expert witness is qualified; (2) whether the proposed testimony

is relevant; and (3) whether the proposed testimony is reliable. See Kumho Tire Co., 526 U.S. at 141; Daubert, 509 U.S. at 589; Engilis, 151 F.4th at 1048–50; Forrest, 429 F.3d at 80. The trial court must perform its special gatekeeping obligation concerning these three requirements. See, e.g., Fed. R. Evid. 702; Kumho Tire Co., 526 U.S. at 147; Engilis, 151 F.4th at 1048–50.

When a party challenges an expert’s testimony, the court must “satisfy itself that the proffered testimony meets the relevant standard as a precondition to admissibility.” Snell v. Reid, No. 22-1869, 2024 WL 2815061, at \*3 (4th Cir. June 3, 2024) (per curiam) (unpublished) (cleaned up); see Engilis, 151 F.4th at 1048–50; Sardis v. Overhead Door Corp., 10 F.4th 268, 282 (4th Cir. 2021). The court must make explicit findings concerning the challenged preconditions of admissibility either by written order or orally on the record. See Snell, 2024 WL 2815061, at \*3; Sardis, 10 F.4th at 283; United States v. Smith, 919 F.3d 825, 835–36 (4th Cir. 2019).

As for qualification, an expert may be qualified based on “knowledge, skill, experience, training, or education.” Fed. R. Evid. 702. A court assesses qualifications in reference to the matter to which the witness seeks to testify. See Daubert, 509 U.S. at 591–93; Gladhill v. Gen. Motors Corp., 743 F.2d 1049, 1052 (4th Cir. 1984). The witness need not be the most well-known or well-qualified witness. See Gladhill, 743 F.2d at 1052. Nonetheless, a witness does not become an expert simply by claiming to be an expert or because some other court permitted the witness to testify as an expert. See, e.g., Thomas J. Kline, Inc. v. Lorillard, Inc., 878 F.2d 791, 799–800 (4th Cir. 1989) (holding that a witness with an MBA was not qualified to provide expert opinion testimony on complex economic antitrust matters about which the witness was not qualified by training, experience, or education); United States v. Bahena, 223 F.3d 797, 809–10 (8th Cir. 2000) (holding that a witness who held himself out to be an expert on voice spectrography lacked the required training, experience, or education). Moreover, expertise in one topic does not qualify a

witness to testify about another topic. See, e.g., Engilis, 151 F.4th at 1050–54 (affirming exclusion of oncologist’s opinion on specific causation because the oncologist failed to follow the differential etiology methodology his report purported to employ and failed to reliably rule out obesity as a potential cause of plaintiff’s cancer); Brainchild Surgical Devices, LLC v. CPA Glob. Ltd., 144 F.4th 238, 254 (4th Cir. 2025) (affirming exclusion of expert with experience in international business and contracts to opine on patent renewal services where the expert lacked training or experience with patent renewal services); Kadel v. Folwell, 100 F.4th 122, 158 (4th Cir. 2025) (en banc) (affirming exclusion of medical doctors’ testimony where doctors failed to demonstrate expertise in treating the medical condition at issue in the case), vacated on other grounds by Folwell v. Kadel, 145 S. Ct. 2838 (2025) (mem.); Sardis, 10 F.4th at 288–90, 295 (affirming exclusion of testimony about an industry standard not sufficiently related to the product at issue and excluding testimony that contradicts standards imposed by governing law); Zellers v. NexTech Ne., LLC, 533 F. App’x 192, 197 (4th Cir. 2013) (per curiam) (unpublished) (affirming exclusion of neurologist’s testimony about the toxicity of certain chemicals used for refrigeration because the neurologist had no training in toxicology); Cooper, 259 F.3d at 200–04 (affirming exclusion of medical doctor’s testimony where the medical doctor based an opinion on a medical device without conducting tests or studying the medical device); Ancho v. Pentek Corp., 157 F.3d 512, 519 (7th Cir. 1998) (affirming exclusion of testimony when the expert failed to visit the site of the accident or otherwise familiarize himself with the specific details of the accident at issue).

To be relevant, the proposed expert testimony must be helpful to the trier of fact concerning the evidence or a fact at issue in the case. See Fed. R. Evid. 702(a); Daubert, 509 U.S. at 591–92; United States v. Lespier, 725 F.3d 437, 449 (4th Cir. 2013); Kopf v. Skyrn, 993 F.2d 374, 377 (4th Cir. 1993); Persinger v. Norfolk & W. Ry., 920 F.2d 1185, 1188 (4th Cir. 1990); Scott v. Sears,

Roebuck & Co., 789 F.2d 1052, 1055 (4th Cir. 1986). To be helpful, the proposed expert testimony must fit the facts of the case. See Fed. R. Evid. 702; Silicon Knights, Inc., 2011 WL 6748518, at \*6-17. “Fit is not always obvious, and scientific validity for one purpose is not necessarily scientific validity for other, unrelated purposes.” Daubert, 509 U.S. at 591 (cleaned up). To be helpful to the trier of fact, the proposed expert testimony must be outside the common knowledge or function of the factfinder. See, e.g., Lespier, 725 F.3d at 449 (affirming exclusion of expert testimony on how sleep deprivation affects the reliability of an eye witness to a crime); Persinger, 920 F.2d at 1188 (affirming exclusion of expert testimony about the weight an individual could safely lift based on an easily-applied industry formula); Gladhill, 743 F.2d at 1052 (affirming decision that a police officer who had investigated 600 car accidents and arrived at the car accident scene immediately after the car accident was qualified to opine on the cause of the car accident based on his review of the car accident scene); cf. United States v. Hill, 749 F.3d 1250, 1260 (10th Cir. 2014) (holding that an expert witness cannot testify about whether another witness is credible); Nimely v. City of New York, 414 F.3d 381, 398 (2d Cir. 2005) (same).

“[T]he test of reliability is flexible and the law grants a district court” discretion when it decides reliability. United States v. Wilson, 484 F.3d 267, 274 (4th Cir. 2007) (cleaned up); see Kumho Tire Co., 526 U.S. at 141-42; Belville v. Ford Motor Co., 919 F.3d 224, 233 (4th Cir. 2019). Reliability focuses on the fit between the expert opinion and the facts of the case. There is not a fit when a large analytical gap exists between the facts of the case and the opinion. See, e.g., Joiner, 522 U.S. at 146-47 (affirming exclusion of testimony where the expert’s opinion was based on irrelevant testing on animals unrelated to the case at issue); Engilis, 151 F.4th at 1050-54 (affirming exclusion of oncologist’s opinion on specific causation because the oncologist failed to follow the differential etiology methodology his report purported to employ and failed to reliably

rule out obesity as a potential cause of plaintiff's cancer); In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prods. Liab. Litig., 892 F.3d 624, 634–35, 644 (4th Cir. 2018) (affirming exclusion of testimony when the expert's testing contradicted his opinion); Nease v. Ford Motor Co., 848 F.3d 219, 232–33 (4th Cir. 2017) (affirming exclusion of testimony when expert on vehicle safety failed to test his own hypothesis); Cooper, 259 F.3d at 200–01 (affirming exclusion of testimony on what caused a medical injury when the expert's testing did not provide evidence of causation); Silicon Knights, Inc., 2011 WL 6748518, at \*6–17 (excluding expert on damages where the opinions did not fit the facts of the case). Rule 702 does not permit or require “a district court to admit opinion evidence that is connected to existing data only by the ipse dixit of the expert.” Joiner, 522 U.S. at 146; see Small v. WellDyne, Inc., 927 F.3d 169, 177 (4th Cir. 2019) (“Without testing, supporting literature in the pertinent field, peer reviewed publications[,] or some basis to assess the level of reliability, expert opinion testimony can easily, but improperly, devolve into nothing more than proclaiming an opinion is true ‘because I say so.’”); In re Roundup Prods. Liab. Litig., MDL No. 2741, 2023 WL 7928751, at \*2–6 (N.D. Cal. Nov. 15, 2023) (unpublished) (“For an expert to express an opinion that Roundup cause[d] [Non-Hodgkins Lymphoma], that expert must have engaged with the relevant literature enough to assess whether a study is credible, to explain why [he] relied on one study more than another, and to articulate how [he] reached [his] conclusion in the face of conflicting evidence. [The expert in this case] did not do that, so his general causation opinion is excluded.”), aff'd sub nom. Engilis, 151 F.4th 1040.

In determining “whether proffered testimony is sufficiently reliable, the court has broad latitude to consider whatever factors bearing on validity that the court finds to be useful; the particular factors will depend upon the unique circumstances of the expert testimony involved.” Westberry v. Gislaved Gummi AB, 178 F.3d 257, 261 & n.1 (4th Cir. 1999). Factors that may

bear on the reliability of the expert's testimony include (1) whether a theory or technique can be (and has been) tested, (2) whether the theory or technique has been subjected to peer review and publication, (3) whether a technique has a high known or potential rate of error and whether there are standards controlling its application, and (4) whether the theory or technique enjoys general acceptance within the relevant community. See Kumho Tire Co., 526 U.S. at 149–50; Daubert, 509 U.S. at 593–94; see, e.g., Engilis, 151 F.4th at 1050–54 (affirming exclusion of oncologist's opinion on specific causation because the oncologist failed to follow the differential etiology methodology his report purported to employ and failed to reliably rule out obesity as a potential cause of plaintiff's cancer); Sardis, 10 F.4th at 288–90 (holding testimony about product safety unreliable when expert did not test the product); McKiver v. Murphy-Brown, LLC, 980 F.3d 937, 960 (4th Cir. 2020) (holding that a witness's method for analyzing the origin of swine fecal material was widely used and applied reliably enough to be admitted despite not being subject to peer review); In re Lipitor, 892 F.3d at 644–45 (holding that medical doctor's testimony that Lipitor caused certain diseases was excludable for not factoring in other risk factors, such as age, body mass index, and family history); Baxter v. Comm'r of IRS, 910 F.3d 150, 157–58 (4th Cir. 2018) (holding that mere disagreement with an expert's otherwise reliable economic methodology is not grounds for exclusion); United States v. Crisp, 324 F.3d 261, 265–70 (4th Cir. 2003) (holding that expert fingerprint analysis was admissible despite defendant's objections to its general scientific accuracy). “Result-driven analysis, or cherry-picking, undermines principles of the scientific method and is a quintessential example of applying methodologies (valid or otherwise) in an unreliable fashion.” In re Lipitor, 892 F.3d at 634; see E.E.O.C. v. Freeman, 778 F.3d 463, 468–70 (4th Cir. 2015) (Agee, J., concurring) (collecting cases).

## II.

The parties dispute how their experts may opine on general causation—specifically, whether they may, or even must, incorporate the CLJA’s “at least as likely as not” standard. “General causation asks whether an agent increases the incidence of disease in a group and not whether the agent caused any given individual’s disease.” In re Deepwater Horizon BELO Cases, 119 F.4th 937, 941 (11th Cir. 2024) (citation omitted). “In toxic-tort actions, plaintiffs prove general causation through epidemiological evidence, dose-response relationship, and background risk of disease.” Id. Relevant here, epidemiology “studies the incidence, distribution, and [cause] of disease in human populations.” Michael D. Green et al., Reference Guide on Epidemiology, in Reference Manual on Scientific Evidence 549, 551 (Fed. Jud. Ctr., 3d ed. 2011). Experts who rely on epidemiological evidence to establish general causation typically apply the two-step Bradford Hill method to “distinguish a causal connection from a mere association.”<sup>1</sup> In re Zolofit (Sertraline Hydrochloride) Prods. Liab. Litig., 858 F.3d 787, 795 (3d Cir. 2017).

At step one, the expert must identify a statistically significant association, which they do by “rul[ing] out alternative explanations, by asking, for example, whether a potential association resulted from limitations in the study, like chance or bias,” and by “ask[ing] whether the association reflects a true cause-effect relationship.” In re Deepwater Horizon, 119 F.4th at 941 (cleaned up). “In this context, causation means something akin to but-for cause: exposure to a

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<sup>1</sup> Although “epidemiology usually provides the best evidence of general causation in toxic tort actions,” Nix v. Chemours Co. FC, 805 F. Supp. 3d 626, 654–55 (E.D.N.C. 2025) (collecting cases), there are other methods to show general causation, such as toxicological studies, scientific literature in peer-reviewed journals, and regulatory findings. There are also other methods to show specific causation once general causation has been found, such as differential diagnosis. See, e.g., In re Bausch & Lomb Inc. Contacts Lens Sol. Prods. Liab. Litig., 693 F. Supp. 2d 515, 519 (D.S.C. 2010), aff’d sub nom. Fernandez-Pineiro v. Bausch & Lomb, Inc., 429 F. App’x 249 (4th Cir. 2011) (per curiam) (unpublished). Here, the court focuses on briefed methods the parties’ experts purportedly used.

toxic agent is a necessary link in the chain of events that led to the disease.” Id. (cleaned up) (emphasis added). Thus, association findings are “considered ‘statistically significant’ only when the odds ratio is expressed with a 95% confidence interval (consistently) and when that interval does not include an odds ratio of 1.0 or below.” Smith v. Wyeth-Ayerst Lab’ys Co., 278 F. Supp. 2d 684, 691 n.8 (W.D.N.C. 2003); see Dickson v. Nat’l Maint. & Repair of Ky., Inc., No. 5:08-CV-8, 2011 WL 12538613, at \*5 (W.D. Ky. Apr. 28, 2011) (unpublished); Baker v. Chevron USA, Inc., 680 F. Supp. 2d 865, 881 n.11 (S.D. Ohio 2010).

After identifying an association that is statistically significant, or “perfectly clear-cut and beyond what we would care to attribute to the play of chance,” between an agent and disease, the expert at step two considers nine factors to determine whether that association supports a causal inference. Dunn v. Sandoz Pharms. Corp., 275 F. Supp. 2d 672, 678 (M.D.N.C. 2003) (quoting Austin Bradford Hill, The Environment and Disease: Association or Causation?, 58 PROC. ROYAL SOC’Y MED. 295, 295–300 (1965)); see In re Johnson & Johnson Talcum Powder Prods. Mktg., No. 3:16-MD-2738, 2026 WL 161184, at \*24 (D.N.J. Jan. 20, 2026) (unpublished); Henderson v. Lockheed Martin Corp., 723 F. Supp. 3d 1147, 1150 n.3 (M.D. Fla. 2024); In re Deepwater Horizon Belo Cases, No. 3:19-CV-1983, 2022 WL 17734414, at \*9 (N.D. Fla. Dec. 15, 2022) (unpublished), report and recommendation adopted, 2023 WL 372646 (N.D. Fla. Jan. 24, 2023) (unpublished), amended in part and vacated in part on other grounds by No. 3:19-CV-2147, 2023 WL 11879991 (N.D. Fla. Jan. 31, 2023) (unpublished); Hoefling v. U.S. Smokeless Tobacco Co., 576 F. Supp. 3d 262, 273 n.4 (E.D. Pa. 2021); In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prods. Liab. Litig., 174 F. Supp. 3d 911, 924–25 (D.S.C. 2016) (collecting cases) (“While a causation opinion need not be based on epidemiological studies, it is well established that the Bradford Hill method used by epidemiologists does require that an association be established

through studies with statistically significant results.” (citation omitted)), aff’d, In re Lipitor, 892 F.3d at 640–42 (“[W]e decline to establish a bright-line rule requiring experts to rely only on evidence that is statistically significant or else have their opinions excluded. The district court here did not hold to the contrary. Instead, the court focused on the particular analysis [the expert] performed . . . and determined that in that specific context, the analysis requires a statistician to find a statistically significant association at step one before moving on to apply the factors at step two. Because [the expert] deviated from this norm, the district court concluded that he unreliably applied the Bradford Hill methodology and thus his opinion was subject to exclusion.” (emphasis added)); Frischhertz v. SmithKline Beecham Corp., No. 10-2125, 2012 WL 6697124, at \*3 (E.D. La. Dec. 21, 2012) (unpublished) (“The Bradford-Hill criteria can only be applied after a statistically significant association has been identified.”). Those factors are: (1) temporal relationship, (2) strength of the association, (3) dose-response relationship, (4) replication of the findings, (5) biological plausibility, (6) consideration of alternative explanations, (7) cessation of exposure, (8) specificity of the association, and (9) consistency with other knowledge. See, e.g., In re Deepwater Horizon, 119 F.4th at 941 (citing Hill, The Environment and Disease, supra, at 295–300).

The weight-of-the-evidence method is a similar or sometimes overarching approach to making causal determinations, used alone or in conjunction with the Bradford Hill criteria, that involves a series of logical steps used to “infer[] to the best explanation.” In re Zoloff, 858 F.3d at 795; see Daniels-Feasel v. Forest Pharms., Inc., No. 22-146, 2023 WL 4837521, at \*2 (2d Cir. July 28, 2023) (per curiam) (unpublished); In re Zoloff, 858 F.3d at 796–97; Milward v. Acuity Specialty Prods. Grp., Inc., 639 F.3d 11, 17 (1st Cir. 2011); In re Deepwater Horizon Belo Cases, No. 3:19-CV-963, 2024 WL 4349466, at \*8 & n.20 (N.D. Fla. Sept. 30, 2024) (unpublished);

Magistrini v. One Hour Martinizing Dry Cleaning, 180 F. Supp. 2d 584, 592–93, 602 (D.N.J. 2002), aff'd, 68 F. App'x 356 (3d Cir. 2003) (unpublished). An expert using this method must “(1) identify an association between an exposure and a disease, (2) consider a range of plausible explanations for the association, (3) rank the rival explanations according to their plausibility, (4) seek additional evidence to separate the more plausible from the less plausible explanations, (5) consider all of the relevant available evidence, and (6) integrate the evidence using professional judgment to come to a conclusion about the best explanation.” Milward, 639 F.3d at 18.

Although the Bradford Hill and weight-of-the-evidence methods are “generally reliable, the ‘techniques’ used to implement the analysis must be 1) reliable and 2) reliably applied.” In re Zoloft, 858 F.3d at 796; see Davis v. Lockheed Martin Corp., 705 F. Supp. 3d 1345, 1349–51 (M.D. Fla. 2023) (excluding expert who incorporated statistically insignificant association studies into his weight-of-the-evidence method to claim a causal relationship and noting “not only did [the expert] fail to demonstrably perform a Bradford Hill analysis to see if an identified association crossed the line into causation—he did not even reliably establish an association in the first place”); cf. Meade v. Parsley, No. 2:09-CV-388, 2010 WL 4909435, at \*8 (S.D. W. Va. Nov. 24, 2010) (unpublished) (collecting cases) (noting that some courts wholly reject agency determinations about the need for label warnings as a basis for general causation). Likewise, when an expert uses these methods to produce conclusions about a causal relationship, “any step that renders the analysis unreliable under [Rule 702] renders the expert’s testimony inadmissible[,] . . . whether the step completely changes a reliable methodology or merely misapplies that methodology.” In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 745 (3d Cir. 1994) (emphasis omitted); see In re Onglyza (Saxagliptin) & Kombiglyze (Saxagliptin & Metformin) Prods. Liab. Litig., 93 F.4th 339, 347–48 (6th Cir. 2024); In re Zoloft, 858 F.3d at 800; Att’y Gen. of Okla. v. Tyson Foods, Inc., 565 F.3d

769, 780 (10th Cir. 2009); Amorgianos v. Nat'l R.R. Passenger Corp., 303 F.3d 256, 267 (2d Cir. 2002); In re Deepwater Horizon, 2024 WL 4349466, at \*8 n.19; In re Zantac (Ranitidine) Prods. Liab. Litig., 644 F. Supp. 3d 1075, 1236–37 (S.D. Fla. 2022); Cavallo v. Star Enter., 892 F. Supp. 756, 762 (E.D. Va. 1995), aff'd in part and rev'd in part on other grounds, 100 F.3d 1150 (4th Cir. 1996). Moreover, the court must “make certain that an expert . . . employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” Kumho Tire Co., 526 U.S. at 152.

Defendant argues that the PLG’s experts “impermissibly relaxed the scientific standards that they would otherwise apply in their fields” by incorporating the CLJA’s “at least as likely as not’ legal standard” into their analyses. [D.E. 540] 8. The PLG responds that Congress authorized precisely that move by lowering the burden of proof required to determine causation for a CLJA claim. See [D.E. 690] 12–14, 19. Specifically, the PLG contends that “there is no fixed level of confidence required in the fields of epidemiology and toxicology before an expert can speak about the likelihood of causation,” that the “practical effect of granting [defendant’s] request to misconstrue Rule 702 as imposing a heightened level of confidence would be to impose a burden of proof in excess of the CLJA, and nullify a key provision of the CLJA itself,”<sup>2</sup> and that “Congress has codified in no uncertain terms its considered policy judgment that injured marines, family members, and civilian workers exposed to water at [Camp Lejeune] can prevail under a standard

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<sup>2</sup> In support, the PLG cites the Rules Enabling Act, arguing rules “shall not abridge, enlarge or modify any substantive right.” [D.E. 690] 14 (quoting 28 U.S.C. § 2072(b)). But Congress lowering the statutory burden of proof for a CLJA claim does not affect Rule 702’s admissibility standard for expert opinion—and thus does not abridge any substantive right. See Fed. R. Evid. 702; Lancaster, 75 F.4th at 969 (collecting cases). By insisting that Rule 702 cannot exclude otherwise “accurate” testimony, [D.E. 690] 14, the PLG ignores the dispositive issue in this dispute: whether experts in this litigation offered opinions that meet the requirements of the Federal Rules of Evidence.

more lenient than the policy judgment reflected by the common law[,] . . . [which] the [PLG's] experts here were entitled to accept." *Id.* at 13–14, 19. At bottom, the PLG claims that "Congress wrote [the 'at least as likely as not' standard] into federal law, and the experts were entitled to tailor their opinions to it," because "Congress codified the requisite level of confidence based on the Nation's policy priorities." *Id.* at 19, 22; *see id.* at 7–29.

The PLG "correctly characterize[s] [their] burden of proof to establish causation under the" CLJA, but the PLG "fails to appreciate that the standards for determining the reliability and credibility of expert testimony are not altered merely because the burden of proof is relaxed." *Wills v. Amerada Hess Corp.*, 379 F.3d 32, 47 (2d Cir. 2004) (Sotomayor, J.); *see Lancaster v. BNSF Ry.*, 75 F.4th 967, 969 (8th Cir. 2023). As then-Judge Sotomayor explained for the Second Circuit, "the standard of causation . . . and the standards for admission of expert testimony under the Federal Rules of Evidence are distinct issues and do not affect one another." *Wills*, 379 F.3d at 47 (citation omitted) (considering the Jones Act, which, like the CLJA, has a relaxed burden of proof to show causation); *see Lancaster*, 75 F.4th at 968 ("Despite [the Federal Employers' Liability Act's ("FELA")] relaxed causation standard, expert testimony must still meet *Daubert's* and Federal Rule 702's requirements for admissibility."); *Seaman v. Seacor Marine L.L.C.*, 326 F. App'x 721, 728 n.41 (5th Cir. 2009) (per curiam) (unpublished) (same for Jones Act); *Claar v. Burlington N. R.R.*, 29 F.3d 499, 503 (9th Cir. 1994) (same for FELA); *Taylor v. Consol. Rail Corp.*, 114 F.3d 1189, at \*6–7 (6th Cir. June 11, 1997) (per curiam) (unpublished table decision) (same and noting that "[i]t is well established that the [admissibility of expert testimony] is controlled—even in cases aris[ing] under FELA—by the Federal Rules of Evidence and the seminal case of *Daubert*"). Congress choosing a relaxed burden of proof for plaintiffs pursuing

CLJA claims does not relax admissibility requirements under Rule 702 to permit experts to depart from accepted standards in their field or permit courts to ignore Rule 702's requirements.

Rule 702 requires that an expert use reliable methodology—not a litigation-specific standard tailored to the governing burden of proof. See, e.g., Daubert, 509 U.S. at 589. A “significant fact weighing against admitting the testimony is where . . . an expert developed [their methodology] expressly for the purposes of testifying.” Wehling v. Sandoz Pharms. Corp., 162 F.3d 1158, at \*3 (4th Cir. 1998) (per curiam) (unpublished table opinion); see In re Lipitor, 174 F. Supp. 3d at 920; In re Mirena IUD Prods. Liab. Litig., 169 F. Supp. 3d 396, 440 (S.D.N.Y. 2016), aff'd, 713 F. App'x 11, 15 (2d Cir. 2017) (unpublished) (affirming trial court's exclusion of experts in part because they “developed their theories for the purposes of this litigation”). For example, where an expert uses the Bradford Hill method to discern a causal relationship, failure to find a statistically significant association before proceeding is fatal to the opinion's admissibility. See, e.g., In re Lipitor, 174 F. Supp. 3d at 925 (excluding epidemiological expert opinion where expert used the Bradford Hill method but failed at step one to consider whether “an association [was] established through studies with statistically significant results”). Ultimately, experts must “employ[] in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” Kumho Tire Co., 526 U.S. at 152.

Some experts in this litigation may have modified their methodological thresholds to track the CLJA's legal standard rather than the standards of their fields. The PLG defends this move as the natural consequence of Congress's decision to relax the common-law preponderance standard for a CLJA claim. Not so. Congress altered the burden of proof for a CLJA claim. Rule 702 governs admissibility of expert testimony as evidence to meet that burden. And Rule 702 does not permit experts to adjust for litigation their scientific methodology to mirror a legal standard. By

incorporating the CLJA's burden-of-proof standard into their methodology, rather than just their ultimate conclusion, an expert assumes the role of the factfinder and ignores Rule 702's requirement that expert testimony must be the product of reliable principles and the expert's opinion must reflect a reliable application of the principles and methods to the facts of the case. Moreover, despite the PLG's arguments otherwise, see [D.E. 690] 10, 15–19, an expert may not cure their methodological deficiency simply by stating that they hold their opinion “to a reasonable degree of scientific certainty.” Cf. Riggins v. SSC Yanceyville Operating Co., 800 F. App'x 151, 155–59 (4th Cir. 2020) (unpublished). Rather, the proponent of expert testimony must “demonstrate[] to the court that it is more likely than not that: (a) the expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue; (b) the testimony is based on sufficient facts or data; (c) the testimony is the product of reliable principles and methods; and (d) the expert's opinion reflects a reliable application of the principles and methods to the facts of the case.” Fed. R. Evid. 702, 104(a); Fed. R. Evid. 702 advisory committee's note to 2023 amendment (noting this standard is “more likely than not” and the preponderance standard “that applies to most of the admissibility requirements set forth in the evidence rules”); see, e.g., Daubert, 509 U.S. at 592 n.10; Engilis, 151 F.4th at 1048–50; Cooper, 259 F.3d at 199; In re Paoli, 35 F.3d at 744. The court will hold every expert in this litigation to this standard as applied to the expert's field and chosen method.

At this juncture, to the extent experts in this litigation premise their epidemiological conclusions on a reduced level of methodological rigor because this is a legal proceeding involving a claim where the burden of proof is equipoise, their opinion violates Rule 702. See Fed. R. Evid. 702; Kumho Tire Co., 526 U.S. at 152; Daubert, 509 U.S. at 589; Lancaster, 75 F.4th at 969; In re Mirana, 713 F. App'x at 15; Seaman, 326 F. App'x at 728 n.41; Wills, 379 F.3d at 47; Wehling,

162 F.3d at \*3; Taylor, 114 F.3d at \*6-7; Clarr, 29 F.3d at 503; In re Lipitor, 174 F. Supp. 3d at 920; Grano v. Sodexo Mgmt., Inc., No. 3:18-CV-1818, 2023 WL 125590, at \*18-19 (S.D. Cal. Jan. 6, 2023) (unpublished) (excluding the same where expert used Bradford Hill method to determine a causal relationship despite a study saying “the source was not determined” because the expert testified that “determine” typically means 99-percent probability but that his “understanding is the [litigation] standard is a reasonable degree of epidemiologic probability, or more likely than not, and that’s 51 percent,” adding “what I’m saying is like I’m not at the level of 99 percent, but I’m way above 51 percent.” (emphasis omitted)); In re Mirena, 169 F. Supp. 3d at 440.

In accordance with the party-presentation principle and the PLG’s request, the parties shall “meet and confer regarding the appropriate way to implement [this order], including identifying the opinions to which the [o]rder applies.” [D.E. 568] 7. Each judge individually will then determine admissibility and an appropriate remedy where needed, including for the remaining 702 motions in each case. Cf., e.g., Fed. R. Civ. P. 52, 56; Nix v. Chemours Co. FC, No. 7:17-CV-189, 2026 WL 1129097, at \*6-7 (E.D.N.C. Apr. 20, 2026) (unpublished) (excluding only an expert’s estimates based on unreliable evidence but otherwise allowing the expert to opine); Houston Cas. Co. v. Trident Constr. Servs., LLC, No. 2:22-CV-2037, 2023 WL 8713370, at \*2 (D.S.C. Dec. 18, 2023) (unpublished) (striking portion of expert report that inappropriately opined on punitive damages); In re Lipitor (Atorvastatin Calcium) Mktg., Sales Pracs. & Prods. Liab. Litig., 227 F. Supp. 3d 452, 466, 485, 488-89 (D.S.C. 2017) (granting summary judgment where plaintiffs lacked causation evidence after expert exclusion), aff’d sub nom. In re Lipitor, 892 F.3d 624; In re Lipitor, 174 F. Supp. 3d at 921-36 (excluding all the causation opinions of experts who did not reliably apply the methods of their fields); U.S. Home Corp. v. Settlers Crossing, LLC, 33 F. Supp.

3d 596, 599, 619 & n.17 (D. Md. 2014) (ruling on Rule 702 issues in the court's findings of fact and conclusions of law under Rule 52 after hearing trial testimony), aff'd, 685 F. App'x 173 (4th Cir. 2017) (per curiam) (unpublished).

Defendant also argues that some of the PLG's general causation experts "[i]mpermissibly [o]ffered [l]egal [o]pinions in [v]iolation of" Federal Rule of Evidence 704 by opining on "whether [p]laintiffs have met their ultimate legal burden of proof under the CLJA." [D.E. 540] 7-8; see Fed. R. Evid. 704. An opinion about general causation that uses the equipoise burden of proof is not an opinion on the ultimate issue in the case. Cf. In re Camp Lejeune Water Litig., 736 F. Supp. 3d at 318-28 (explaining the CLJA's causation requirement). Thus, such an opinion would not violate Rule 704 and the court rejects any such argument. Nonetheless, Rule 704 applies in this litigation, and the court will apply it in individual cases.

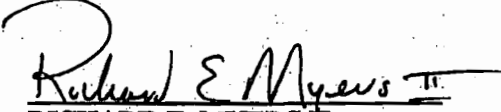
As for the PLG's motion to exclude certain of defendant's expert opinions for failure to apply the equipoise burden of proof in this case, plaintiffs identify no colorable issue of reliability or relevance at this time. See [D.E. 568] 6-7; Def.'s Resp. [D.E. 664] 29-34. Thus, the court denies the PLG's motion to exclude. See Fed. R. Evid. 702; Kumho Tire Co., 526 U.S. at 152; Daubert, 509 U.S. at 589; Lancaster, 75 F.4th at 969; In re Mirena, 713 F. App'x at 15; Seaman, 326 F. App'x at 728 n.41; Wills, 379 F.3d at 47; Wehling, 162 F.3d at \*3; Taylor, 114 F.3d at \*6-7; Claar, 29 F.3d at 503; In re Lipitor, 174 F. Supp. 3d at 920; In re Mirena, 169 F. Supp. 3d at 440. The court reserves further relevance considerations until trial. See Fed. R. Evid. 702, 401.


### III.

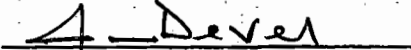
In sum, Chief Judge Myers, Judge Boyle, and Judge Dever DENY WITHOUT PREJUDICE defendant's motion to exclude [D.E. 539], and DENY plaintiffs' motion to exclude [D.E. 567]. The parties SHALL file within 21 days a joint proposed order that identifies expert

opinions to which this order applies, for consideration by Chief Judge Myers, Judge Boyle, and Judge Dever individually. Judge Flanagan will separately resolve these issues in her cases.

SO ORDERED. This 5 day of June, 2026.

  
RICHARD E. MYERS II  
Chief United States District Judge

  
TERRENCE W. BOYLE  
United States District Judge

  
JAMES C. DEVER III  
United States District Judge