Addressing Junk Science in Abortion Litigation

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Abstract

Junk science has been a longstanding feature of antiabortion legislative and litigation strategy. But after the Supreme Court's opinion in Whole Woman's Health *required courts to independently evaluate scientific evidence, rather than defer to a legislature's factual findings, antiabortion experts took on greater importance in litigation. This Article examines three theories of antiabortion junk science, which, despite overwhelming scientific evidence establishing their falsity, have been repeatedly litigated in federal and state courts.*

The current tool for addressing dubious evidence in litigation is the standard created by the Supreme Court in Daubert *and adopted by Federal Rule of Evidence 702. However, the current procedure for* Daubert *motions does not solve the problems created by junk science in abortion litigation. This Article reviews abortion litigation between* Whole Woman's Health *and* Dobbs*, which is the period that saw the highest court engagement with these theories. The review shows that when abortion rights litigants devoted significant time and resources to disproving junk science, district court judges typically made the correct assessment. But the antiabortion expert simply moved on to the next case, requiring abortion rights litigants to disprove their false evidence again and again. This phenomenon impacted the abortion rights movement's overall effectiveness and entrenched antiabortion junk science in the courts and in public opinion.*

This Article argues that our legal system does not effectively manage litigants who continue to promote false evidence despite repeated rejection. It suggests three solutions: resolving disputes over

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pseudoscientific expert evidence in a preliminary injunction decision that binds the rest of the litigation; centralizing discovery in a multi-district litigation; and moving for Rule 11 sanctions against those litigants that repeatedly rely on junk science. These solutions are considered in the context of abortion litigation but may also be applicable to other areas of litigation.

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I. INTRODUCTION

Antiabortion activists have long relied on junk science to support the passage of state restrictions on abortion and then defend legal challenges to these restrictions. Following the Supreme Court's 1992 decision in *Casey*, "a state could enact legislation to promote the state's interests in potential life and in women's health throughout pregnancy, so long as the laws did not impose an undue burden on a woman's decision about whether to carry a pregnancy to term."[1]

An undue burden was defined as "a state regulation [that] has the purpose or effect of placing a substantial obstacle in the path of a woman seeking an abortion of a nonviable fetus."[2] By encouraging state legislators to justify abortion restrictions as necessary to protect pregnant women, *Casey*'s undue burden standard created a legislative market for pseudoscience.

States legislatures, influenced by antiabortion activists, began passing laws that restricted abortion based on dubious scientific

1. Linda Greenhouse & Reva B. Siegel, *The Difference a Whole Woman Makes: Protection for the Abortion Right After* Whole Woman's Health, 126 YALE L.J. FORUM 149, 151 (2016) (citing Planned Parenthood of Se. Pa. v. Casey, 505 U.S. 833, 876–77 (1992), *overruled by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022)).

2. *Casey*, 505 U.S. at 877.

theories.[3] For example, doctors performing abortions in Texas were required to have admitting privileges at local hospitals to improve the safety of abortion care.[4] In Florida, pregnant people were required to wait 24 hours to have an abortion to prevent regret.[5] In Mississippi, patients had to be warned that abortion was linked to breast cancer.[6] These laws, like many other laws that were enacted to restrict abortions, were based on patently false science.[7]

Once these and similar laws were challenged in courts, those defending the laws needed to develop a factual record that supported their arguments that the laws were necessary to protect women's health. The antiabortion movement had long believed that creating new "favorable" data was a crucial part of its advocacy.[8] Following *Casey*, antiabortion activists poured money into research initiatives, creating the Charlotte Lozier Institute and the Watson Bowes Research

3. Greenhouse & Siegel, *supra* note 1, at 150–53.

4. Act of Oct. 29, 2013, 4795–802, 2013 Tex. Sess. Law Serv. (West) (codified at TEX. HEALTH & SAFETY CODE ANN. §§ 171.0031, 171.041-048, 171.061-064, 245.010-011 (West 2023)).

5. Act of July 1, 2015, ch. 2015–118, § 1, 2015 Fla. Laws (codified as amended at FLA. STAT. § 390.0111(3) (2024)).

6. Act of July 1, 1996, ch. 442, 1996 Miss. Laws (codified at MISS. CODE. ANN. § 41-41-33 (2024)).

7. "Mandates that abortion providers obtain hospital admitting privileges . . . are not based in science, improperly regulate medical practice, and impede patients' access to quality, evidence-based care." *Hospital Admitting Privilege Mandates Undermine Physician Practice and Unduly Burden Women's Access to Abortion*, AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS, https://www.acog.org/news/news-articles/2020/11/hospital-admitting-privilege-mandates-undermine-physician-practice-and-unduly-burden-womens-access-to-abortion (last visited Sep. 28, 2024). The overwhelming majority of women who have abortions do not regret their decision and report that it was the right decision. *See, e.g.*, Rocca et al., *Emotions and Decision Rightness Over Five Years Following an Abortion: An Examination of Decision Difficulty and Abortion Stigma*, 248 SOC. SCI. & MED., Mar. 2020. There is "no causal relationship between induced abortion and a subsequent increase in breast cancer risk." *Committee Opinion 434: Induced Abortion and Breast Cancer Risk*, AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS, June 2009, Reaffirmed 2021, https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2009/06/induced-abortion-and-breast-cancer-risk.

8. Mary Ziegler, *Facing Facts: The New Era of Abortion Conflict After* Whole Woman's Health, 52 WAKE FOREST L. REV. 1231, 1252 (2017) [hereinafter *Facing Facts*].

Institute.[9] Antiabortion physicians broke off from the American College of Obstetricians and Gynecologists, the largest organization of obstetricians and gynecologists in the country, to create their own organization, the American Association of Pro-life Obstetricians and Gynecologists.[10] From these organizations, they had ready-made experts who could testify in court in support of the laws. This Article uses the term "junk science" to refer to the evidence put forward by these experts. Junk science is expert testimony that appears to present science in the courtroom but lacks actual evidence.[11] It "typically employs a questionable methodology to reach unsupported conclusions."[12]

The standard created by the Supreme Court in the 1993 case, *Daubert*, and adopted by Federal Rule of Evidence 702, was meant to address the problem of dubious evidence in the courtroom.[13] However, the current *Daubert* procedure is the wrong tool for abortion litigation because antiabortion junk science presents different problems than

9. The Charlotte Lozier Institute was founded in 2011. *See* Mary Ziegler, *Substantial Uncertainty:* Whole Woman's Health v. Hellerstedt *and the Future of Abortion Law*, 2016 SUP. CT. REV. 77, 96 (2016) [hereinafter *Substantial Uncertainty*]. The Watson Bowes Research Institute is located within the American Association of Pro-Life Obstetricians and Gynecologists, which was founded in 2013. *See* Marisa Endicott, *They're Doctors. They're Also Incredibly Effective-and Dangerous-Anti-Abortion Activists*, MOTHER JONES (June 4, 2020), https://www.motherjones.com/politics/2020/06/american-association-pro-life-obstetricians-gynecologists-aaplog-anti-abortion-doctors-june-medical-supreme-court-decision; *History of AAPLOG*, AM. ASS'N OF PRO-LIFE OBSTETRICIANS AND GYNECOLOGISTS, https://aaplog.org/about-us/history-of-aaplog (last visited Sep. 28, 2024).

10. Endicott, *supra* note 9; Am. Ass'n of Pro-Life Obstetricians and Gynecologists, *supra* note 9.

11. PETER HUBER, GALILEO'S REVENGE: JUNK SCIENCE IN THE COURTROOM (1991).

12. Debra L. Worthington et al., *Hindsight Bias*, Daubert, *and the Silicone Breast Implant Litigation*, 8 PSYCH. PUB. POL'Y & L. 154, 158 (2002).

13. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993); FED. R. EVID. 702; Worthington, *supra* note 12, at 159 ("With *Daubert*, the Supreme Court attempted to redress the distortions caused by the increasing influence of junk science in the courtroom.").

those *Daubert* is meant to solve. A *Daubert* motion[14] is commonly used to weed out false evidence at a pretrial stage, so that it doesn't bias the jury and influence their decision.[15] In abortion litigation, the problem is not that judges are unable to accurately assess the evidence; when district court judges engage with the factual record in abortion litigation, they typically evaluate antiabortion evidence correctly.[16] However, requiring abortion rights litigants to devote significant time and resources to disproving junk science wastes judicial resources and entrenches antiabortion junk science in courts and society.[17] It also impacts access to abortion care across the country by diverting the litigation resources of the abortion rights movement.[18]

The frequency of abortion litigation amplifies these problems because when a judge determines that an antiabortion expert's testimony lacks credibility, the expert reappears in different courts, requiring the litigants to repeatedly disprove junk science theories.[19] While factual disputes are intrinsic to an adversarial system,[20] the proliferation of false evidence in abortion litigation is different. We would expect that if a theory has been repeatedly rejected by the mainstream scientific community and multiple courts, it would not continue to flourish. However, as a review of abortion litigation in this Article shows, our legal system is unprepared to deal with litigants who continue to promote junk science despite repeated rejection. This Article suggests three solutions to address these problems.[21]

14. A motion filed pursuant to Fed. R. Evid. 702 is referred to as a *Daubert* motion through this Article. These motions are typically styled as motions to exclude or motions in limine, which refers to any motion made "to exclude anticipated prejudicial evidence before the evidence is actually offered." Luce v. United States, 469 U.S. 38, 40 n.2 (1984).

15. Deal v. Hamilton Cnty. Bd. of Educ., 392 F.3d 840, 851 (6th Cir. 2004).

16. *See infra* Section III.B.2.

17. *See infra* Section III.B.4.

18. *See infra* Section III.B.4.

19. *See infra* Section III.B.3.

20. Allison Orr Larsen, *Constitutional Law in an Age of Alternative Facts*, 93 N.Y.U. L. REV. 175, 179–80 (2018).

21. As our society has become more comfortable with "alternative facts," false scientific theories have increasingly appeared in many forms of litigation. *See infra* Section IV.E. While this Article is a case study of junk science in abortion litigation, the solutions proposed here may be applicable to other forms of litigation facing the same challenges.

To illustrate how harmful misinformation has proliferated throughout abortion litigation, this Article focuses on three theories of abortion junk science: (1) abortion causes mental health problems; (2) abortion is physically unsafe; and (3) medication abortion can be reversed. Despite overwhelming evidence disproving each theory, they have appeared repeatedly in both state and federal litigation.

This Article focuses on the period between 2016, when the Supreme Court decided *Whole Woman's Health*,[22] and 2022, when the Court decided *Dobbs*.[23] While junk science had appeared in abortion litigation prior to 2016, *Whole Woman's Health* changed the way that district courts engaged with this evidence. In this decision, the Court confirmed that district courts had a responsibility to engage in fact-finding; even if a legislature passed a law for a stated purpose, a court had to look at the factual record and determine if that law in fact furthered that purpose.[24] When every federal court was required to engage in "fact-intensive litigation about the benefits and burdens of measures restricting access to abortion,"[25] antiabortion pseudoscience experts played a larger role than ever before. In 2022, the Court overturned *Roe v. Wade*, finding that no right to abortion existed in the Constitution.[26] Though this decision has dramatically changed the landscape of abortion litigation, the problems created by junk science in abortion litigation are likely to recur in the post-*Dobbs* era. So far, antiabortion litigants have continued to promote the false theories in state litigation and new forms of federal litigation.

This Article proceeds in three parts. Part I discusses the three theories of junk science, tracking the development of each theory and what antiabortion experts claim. It then looks closely at the science to show why the antiabortion theories are junk science. Part II explains why the current *Daubert* procedure cannot address the problem of false

22. Whole Woman's Health v. Hellerstedt, 579 U.S. 582 (2016), *abrogated by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

23. *Dobbs*, 597 U.S. at 215.

24. 579 U.S. at 607–09.

25. *Substantial Uncertainty*, *supra* note 9, at 78; *see also* Greenhouse & Siegel, *supra* note 1, at 160 ("Evidence-based balancing of this kind will guide courts in evaluating the state interest in enacting health-justified restrictions on abortion . . . .").

26. *Dobbs*, 597 U.S. at 216.

evidence in abortion litigation. It provides an overview of *Daubert* and how the test is used by courts. It then uses a review of twenty-four cases to show how the evidence was treated between 2016 and 2022 and why *Daubert* did not address the problems that junk science created. Part III considers possible solutions, including making preliminary injunction decisions binding on the rest of a case, centralizing pretrial proceedings in a multi-district litigation, and moving for Rule 11 sanctions against those litigants that repeatedly rely on junk science.

II. JUNK SCIENCE IN ABORTION LITIGATION

The phrase "junk science" emerged in the late 1980s and early 1990s to describe the use of questionable scientific evidence in mass tort litigation.[27] The perception at the time was that plaintiffs were winning substantial payoffs for harms caused by pharmaceuticals, pollutants, or other toxic substances based on expert testimony that industry and insurance groups found questionable.[28] It seemed to these groups that courts were "allowing experts to speculate or guess that causation existed based on weak data that did not reach a minimum threshold of scientific reliability."[29]

Peter Huber's 1991 book *Galileo's Revenge* explained that "junk science" is expert testimony that appears to present science in the courtroom but lacks actual evidence.[30] Junk science "typically employs questionable methodology to reach unsupported conclusions,"[31] and is often used to manufacture controversy over a particular issue. Leah Ceccarelli has described manufactured controversies as those in which "an arguer announces that there is an ongoing scientific debate in the technical sphere about a matter for

27. Jim Hilbert, *The Disappointing History of Science in the Courtroom:* Frye, Daubert*, and the Ongoing Crisis of "Junk Science" in Criminal Trials*, 71 OKLA. L. REV. 759, 776 n.90 (2019).

28. *Id.* at 773, 775.

29. David E. Bernstein, *The Misbegotten Judicial Resistance to the* Daubert *Revolution*, 89 NOTRE DAME L. REV. 27, 39 (2013).

30. HUBER, *supra* note 11.

31. Worthington, *supra* note 12, at 158.

which there is actually an overwhelming scientific consensus."[32] Joëlle Anne Moreno has further explained:

> Some scientific controversies are real; some are false. Challenges to the existence of global warming and the fear that childhood vaccines cause autism are false controversies because there is near consensus in the global scientific community on these questions. Near consensus in science means, as with all legitimate scientific research, that there may be unresolved questions that merit future investigation and reasonable experts may differ over select issues, but these unresolved matters do not threaten core settled scientific foundations . . . . In contrast, false scientific controversies have been fabricated to encourage courts, legislators, and the public to ignore or reject scientifically sound information in favor of purported "truthiness" claims that cannot be empirically supported.[33]

Antiabortion advocates have long used junk science to manufacture controversies about abortion.[34] This Article focuses on three categories of evidentiary disputes in abortion litigation, framed as the arguments made by antiabortion advocates. The advocates argue (1) abortion harms patients' mental health; (2) abortion is medically unsafe; and (3) medication abortion can be reversed. These three arguments share a similar profile: while scientific evidence has overwhelmingly shown

32. Leah Ceccarelli, *Manufactured Scientific Controversy: Science, Rhetoric, and Public Debate*, 14 RHETORIC & PUB. AFF. 195 (2011).

33. Joëlle Anne Moreno, *Extralegal Supreme Court Policy-Making*, 24 WM. & MARY BILL RTS. J. 451, 469–70 (2015) (internal citations omitted).

34. Numerous scholars have discussed how unreliable science has been used by the antiabortion movement. *See, e.g.*, *id.*; Aziza Ahmed, *Medical Evidence and Expertise in Abortion Jurisprudence*, 41 AM. J.L. & MED. 85 (2015); Caroline Mala Corbin, *Abortion Distortions*, 71 WASH. & LEE L. REV. 1175 (2014); Caitlin E. Borgmann, *Judicial Evasion and Disingenuous Legislative Appeals to Science in the Abortion Controversy*, 17 J.L. & Pol'y 15 (2008); Larsen, *supra* note 20, at 205; *Facing Facts*, *supra* note 8, at 1276.

they are untrue and have been rejected by the general scientific community, they appear regularly in courts around the country. This section describes the history of each false theory's development and how it has been used by antiabortion litigants.[35] It then explains the scientific flaws that have led to its rejection by the mainstream scientific community.

A. False Theory #1: Abortion Harms Patients' Mental Health

1. History and Use by Antiabortion Advocates

For several decades antiabortion advocates have relied upon the theory that abortion harms patients' mental health to further their efforts to restrict abortion. Reva Siegel has traced this argument's roots to the 1980s, when antiabortion advocate Vincent Rue coined the term "post-abortion syndrome" to refer to mental anguish experienced after having an abortion.[36] However, the term was not prevalent in large-scale antiabortion advocacy efforts at the time, as antiabortion activists focused on the harm that abortion caused to "unborn children."[37] In the 1990s, antiabortion activists realized that fetus-focused arguments were not enough to win over Americans undecided about abortion.[38] Jack Willke, President of the National Right to Life Committee at the time, described that their market research showed that the general public "felt that pro-life people were not compassionate to women and that we were only 'fetus lovers' who abandoned the mother after the birth. They felt that we were violent, that we burned down clinics and

35. The term "antiabortion litigants" refers to the attorneys defending abortion restrictions or bans. This is typically a state attorney general's office, though some states will outsource the litigation to conservative law firms. For example, the Attorney General of Georgia hired conservative law firm Consovoy McCarthy PLLC to defend its six-week abortion ban. *See* SisterSong Women of Color Reprod. Just. Collective v. Kemp, 410 F. Supp. 3d 1327, 1331 (N.D. Ga. 2019).

36. Reva B. Siegel, *The Right's Reasons: Constitutional Conflict and the Spread of Woman-Protective Antiabortion Argument*, 57 DUKE L.J. 1641, 1657 (2008) [hereinafter *Right's Reasons*].

37. *Id.* at 1654.

38. *Id.* at 1669.

shot abortionists."[39] By focusing on the harm that abortion caused to women, antiabortion activists sought to "persuade voters who ambivalently support abortion rights that they can help women by imposing legal restrictions on women's access to abortion."[40] Siegel has described this political discourse as the "woman-protective antiabortion argument."[41]

Early proponents of this argument such as David Reardon and Vincent Rue published studies purporting to show that women who had abortions experienced higher rates of mental health problems than those who did not.[42] They encouraged antiabortion activists to use their data about the psychological consequences of abortion to convince those who were not solely convinced by moral arguments.[43] The mental health argument became a central tenet of the antiabortion movement's advocacy strategy. Siegel notes that in 2003, the head of Americans United for Life—which coordinates the national antiabortion legislative strategy—made clear that their goal was "to raise public consciousness concerning the damage abortion does to women. If Americans come to realize that abortion harms women as well as the unborn, it will not be seen as necessary."[44] State legislatures adopted this approach, and when they passed abortion restrictions and

39. John C. Willke, *Life Issues Institute Is Celebrating Ten Years With a New Home*, LIFE ISSUES INST. (Feb. 1, 2001), https://lifeissues.org/2001/02/life-issues-institute-celebrating-ten-years-new-home.

40. *Right's Reasons*, *supra* note 36, at 1669.

41. *Id.*

42. David C. Reardon & Jesse R. Cougle, *Depression and Unintended Pregnancy in the National Longitudinal Survey of Youth: A Cohort Study*, 324 BRIT. MED. J. 151 (2002); David C. Reardon et al., *Psychiatric Admissions of Low-Income Women Following Abortion and Childbirth*, 168 CAN. MED. ASS'N. J. 1253 (2003); Vincent M. Rue et al., *Induced Abortion and Traumatic Stress: A Preliminary Comparison of American and Russian Women*, 10 MED. SCI. MONITOR SR5 (2004).

43. Reva B. Siegel, *Dignity and the Politics of Protection: Abortion Restrictions Under* Casey/Carhart, 117 YALE L.J. 1694, 1718–19 (2008) [hereinafter *Dignity*].

44. *Right's Reasons*, supra note 36, at 1681 (quoting Clark D. Forsythe, *An Unnecessary Evil*, FIRST THINGS (Feb. 2003), https://www.firstthings.com/article/2003/02/an-unnecessary-evil.).

bans, they claimed the mental health impacts of abortion as one justification.[45]

Antiabortion litigants also began using expert testimony about the theory to support restrictions on abortion when they were challenged in court, but they made little headway. David Reardon submitted an expert report in a 2001 case challenging an Idaho abortion restriction in which he stated:

> Abortion is associated with significant and severe physical and psychological complications . . . . Women with a history of abortion, particularly minors, are at higher risk of committing suicide. Higher rates of substance abuse have also been associated with a prior abortion.[46]

Similarly, Vincent Rue sought to provide testimony in a 1998 New Jersey abortion case "to explain the psychological harm done to women who have abortions."[47] While the courts did not reach the merits of either argument, both Reardon's and Rue's testimony were excluded as irrelevant.[48]

45. For example, the legislative findings for a 2002 Alabama law containing numerous abortion restrictions stated, "[t]he medical, emotional, and psychological consequences of an abortion are serious and can be lasting or life threatening." Woman's Right to Know Act, 2002 Ala. Laws 1074 § 2. The South Dakota legislature passed an abortion ban in 2006 after a State Task Force determined that "the abortion procedure is inherently dangerous to the psychological and physical health of the pregnant mother." S.D. TASK FORCE TO STUDY ABORTION, REPORT, (Dec. 2005), https://www.dakotavoice.com/Docs/South%20Dakota%20Abortion%20Task%20Force%20Report.pdf.

46. Preliminary Expert Report of David C. Reardon Ph.D. § 1(A)(5)–(6), Planned Parenthood of Idaho v. Lance, 2001 WL 36038546 (D. Idaho 2001) (No. CV00-0353-S-MHW).

47. Planned Parenthood of Cent. N.J. v. Verniero, 22 F. Supp. 2d 331, 336 (D.N.J. 1998).

48. *Id.* at 342 (excluding Rue's testimony because it was "irrelevant and unnecessary."); *Lance*, 2001 WL 36102077, at *3 (excluding Reardon's testimony because it "does not relate to any of the issues raised by Plaintiffs and will not affect this Court's ultimate decision in this case."). Vincent Rue had also testified about post-abortion syndrome in *Casey*, but the district court found his testimony "not credible" and "devoid of . . . analytical force and scientific rigor." Planned Parenthood of Se. Pa. v. Casey, 744 F. Supp. 1323, 1333–34 (E.D. Pa. 1990).

A shift occurred when Justice Kennedy gave weight to the argument in his decision in *Gonzales v. Carhart*.[49] The Court had briefly mentioned the theory in *Casey*, but in *Gonzales*, the Court gave it legitimacy.[50] Writing for the majority, Justice Kennedy stated that "[w]hile we find no reliable data to measure the phenomenon, it seems unexceptionable to conclude some women come to regret their choice to abort the infant life they once created and sustained. Severe depression and loss of esteem can follow."[51] His only citation was to an amicus brief submitted by women claiming to be psychologically harmed by their abortions.[52]

In dissent, Justice Ginsberg made clear that this was a manufactured controversy, writing "the Court invokes an antiabortion shibboleth for which it concededly has no reliable evidence: Women who have abortions come to regret their choices, and consequently suffer from '[s]evere depression and loss of esteem.'"[53] In a lengthy footnote, she cited to statements by the American Psychological Association and numerous scientific studies confirming that having an abortion was not more psychologically dangerous than having a child.[54] Ultimately, *Gonzales v. Carhart* can be seen as the moment "the abortion trauma argument . . . attained significant status in federal abortion jurisprudence."[55]

In the period examined in this Article, 2016 to 2022, much of the evidence suggesting a connection between abortion and mental

49. Gonzales v. Carhart, 550 U.S. 124, 159 (2007).

50. In *Casey*, the Court wrote, "the State furthers the legitimate purpose of reducing the risk that a woman may elect an abortion, only to discover later, with devastating psychological consequences, that her decision was not fully informed." Planned Parenthood of Se. Pa. v. Casey, 505 U.S. 833, 882 (1992).

51. *Gonzales*, 550 U.S. 124, 159 (citation omitted).

52. *Id.*; Brief of Sandra Cano, the Former "Mary Doe" of Doe v. Bolton, and 180 Women Injured by Abortion as Amici Curiae in Support of Petition, *id.* (No. 05-380).

53. *Id.* at 183 (Ginsberg, J., dissenting).

54. *Id.* at 183 n.7 (Ginsberg, J., dissenting).

55. Jeannie Suk, *The Trajectory of Trauma: Bodies and Minds of Abortion Discourse*, 110 COLUM. L. REV. 1193, 1233 (2010); *see also Right's Reasons*, *supra* note 36, at 1658.

health problems came in through Dr. Priscilla Coleman, a psychologist who served as an expert witness in at least eleven cases in federal and state courts during this six-year period.[56] When abortion providers brought a lawsuit to challenge a state abortion restriction or ban, the state defending the law argued that the law at issue was necessary to protect women's psychological health.[57] They would rely on Dr.

56. Remote Deposition of Priscilla K. Coleman, Ph.D., Doe No. 1 v. Att'y Gen. of Ind., 630 F. Supp. 3d 1033 (S.D. Ind. 2022) (No. 1:20-CV-03247), 2021 WL 12103103, *rev'd and remanded sub nom.* Doe v. Rokita, 54 F.4th 518 (7th Cir. 2022); Declaration of Priscilla K. Coleman, Ph.D., Smith v. Hochul, 568 F. Supp. 3d 190 (N.D.N.Y. 2021) (No. 5:21-CV-00035); Declaration of Priscilla K. Coleman, Ph.D., Am. Coll. of Obstetricians & Gynecologists v. U.S. Food & Drug Admin., 467 F. Supp. 3d 282 (D. Md. 2020) (No. 8:20-CV-01320); Expert Report of Priscilla K. Coleman, Ph.D., Planned Parenthood Ass'n of Utah v. Herbert, No. 2:19-CV-00238 (D. Utah Nov. 15, 2019); Declaration of Priscilla K. Coleman, Ph.D., Reprod. Health Servs. of Planned Parenthood v. Parson, 389 F. Supp. 3d 631 (W.D. Mo. 2019), *modified sub nom.* Reprod. Health Servs. of Planned Parenthood v. Parson, 408 F. Supp. 3d 1049 (W.D. Mo. 2019) (No. 2:19-CV-4155), and *aff'd sub nom.* Reprod. Health Servs. of Planned Parenthood v. Parson, 1 F.4th 552 (8th Cir. 2021), *reh'g en banc granted, opinion vacated* (July 13, 2021), and *aff'd sub nom.* Reprod. Health Servs. of Planned Parenthood v. Parson, 1 F.4th 552 (8th Cir. 2021), *reh'g en banc granted, opinion vacated* (July 13, 2021); Whole Woman's Health All. v. Hill, 493 F.Supp. 3d 694, 713 (S.D. Ind. 2020), *order clarified sub nom.* Whole Woman's Health All. v. Rokita, No. 1-18-CV-01904-SEB-MJD, 2021 WL 252721 (S.D. Ind. Jan. 26, 2021); Bernard v. Individual Members of Ind. Med. Licensing Bd., 392 F. Supp. 3d 935 (S.D. Ind. 2019), *vacated*, No. 1:19-CV-01660-SEB-DML, 2022 WL 3009741 (S.D. Ind. July 7, 2022); Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488 (M.D. Tenn. 2020), *rev'd and remanded sub nom.* Bristol Reg'l Women's Ctr. v. Slatery, 7 F.4th 478 (6th Cir. 2021); Declaration of Priscilla K. Coleman, Ph.D., Pursuant to 28 U.S.C. §1746, in Support of Intervenors' Motion for Dissolution of the Preliminary Injunction, Planned Parenthood Minnesota, N. Dakota, S. Dakota v. Noem, 556 F. Supp. 3d 1017 (D.S.D. 2021) (No. 4:11-CV-04071), *appeal dismissed*, No. 21-2913, 2022 WL 18861791 (8th Cir. Oct. 6, 2022); State v. Gainesville Woman Care, LLC, 278 So. 3d 216, 219 (Fla. Dist. Ct. App. 2019); Affidavit of Priscilla K. Coleman, Ph.D., Comp. Health of Planned Parenthood Great Plains v. Hawley, No. 1716-CV24109 (Cir. Ct. Jackson Cnty., Mo. Oct. 16, 2017).

57. For example, when defending an abortion ban, Utah argued that the law furthered the state's interest in protecting the health of the pregnant woman because "[a]s pregnancy proceeds and the development of the fetus progresses, abortion-related risks to the psychological well-being of the mother increase substantially." State Defendants' Memorandum in Opposition to Plaintiff's Motion for Summary Judgment at 51, Planned Parenthood Ass'n of Utah v. Herbert, No. 2:19-CV-00238 (D. Utah Nov. 16, 2020).

Coleman's testimony, which claimed that empirical evidence demonstrated that having an abortion was associated with psychological harms such as anxiety, depression, alcohol and drug abuse, and suicidal ideation and behavior.[58] Dr. Coleman's expert testimony was used to defend a wide variety of abortion restrictions, including fetal tissue disposition requirements,[59] a mandatory waiting period for those seeking abortion,[60] and a ban on the most common type of second trimester abortion care.[61] The heavy reliance on Dr. Coleman's testimony demonstrates how the mental health argument has expanded in the four decades since it was introduced.

2. Why the Mental Health Theory is Junk Science

Soon after antiabortion activists created the abortion trauma argument in the 1980s, the mainstream scientific community established that it lacked any evidentiary backing. In 1987, President Reagan asked his surgeon general Everett Koop to produce a report on the psychological impact of abortion on women.[62] Koop, a noted opponent to abortion, declined because he found that evidence for the theory was lacking.[63] Based on the growing controversy, the American Psychological Association ("APA"), the United States' leading scientific and professional organization of psychologists, and the equivalent organization in the UK, the National Collaborating Centre

58. In *Herbert*, Utah stated as fact that "[e]lective abortions are associated with greater psychological health risks to women than pregnancies carried to term," relying on Dr. Coleman's expert report. *Id.* at 22 n.126. Dr. Coleman's expert report claimed that "[t]he literature base comprised of 100s of studies has revealed that women, who choose abortion compared to those who do not, experience increased risk of mental health problems, including substance abuse, anxiety, depression, suicidal ideation and suicide, among other conditions and symptoms." Expert Report of Priscilla K. Coleman, Ph.D., at 4–5, *Herbert*, No. 2:19-CV-00238.

59. *Doe No. 1*, 630 F. Supp. 3d at 1052.

60. *Adams*, 494 F. Supp. 3d at 535.

61. Bernard v. Individual Members of Ind. Med. Licensing Bd., 392 F. Supp. 3d 935, 959 (S.D. Ind. 2019).

62. *Dignity*, *supra* note 43, at 1714 n. 62; Ahmed, *supra* note 34, at 98.

63. *Dignity*, *supra* note 43, at 1714 n. 62; Ahmed, *supra* note 34, at 98.

for Mental Health, each conducted systemic reviews of the literature.[64] Each organization rejected the theory conclusively, finding that those experiencing an unwanted pregnancy have similar rates of mental health problems, regardless of whether they have an abortion or continue the pregnancy.[65] In 2018, the National Academies of Sciences, Engineering, and Medicine ("National Academies"), which is a non-partisan institution established by Congress to inform the public on matters of science and medicine, conducted a comprehensive review of the literature on the risks of abortion.[66] They concluded that "having an abortion does not increase a woman's risk" of "depression, anxiety, and/or posttraumatic stress disorder."[67]

The studies that antiabortion advocates rely on to show that abortion is associated with mental health problems have significant flaws that render them unreliable. First, many of the studies measured women's mental health following abortion, but failed to control for other factors that would have caused mental health problems, called confounding factors.[68] For example, if a woman had a history of

64. *Report of the APA Task Force on Mental Health and Abortion*, AM. PSYCH. ASS'N TASK FORCE ON MENTAL HEALTH AND ABORTION (2008), https://www.apa.org/pi/women/programs/abortion/mental-health.pdf [hereinafter APA]; Nat'l Collaborating Ctr. for Mental Health, *Induced Abortion and Mental Health: A Systematic Review of the Mental Health Outcomes of Induced Abortion, Including their Prevalence and Associated Factors*, ACADEMY OF MED. ROYAL COLLEGES (2011), https://www.aomrc.org.uk/wp-content/uploads/2024/06/Induced_Abortion_Mental_Health_1211.pdf [hereinafter NCC].

65. APA, *supra* note 64, at 92; NCC, *supra* note 64, at 8.

66. *The Safety and Quality of Abortion Care in the United States*, NAT'L ACADS. OF SCIENCE, ENG'G, AND MED. (2018), https://www.ncbi.nlm.nih.gov/books/NBK507236/pdf/Bookshelf_NBK507236.pdf [hereinafter NATIONAL ACADEMIES].

67. *Id.* at 10.

68. *See, e.g.*, Anne Nordal Broen et al., *The Course of Mental Health After Miscarriage and Induced Abortion: A Longitudinal, Five-Year Follow-up Study*, BMC MEDICINE, 3:18 (Dec. 12, 2005), http://www.biomedcentral.com/1741-7015/3/18; David M. Fergusson et al., *Abortion and Mental Health Disorders: Evidence from a 30-Year Longitudinal Study*, BRITISH J. OF PSYCHIATRY, 193:6, 444–51 (2008); Mika Gissler et al., *Suicides After Pregnancy in Finland, 1987–94: Register Linkage Study*, BRITISH MED. J., 313:7070, 1431–34 (Dec. 7, 1996); David C. Reardon et al., *Deaths Associated with Pregnancy Outcome: A Record Linkage Study of Low-*

depression, had an abortion, and said she was depressed, this does not mean that the abortion led to the depression. When studies have properly controlled for these confounding factors, they find no evidence that abortion increases a woman's risk of a range of mental health problems.[69]

Secondly, many of the studies used improper comparison groups. They compared women who had abortions with women who delivered pregnancies, had miscarriages, or were never pregnant, again without controlling for confounding factors, and found that the women who had abortions had higher rates of mental health problems than the comparison group.[70] But women having abortions differ from other groups of women on the very factors that would cause them to have higher rates of mental health problems.[71] For example, women who experience violence are more likely than other women to have abortions and experiencing violence is associated with a higher risk of

Income Women, S. MED. J. 95:8, 834–41 (2002) [hereinafter *Deaths Associated with Pregnancy Outcome*].

69. Nancy Felipe Russo & Jean E. Denious, *Violence in the Lives of Women Having Abortion: Implications for Practice and Public Policy*, PRO. PSYCH.: RSCH. AND PRAC. 32:2, 142–50 (2001); Julia Renee Steinberg & Nancy F. Russo, *Abortion and Anxiety: What's the Relationship?*, SOC. SCI. & MED. 67:2, 238–52 (2008) [hereinafter *Abortion and Anxiety*]; Julia R. Steinberg & Lawrence B. Finer, *Examining the Association of Abortion History and Current Mental Health: A Reanalysis of the National Comorbidity Survey Using a Common-Risk-Factors Model*, SOC. SCI. & MED. 72:1, 78–82 (2011) [hereinafter *Abortion History and Current Mental Health*]; Angela J. Taft & Lyndsey F. Watson, *Depression and Termination of Pregnancy (Induced Abortion) in a National Cohort of Young Australian Women: The Confounding Effect of Women's Experience of Violence*, BMC PUB. Health 8:1, 75–82 (Feb. 2008).

70. *See, e.g.*, Maureen Curley & Celeste Johnston, *The Characteristics and Severity of Psychological Distress After Abortion Among University Students*, 40(3) J. OF BEHAV. HEALTH SERV. & RSCH., 279–93 (2013); Fergusson et al., *supra* note 68, at 444–51 (comparing women who had abortions to all other women); Broen et al., *supra* note 68 (comparing women who had abortions with women who had a miscarriage); Gissler et al., *supra* note 68, at 1431–34; *Deaths Associated with Pregnancy Outcome*, *supra* note 68, at 834–41 (comparing women who had abortions with women who gave birth).

71. *See Abortion History and Current Mental Health*, *supra* note 69, at 78–82.

having mental health problems.[72] Therefore, the association is likely due to the other characteristics, not the abortion.

A study was conducted that corrected for this problem by comparing women who had abortions with women who had sought an abortion but had been turned away due to state gestational age limits—called the "Turnaway Study." In following the groups for five years, the researchers found that both groups had similar rates of suicidal ideation, depression, and symptoms of post-traumatic stress.[73] In fact, the group that was not able to access abortion had higher short-term levels of anxiety and stress and lower short-term levels of self-esteem.[74]

The problems with the studies conducted by antiabortion researchers are well known; the APA did a thorough review of these studies and concluded "[a] careful evaluation of these studies revealed that the majority suffered from methodological problems, sometimes severely so."[75] When the APA only considered reliable studies, they concluded that the risks of mental health problems are no greater among women who have abortions versus women who deliver a child after an unplanned pregnancy.[76]

Priscilla Coleman, who is one of the primary experts promoting the mental health theory, has not been deterred by the consensus in the scientific community. When asked why she continued to promote a

72. *Id.*

73. M. Antonia Biggs et al., *Does Abortion Increase Women's Risk for Post-Traumatic Stress? Findings from a Prospective Longitudinal Cohort Study*, BMJ OPEN 6:2 (2016); M. Antonia Biggs et al., *Women's Mental Health and Well-being 5 Years After Receiving or Being Denied an Abortion: A Prospective, Longitudinal Cohort Study*, JAMA PSYCHIATRY, 74:2, 169–78 (2017) [hereinafter *Women's Mental Health*]; M. Antonia Biggs et al., *Five-Year Suicidal Ideation Trajectories Among Women Receiving or Being Denied an* Abortion, AM. J. OF PSYCHIATRY, 175:9, 845–52 (2018).

74. M. Antonia Biggs et al., *Mental Health Diagnoses 3 Years After Receiving or Being Denied an Abortion in the United States*, AM. J. OF PUB. HEALTH, 105:12, 2557–63 (2015); *Women's Mental Health*, *supra* note 73, at 169–78; Laura F. Harris et al., *Perceived Stress and Emotional Support Among Women who are Denied or Receive Abortions in the United States: A Prospective Cohort Study*, BMC WOMEN'S HEALTH, 14:76, 1–11 (2014).

75. APA, *supra* note 64, at 88.

76. *See id.* at 92 ("[T]he most methodologically sound research indicates that among women who have a single, legal, first-trimester abortion of an unplanned pregnancy for nontherapeutic reasons, the relative risks of mental health problems are no greater than the risks among women who deliver an unplanned pregnancy.")

theory that had been widely rejected, Dr. Coleman said that mainstream scientific organizations have suppressed contradictory evidence because they are biased towards abortion.[77] She believed "scores of scientists have suspended personal and professional ethics to safeguard the women's rights to end lives of their children."[78] Suggesting that they are bravely taking on a scientific establishment that is biased against them is a common tactic of those who promote manufactured controversies.[79]

B. False Theory #2: Abortion Is Unsafe

1. History and Use by Antiabortion Advocates

When the *Casey* Court found that abortion restrictions "designed to foster the health of a woman" could be valid, it put the issue of abortion safety front and center in abortion litigation.[80] In response to *Casey*, state legislatures passed a rash of state abortion restrictions, supposedly for the purpose of protecting women's health.[81]

77. Remote Videotaped Deposition of Priscilla K. Coleman, Ph.D. at 367:15–369:10, Gainesville Woman Care, LLC v. Fla., No. 37-2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 20, 2022).

78. Deposition of Priscilla Coleman, Ph.D. at 238:23–239:2, Adams & Boyle, P.C. v. Slatery, No. 3:15-CV-00705 (M.D. Tenn. Sep. 26, 2018).

79. *See Extralegal Supreme Court Policy-Making*, *supra* note 33, at 467–70 (2015) ("Proponents of false or manufactured controversies typically 'exploit[] a popular conception that science advances only when heroic dissidents push at the frontiers of normal science to initiate a paradigm change' and 'orient themselves as critics of the world-defining hegemony of scientific discourse' in the hope of 'bringing the scientific establishment down a notch or two.'") (alteration in original).

80. Planned Parenthood v. Casey, 505 U.S. 833, 878 (1992).

81. *See* John A. Robertson, *Science Disputes in Abortion Law*, 93 TEX. L. REV. 1849, 1849–50 (2015); Greenhouse & Siegel, *supra* note 1, at 151. The Guttmacher Institute has tracked abortion restriction legislation for decades and has found that restrictions increased following *Casey*, and really gained steam "following the 2010 midterm elections that swept abortion opponents into power in state capitals across the country . . . . From 2011 through 2015, states added, on average, 57 new restrictions per year." *Last Five Years Account for More Than One-Quarter of All Abortion Restrictions Enacted Since* Roe, GUTTMACHER INST. (Jan. 13, 2016),

Abortion advocates refer to these laws as Targeted Regulation of Abortion Laws, or "TRAP laws," because they "single out abortion for onerous forms of regulation not applied to procedures of equivalent or greater medical risk."[82] TRAP laws can include requiring hospital admitting privileges for physicians performing abortions, unnecessary licensing requirements or building standards for abortion clinics, and limits on telemedicine for medication abortion.[83]

Courts evaluating abortion restrictions under the undue burden standard assessed the state's interest against the harms to the patient. Often, the state's purported interest was to promote the health and safety of its citizens.[84] Antiabortion experts would provide testimony that detailed why the medical risks of abortion made extra regulation necessary. For example, in support of a law requiring abortion providers to have admitting privileges at local hospitals, antiabortion expert John Thorp testified that "[g]iven the frequency of short-term complications from [abortion] (2-10%), follow-up medical care is often needed on an urgent basis to treat infection, bleeding, or organ damage."[85]

In *Whole Women's Health*, the Court directly addressed the question of abortion safety, which should have ended any debate. In finding two Texas TRAP laws unconstitutional, the Court cited with approval the district court's conclusion that "[t]he great weight of the

https://www.guttmacher.org/article/2016/01/last-five-years-account-more-one-quarter-all-abortion-restrictions-enacted-roe.

82. Greenhouse & Siegel, *supra* note 1, at 151.

83. *Id.*; Linda Greenhouse & Reva B. Siegel, Casey *and the Clinic Closings: When "Protecting Health" Obstructs Choice*, 125 YALE L.J. 1428, 1444 (2016).

84. *See, e.g.*, Defendants' Response in Opposition to Plaintiffs' Second Motion for Preliminary Injunction at 18, Jackson Women's Health Org. v. Currier, 940 F. Supp. 2d 416, 418 (S.D. Miss. 2013) (No. 3:12-CV-00436), *order clarified sub nom.* Jackson Women's Health Org. v. Currier, No. 3:12CV436-DPJ-FKB, 2013 WL 12122002 (S.D. Miss. Aug. 13, 2013), and *aff'd as modified sub nom.* Jackson Women's Health Org. v. Currier, 760 F.3d 448 (5th Cir. 2014).

85. Declaration of John Thorp, Jr., M.D., in Opposition to Plaintiffs' Motion for Preliminary Injunction at 7–8, Jackson Women's Health Org. v. Currier, 940 F. Supp. 2d 416, 418 (S.D. Miss. 2013) (No. 3:12-CV-00436). Federal District Court Judge Myron H. Thompson noted that Thorp "displayed a disturbing apathy toward the accuracy of his testimony" concerning complication rates; the correct range started at 0.2%, not 2%. Planned Parenthood Se., Inc. v. Strange, 33 F. Supp. 3d 1381, 1394 (M.D. Ala. 2014).

evidence demonstrates that, before the act's passage, abortion in Texas was extremely safe with particularly low rates of serious complications and virtually no deaths occurring on account of the procedure," and therefore, "there was no significant health-related problem that the new law helped to cure."[86] The Court went on to cite evidence about the low complication rates for abortion in both the first and second trimester in its decision.[87] Because there was a "virtual absence of any health benefit" conferred by the Texas laws, the Court declared them unconstitutional.[88]

However, the Court's clear statement did not stop antiabortion litigants from continuing to argue against abortion safety. Increasingly, they focused on the safety of medication abortion, which involves the use of medication, rather than a procedure, to end a pregnancy.[89] Use of medication abortion has increased significantly since it was approved by the U.S. Food & Drug Administration ("FDA") in 2000 and it now accounts for more than half of abortions in the United States.[90] Recognizing that medication abortion made abortion much more accessible to pregnant people who could not, or would prefer not, to have a procedure in a clinic, antiabortion advocates sought to restrict access to medication abortion.[91] States passed laws requiring

86. Whole Woman's Health v. Hellerstedt, 579 U.S. 582, 594, 610 (2016), *as revised* (June 27, 2016), *and abrogated by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

87. 579 U.S. at 610–11.

88. *Id.* at 614.

89. *Practice Bulletin 225: Medication Abortion up to 70 Days of Gestation*, AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS (Oct. 2020), https://www.acog.org/clinical/clinical-guidance/practice-bulletin/articles/2020/10/medication-abortion-up-to-70-days-of-gestation.

90. Rachel K. Jones et al., *Medication Abortion Now Accounts for More Than Half of All U.S. Abortions*, GUTTMACHER INST. (Dec. 1, 2022), https://www.guttmacher.org/article/2022/02/medication-abortion-now-accounts-more-half-all-us-abortions.

91. Megan K. Donovan, *Improving Access to Abortion via Telehealth*, GUTTMACHER POL'Y REV. (May 16, 2009), https://www.guttmacher.org/gpr/2019/05/improving-access-abortion-telehealth; *Abortion-Inducing Drugs Information & Reporting Act: Model Legislation & Policy Guide for the 2018 Legislative Year*, AMS. UNITED FOR LIFE (2018),

medication abortion to be prescribed according to an outdated protocol,[92] and banned the provision of medication abortion via telemedicine.[93]

When abortion restrictions were challenged in courts during the period between *Whole Woman's Health* and *Dobbs*, antiabortion litigants used expert testimony to support their arguments that abortion was unsafe. This evidence was often introduced by Dr. Donna Harrison, who served as the Executive Director of the American Association of Pro-life Obstetricians and Gynecologists from 2013 to 2023.[94] Dr. Harrison served as an expert about the safety of abortion in at least eight cases between 2018 and 2022.[95] Like Dr. Coleman, Dr. Harrison served as an expert in all kinds of abortion litigation, including legal challenges to (1) a requirement that medication abortion providers have a written contract with a physician who has admitting

https://aul.org/wp-content/uploads/2019/07/Abortion-Inducing-Drugs-Information-Act.docx ("AUL has long warned of a 'chemical abortion revolution'—a marked increase in and emphasis on drug-induced abortions—because such abortions are easier for abortion providers and more profitable. By handing out abortion drugs to a woman and sending her on her way (often without an opportunity to see a physician), abortion providers are able to 'serve' (and charge) more women in a day.").

92. H.B. 2684, 54th. Leg., 2nd Sess. (Ok. 2014).

93. S.B. 3, 122nd Leg., 1st Sess. (Ind. 2021).

94. *Dr. Christina Francis Steps in as CEO of the American Association of Pro-Life Obstetricians and Gynecologists*, AM. ASS'N OF PRO-LIFE OBSTETRICIANS AND GYNECOLOGISTS (March 1, 2023), https://aaplog.org/dr-christina-francis-steps-in-as-ceo-of-the-american-association-of-pro-life-obstetricians-and-gynecologists.

95. Declaration of Donna Harrison, M.D., Am. Coll. of Obstetricians & Gynecologists v. U.S. Food & Drug Admin., 467 F. Supp. 3d 282 (D. Md. 2020) (No. 8:20-CV-01320); Whole Woman's Health All. v. Rokita, 553 F. Supp. 3d 500, 515 n.7 (S.D. Ind. 2021), *vacated and remanded*, No. 21-2480, 2022 WL 2663208 (7th Cir. July 11, 2022); Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1255–56 (E.D. Ark. 2019), *aff'd in part, appeal dismissed in part and remanded*, 984 F.3d 682 (8th Cir. 2021), *cert. granted and judgment vacated*, 142 S. Ct. 2894 (2022); Declaration of Donna Harrison, M.D., Jackson Women's Health Org. v. Dobbs, 379 F. Supp. 3d 549 (S.D. Miss. Apr. 24, 2020) (No. 3:18-CV-00171); S. Wind Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219, 1227 (W.D. Okla. 2020); Planned Parenthood Ark. & E. Okla. v. Jegley, No. 4:15-cv-00784-KGB, 2018 WL 3816925, at *42 (E.D. Ark. July 2, 2018), *vacated*, No. 4:15-CV-00784-KGB, 2018 WL 9944527 (E.D. Ark. Nov. 9, 2018); Declaration of Donna Harrison, M.D., S. Wind Women's Ctr. v. Hunter, No. CV-2019-2506 (Okla. Dist. Ct. Jan. 14, 2020); Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Sept. 8, 2016).

privileges;[96] (2) an eighteen-week abortion ban;[97] (3) restrictions on the provision of medication abortion;[98] and (4) an abortion ban enacted as a response to COVID-19.[99]

Antiabortion litigants used Dr. Harrison's testimony to argue that the medical risks of abortion made restrictions necessary to protect women's health. For example, in litigation over restrictions on medication abortion, the State of Indiana relied on the testimony of Dr. Harrison and other experts to state that "[m]edication abortions . . . incur significant risks," and so their restrictions were necessary to "mitigate[]" these risks—abortion without said restrictions would "risk the health and safety of the women of Indiana."[100]

2. Why the Abortion Safety Theory is Junk Science

For as long as access to abortion has been litigated, courts have concluded that it is an extremely safe medical procedure. In *Roe v. Wade*, the Court referenced "medical data indicating that abortion in early pregnancy, that is, prior to the end of the first trimester, although not without its risk, is now relatively safe."[101] The Court went on to note that:

> [M]ortality rates for women undergoing early abortions, where the procedure is legal, appear to be as low as or lower than the rates for normal childbirth. Consequently, any interest of the State in protecting the woman from an inherently hazardous procedure, except when it would be

96. *Jegley*, 2018 WL 3816925 at *42.

97. *Rutledge*, 397 F. Supp. 3d 1213 at 1255–56.

98. *Rokita*, 553 F. Supp. 3d 500 at 515 n.7.

99. *Stitt*, 455 F. Supp. 3d 1219 at 1227.

100. Defendants' Memorandum in Support of Their Motion for Summary Judgment at 2–3, Whole Woman's Health All. v. Hill, 493 F. Supp. 3d 694, 711 (S.D. Ind. 2020), *order clarified sub nom.* Whole Woman's Health All. v. Rokita, No. 1:18-CV-01904-SEB-MJD, 2021 WL 252721 (S.D. Ind. Jan. 26, 2021) (No. 1:18-CV-01904).

101. Roe v. Wade, 410 U.S. 113, 149 (1973), *overruled by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

> equally dangerous for her to forgo it, has largely disappeared.[102]

This was confirmed by the Court over forty years later in *Whole Woman's Health*.[103]

The leading medical organizations in the United States have confirmed that abortion is safe. This includes the American College of Obstetricians and Gynecologists ("ACOG"), which represents more than 60,000 obstetricians and gynecologists, medical students, and other health care professionals;[104] the American Medical Association ("AMA"), which is the largest professional association of physicians, residents, and medical students in the United States;[105] the National Academies;[106] and the FDA.[107]

Numerous studies have been conducted about the safety of abortion and have repeatedly found it to have an exceedingly low risk of complications.[108] The rate of overall complications is 2% and most

102. 410 U.S. 113 at 149.

103. Whole Woman's Health v. Hellerstedt, 579 U.S. 582, 609–10 (2016), *as revised* (June 27, 2016), *and abrogated by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

104. *About Us*, AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS, https://www.acog.org/womens-health/about-acog (last visited Sep. 30, 2024); Brief of Amici Curiae American College of Obstetricians and Gynecologists et al. in Support of Respondents at 2, *Dobbs*, 597 U.S. 215 (2022) (No. 19-1392).

105. Amici Curiae, *supra* note 104.

106. NATIONAL ACADEMIES, *supra* note 66, at 77 ("The clinical evidence makes clear that legal abortions in the United States—whether by medication, aspiration, D&E, or induction—are safe and effective.").

107. U.S. Food & Drug Admin. Ctr. for Drug Evaluation and Rsch., *No. 020687Origls020*, MED. REV. at 47 (Mar. 29, 2016), https://www.accessdata.fda.gov/drugsatfda_docs/nda/2016/020687Orig1s020MedR.pdf ("Major adverse events" for medication abortion were "exceedingly rare.").

108. *See, e.g.*, Ushma D. Upadhyay et al., *Incidence of Emergency Department Visits and Complications After Abortion*, 125 OBSTETRICS & GYNECOLOGY 175, 181 (2015); Kelly Cleland et al., *Significant Adverse Events and Outcomes After Medical Abortion*, 121 OBSTETRICS & GYNECOLOGY 166, 168–69 (2013); Kari White et al., *Complications from First-Trimester Aspiration Abortion: A Systematic Review of the Literature*, 92 CONTRACEPTION 422, 434 (2015); Elizabeth G. Raymond & David A. Grimes, *The Comparative Safety of Legal Induced Abortion and Childbirth in the United States*, 119 OBSTETRICS & GYNECOLOGY 215, 216 (2012).

of these complications are minor and easily treatable.[109] Large scale studies have found the major complications rate to be between 0.16 and 0.50%.[110] The risk of death associated with childbirth is 14 times higher than it is for abortion.[111] And there is a greater risk of complications from procedures like wisdom-tooth removal than there is from abortion.[112]

Dr. Harrison frequently misrepresented this data when providing expert testimony about the safety of abortion. For example, in one of her declarations, Dr. Harrison represented that the FDA label for mifepristone, one of the medications used in a medication abortion, stated that "[a]bout 85% of patients report at least one adverse reaction," including "hemorrhage, viral infections, and pelvic inflammatory disease."[113] The State of Oklahoma then relied on this claim in their briefing.[114] However, the FDA label plainly states that serious adverse reactions, which include transfusion, infections, and hemorrhage, occur in less than 0.5% of women.[115] The 85% statistic referred to women who had adverse reactions, also referred to as side effects, such as nausea, weakness, fever/chills, vomiting, headache, diarrhea, and dizziness.[116] Dr. Harrison also claimed that the complications rate for abortion is underreported.[117] However, the National Academies has shown this to be incorrect, finding that

109. Upadhyay et al., *supra* note 108 (finding 2.1% abortion-related complication rate).

110. *See, e.g.*, *id.*; Kelly Cleland et al., *supra* note 108; White et al., *supra* note 108.

111. Raymond & Grimes, *supra* note 108.

112. ANSIRH, SAFETY OF ABORTION IN THE UNITED STATES, ISSUE BRIEF NO. 6, at 2 (Dec. 2014).

113. Declaration of Donna Harrison, M.D. at 3, S. Wind Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219 (W.D. Okla. 2020) (No. CV-2019-2506), 2020 WL 7321881.

114. Defendants' Response in Opposition to Plaintiffs' Motion for Temporary Restraining Order and/or Preliminary Injunction at 11, S. Wind Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219 (W.D. Okla. 2020) (No. 20-CV-277-G).

115. U.S. FOOD & DRUG ADMIN., REFERENCE ID 3909592, MIFEPREX LABEL, § 6.1, at 8 tbl. 2 (2016), https://www.accessdata.fda.gov/drugsatfda_docs/label/2016/020687s020lbl.pdf.

116. *Id.* at 7.

117. Declaration of Donna Harrison, M.D., *supra* note 113, at 4.

"[t]oday, the available scientific evidence on abortion's health effects is quite robust," and "the extensive body of research documenting the safety of abortion care in the United States reflects the outcomes of abortions provided by thousands of individual clinicians."[118] Similar to Dr. Coleman, Dr. Harrison blames pro-abortion bias for the overwhelming evidence disproving her positions.[119]

C. False Theory #3: Medication Abortion Can Be Reversed

1. History and Use by Antiabortion Advocates

A more recent antiabortion falsehood is the theory that medication abortions can be reversed. In a medication abortion, the patient first takes mifepristone, which "stops the pregnancy growth by blocking the hormone progesterone."[120] The patient later takes misoprostol to "make[] the uterus contract to complete the abortion."[121] This two-drug regimen has a success rate of approximately 97% when used in the first ten weeks of pregnancy.[122]

The theory of "medication abortion reversal" was developed by Dr. George Delgado.[123] Dr. Delgado claims that in 2009, he received a call about a patient who had changed her mind about her medication abortion after taking the first pill.[124] Dr. Delgado posited that if the patient were administered large doses of progesterone and did not take the misoprostol, she could "reverse" her abortion.[125] Dr. Delgado claims that same patient eventually gave birth to a healthy child, and this inspired him to create "the 'Abortion Pill Reversal' website,

118. NATIONAL ACADEMIES, *supra* note 66, at 14, 17.

119. Declaration of Donna Harrison, M.D., *supra* note 113, at 5 (describing ACOG as "an organization dedicated to pro-abortion political advocacy").

120. *Facts Are Important: Medication Abortion "Reversal" Is Not Supported by Science*, AM. COLL. OF OBSTETRICIANS AND GYNECOLOGISTS, https://www.acog.org/advocacy/facts-are-important/medication-abortion-reversal-is-not-supported-by-science (last visited Oct. 1, 2024) [hereinafter *Facts Are Important*].

121. *Id.*

122. Mitchell D. Creinin et al., *Mifepristone Antagonization With Progesterone to Prevent Medical Abortion*, 135 OBSTETRICS & GYNECOLOGY 158, 159 (2020).

123. Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985, 992 (M.D. Tenn. 2021).

124. *Id.*

125. *Id.* at 991–92.

hotline, and network of physicians who are willing to prescribe the progesterone therapy."[126]

Starting in 2015, states began enacting laws that required clinicians providing abortion care to inform patients that their medication abortion could be reversed.[127] Some of these bills required the doctors to provide patients with information about the "Abortion Pill Reversal" website and hotline.[128]

Abortion providers quickly filed lawsuits to halt enforcement of these bills.[129] The lawsuits brought First Amendment claims, arguing that requiring doctors to tell patients about medication abortion reversal was unconstitutional compelled speech.[130] Several federal circuit courts have found that compelled speech is permissible in the abortion context if the speech is truthful and non-misleading, and so courts had to determine if medication abortion could be reversed.[131] Antiabortion

126. *Id.* at 992.

127. *See, e.g.*, S.B. 1318, 52nd Leg., 1st Sess. (Ariz. 2015); H.B. 1578, 90th Leg., Reg. Sess. (Ark. 2015).

128. *See, e.g.*, S.B. 614, 57th Leg., 1st Sess. (Okla. 2019); H.B. 171, 67th Leg., Reg. Sess. (Mont. 2021).

129. The first case was brought in Arizona in 2015, but the state could not find an expert witness to defend the law, and it was later repealed by the legislature. *See* Jessica Mason Pieklo, *Arizona Can't Produce Expert to Support 'Abortion Reversal' Mandate*, REWIRE NEWS GRP. (Oct. 19, 2015, 12:50 PM), https://rewirenewsgroup.com/2015/10/19/arizona-cant-produce-expert-support-abortion-reversal-mandate; Mary Jo Pitzl, *Court: Arizona Abortion-Reversal Law is No More*, AZCENTRAL (Aug. 23, 2016, 5:39 PM), https://www.azcentral.com/story/news/politics/arizona/2016/08/23/court-arizona-abortion-reversal-law-no-more/89229028. Five cases were brought to challenge medication abortion reversal laws between 2016 and 2022. *See* Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985, 992 (M.D. Tenn. 2021); All-Options, Inc. v. Att'y Gen. of Ind., 546 F. Supp. 3d 754 (S.D. Ind. 2021); Am. Med. Ass'n v. Stenehjem, 412 F. Supp. 3d 1134 (D.N.D. 2019); Planned Parenthood of Mont. v. State *ex rel.* Knudsen, 515 P.3d 301 (Mont. 2022); Tulsa Women's Reprod. Clinic v. Hunter, No. 2019-2176 (Okla. Dist. Ct. Oct. 25, 2019).

130. *See, e.g.*, *Slatery*, 523 F. Supp. 3d at 1000 ("Plaintiffs argue Section 218 violates their First Amendment rights by compelling them to engage in speech that is untruthful and misleading.").

131. *Id.*; *Stenehjem*, 412 F. Supp. 3d at 1149.

experts testified that there was reliable science supporting medication abortion reversal.[132]

Experts defending the medication abortion reversal theory primarily relied on two articles by Dr. Delgado.[133] Dr. Delgado published a four-page article in 2012 that described "seven patients who took mifepristone and were later administered progesterone."[134] Four of the seven patients allegedly continued their pregnancies.[135] Dr. Delgado concluded that this "suggests that medical abortion can be arrested by progesterone injection after mifepristone ingestion prior to misoprostol."[136] In 2018, Dr. Delgado did a retrospective analysis of clinical data from "547 patients . . . who underwent progesterone therapy" after taking mifepristone without misoprostol.[137] Finding that 257 of these patients had successful pregnancies, Dr. Delgado wrote that "[t]he reversal of the effects of mifepristone using progesterone is safe and effective."[138]

2. Why the Medication Abortion Reversal Theory is Junk Science

As one court has noted, there is "no real, serious debate within the medical profession" about medication abortion reversal.[139] As this section explains, the theory is illogical, Dr. Delgado's studies are unreliable, and the theory has been rejected by the mainstream scientific community.

Dr. Delgado's theory of medication abortion reversal is not supported by "biologic logic."[140] As other scientists have explained, "mifepristone binds more strongly to the progesterone receptor than

132. *Slatery*, 523 F. Supp. 3d at 991–96; *All-Options, Inc.*, 546 F. Supp. 3d at 760–62.

133. *All-Options, Inc.*, 546 F. Supp. 3d at 760; *Slatery*, 523 F. Supp. 3d at 992.

134. *All-Options, Inc.*, 546 F. Supp. 3d at 761.

135. *Id.* at 761; George Delgado & Mary L. Davenport, *Progesterone Use to Reverse the Effects of Mifepristone*, 46 ANNALS OF PHARMACOTHERAPY 1 (2012).

136. Delgado & Davenport, *supra* note 135, at 3.

137. George Delgado et al., *A Case Series Detailing the Successful Reversal of the Effects of Mifepristone Using Progesterone*, 33 ISSUES IN L. & MED. 21, 26 (2018).

138. *Id.* at 22.

139. Am. Med. Ass'n v. Stenehjem, 412 F. Supp. 3d 1134, 1151 (D.N.D. 2019).

140. Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985, 996 (M.D. Tenn. 2021).

progesterone, and there is no evidence that the progesterone molecules will cause mifepristone to detach, or that it will 'outcompete' mifepristone."[141] Progesterone levels are already extremely high in the body during pregnancy, and therefore, adding more progesterone does not make a difference.[142]

The two studies by Dr. Delgado that he claims support his theory are also highly unreliable. Both papers are case series, which are descriptive studies of patients over time, typically used to describe novel findings that require greater study.[143] Case series should not be used to draw causal conclusions.[144] Furthermore, the sample size in the seven-person study is too small to prove anything about medication abortion reversal.[145] Although Dr. Delgado's second study has a better sample size, it is riddled with errors. First, it "describes the experience of patients from multiple countries at various gestational ages, who were not given a uniform dosage of progesterone in a uniform fashion at uniform intervals."[146] Next, it compares patients to a "historical control group" whose characteristics do not align with those in the patient group.[147] Additionally, it excludes patients for whom mifepristone had already terminated their pregnancies.[148] The most significant problem with Dr. Delgado's evidence in support of reversal is that it overlooks that the FDA-approved protocol for medication abortion involves both mifepristone and misoprostol, and effectiveness and safety decreases when the protocol is not completed.[149] With medication abortion reversal, progesterone is not "reversing" the

141. *Id.*

142. All-Options, Inc. v. Att'y Gen. of Ind., 546 F. Supp. 3d 754, 762 (S.D. Ind. 2021).

143. *Slatery*, 523 F. Supp. 3d at 994; Declaration of Courtney A. Schreiber, M.D., M.P.H. at 6–7, *All-Options, Inc.*, 546 F. Supp. 3d 754 (No. 1:21-cv-1231-JPH-MJD).

144. *Slatery*, 523 F. Supp. 3d at 997.

145. *Id.* at 994.

146. *Id.* at 997.

147. *Id.* at 993.

148. *All-Options, Inc.*, 546 F. Supp. 3d at 763.

149. *Slatery*, 523 F. Supp. 3d at 991.

abortion; the interruption of the full protocol renders the medication abortion less effective.

Not only is reversal unsupported by science but it also may present risks to abortion patients. A 2020 study suggested that failing to complete a medication abortion, with or without added progesterone, can be dangerous.[150] In the study, Dr. Michell Creinin attempted to study medication abortion reversal by comparing patients who only took mifepristone with those who took mifepristone and progesterone.[151] He had to discontinue the study when a patient in each group had severe bleeding.[152]

Dr. Delgado's research and his false theory of medication abortion reversal have been condemned by leading medication associations such as the AMA and ACOG.[153] ACOG has said that claims about reversal are not based on science and do not meet current clinical standards of medical care.[154] The AMA has described the theory as "messages that contradict reality and science."[155] These organizations fear that requiring doctors to tell patients seeking abortion about medication abortion reversal would cause confusion and would steer patients towards an unproven, and potentially dangerous, medical intervention.[156]

D. Why Focus on the Period Between Whole Woman's Health *and* Dobbs

As the discussion of history makes clear, junk science in abortion litigation is not a new phenomenon. This Article focuses on cases litigated in district courts between 2016, when the Supreme Court

150. *See* Creinin et al., *supra* note 122.

151. *Id.*; *Slatery*, 523 F. Supp. 3d at 994–95.

152. Creinin et al., *supra* note 122; *Slatery*, 523 F. Supp. 3d at 995.

153. *Facts Are Important*, *supra* note 120; *AMA Lawsuit to Protect Patient-physician Relationship in North Dakota*, AM. MED. ASS'N (June 25, 2019), https://www.ama-assn.org/press-center/press-releases/ama-lawsuit-protect-patient-physician-relationship-north-dakota [hereinafter *AMA Lawsuit*].

154. *Facts Are Important*, *supra* note 120.

155. *AMA Lawsuit*, *supra* note 153.

156. *Id.*; *Facts are Important*, *supra* note 120.

decided *Whole Woman's Health*,[157] and 2022, when the Court decided *Dobbs*,[158] because that is the era in which the problems created by antiabortion junk science came into sharpest relief.

In the aftermath of the Supreme Court's 1992 *Casey* decision,[159] when courts were tasked with applying the undue burden standard to challenged abortion restrictions, a divide emerged in how federal appellate courts interpreted *Casey*'s test. The Ninth Circuit and Seventh Circuit applied a balancing test in which they "weigh[ed] the burdens [of the law] against the state's justification, asking whether and to what extent the challenged regulation actually advances the state's interests. If a burden significantly exceeds what is necessary to advance the state's interests, it is 'undue.'"[160] These courts critically considered the evidence a state presented to show that its restriction *actually furthered* its stated purpose of protecting women's health.[161] The Seventh Circuit noted that "[a]n abortion-restricting statute sought to be justified on medical grounds requires . . . reason to believe (here lacking, as we have seen) that the medical grounds are valid."[162]

"In contrast, the Fourth, Fifth, and Sixth Circuits declined to apply a balancing test, instead engaging in a more deferential two-part analysis."[163] Relying on language from the Court's decision in *Gonzales v. Carhart*,[164] these courts first "determined whether the restriction satisfied rational-basis review, and then determined whether the restriction had the purpose or effect of creating a substantial

157. Whole Woman's Health v. Hellerstedt, 579 U.S. 582 (2016), *as revised* (June 27, 2016), *and abrogated by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

158. 597 U.S. 215.

159. Planned Parenthood of Se. Pa. v. Casey, 505 U.S. 833 (1992), *overruled by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

160. Planned Parenthood of Ariz. v. Humble, 753 F.3d 905, 913 (9th Cir. 2014); Planned Parenthood of Wis. v. Schimel, 806 F.3d 908, 919 (7th Cir. 2015).

161. *Humble*, 753 F.3d at 913; *Schimel*, 806 F.3d at 919.

162. *Schimel*, 806 F.3d at 919.

163. Becca Kendis, *Faute De Mieux: Recognizing and Accepting Whole Woman's Health for Its Strengths and Weaknesses*, 69 CASE W. RES. L. REV. 1007, 1019–20 (2019).

164. Gonzales v. Carhart, 550 U.S. 124 (2007).

obstacle to obtaining an abortion."[165] These courts were unwilling to question a legislature's stated justification for a restriction. Notably, the Fifth Circuit in *Planned Parenthood of Greater Texas Surgical Health Servs. v. Abbott* wrote "[i]t is not the courts' duty to second guess legislative factfinding, 'improve' on, or 'cleanse' the legislative process by allowing relitigation of the facts that led to the passage of a law."[166]

In *Whole Woman's Health*, the Supreme Court seemingly ended this debate by embracing the "balancing test" put forward by the Ninth and Seventh Circuits.[167] The Court clarified that under an undue burden analysis, a court must evaluate the evidence to determine if a state's law actually accomplishes its stated purpose, rather than deferring entirely to the legislature's opinions.[168] Justice Breyer, writing for the majority, declared "[t]he statement that legislatures, and not courts, must resolve questions of medical uncertainty is also inconsistent with this Court's case law. Instead, the Court, when determining the constitutionality of laws regulating abortion procedures, has placed considerable weight upon evidence and argument presented in judicial proceedings."[169] Justice Breyer found that "the 'Court retains an independent constitutional duty to review factual findings where constitutional rights are at stake.'"[170]

The decision was seen as an enormous victory for the abortion rights movement. State legislatures could no longer assume that the abortion restrictions they passed would get a rubber stamp from courts. The decision "reconfirmed that the courts, rather than legislatures, will be the ones deciding whether a burden is undue."[171] And so, parties would now need to engage in "fact-intensive litigation about the

165. Kendis, *supra* note 163, at 1020; *see, e.g.*, Whole Woman's Health v. Lakey, 769 F.3d 285, 297 (5th Cir.), *vacated in part*, Whole Woman's Health v. Lakey, 574 U.S. 931 (2014).

166. Planned Parenthood of Greater Tex. Surgical Health Servs. v. Abbott, 748 F.3d 583, 594 (5th Cir. 2014).

167. Whole Woman's Health v. Hellerstedt, 579 U.S. 582, 607–08 (2016), *as revised* (June 27, 2016), *and abrogated by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

168. *Hellerstedt*, 579 U.S. at 607–08.

169. *Id.* at 608.

170. *Id.* (quoting Gonzales v. Carhart, 550 U.S. 124, 165 (2007)).

171. *Facing Facts*, *supra* note 8, at 1236.

benefits and burdens of measures restricting access to abortion."[172] As previously discussed, some courts had already been doing this kind of analysis,[173] but now all federal courts across the country were required to. As Mary Ziegler explained following the decision, "*Whole Woman's Health* does suggest that abortion opponents will have to work much harder to make a case for abortion restrictions before the courts."[174]

The decision increased the use of antiabortion junk science in abortion litigation. Now that those defending abortion restrictions in court needed evidence to support the purported benefits of the laws, they increasingly relied on testimony from antiabortion activists who styled themselves as expert witnesses. Each court was required to independently review the evidence to determine if the benefits of a law outweighed the burdens.[175] Antiabortion expert witnesses submitted lengthy declarations and expert reports about their theories,[176] and abortion rights expert witnesses submitted declarations and expert reports to refute this evidence.[177] These experts were deposed[178] and

172. *Substantial Uncertainty*, *supra* note 9, at 78.

173. Planned Parenthood of Ariz. v. Humble, 753 F.3d 905, 913 (9th Cir. 2014); Planned Parenthood of Wis. v. Schimel, 806 F.3d 908, 919 (7th Cir. 2015).

174. *Substantial Uncertainty*, *supra* note 9, at 114.

175. *Hellerstedt*, 579 U.S. at 608.

176. *See, e.g.*, Declaration of Priscilla K. Coleman, Ph.D., Reprod. Health Servs. of Planned Parenthood v. Parson, 389 F. Supp. 3d 631 (W.D. Mo. 2019) (No. 2:19-CV-4155) (submitting an 85-page declaration, which included cites to 112 studies and an additional table of 53 studies purported to support her opinions); Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1256 (describing a supplemental declaration submitted by Dr. Harrison with an attached "list of 162 studies which allegedly report the association between induced abortion and preterm birth in subsequent pregnancies.").

177. For example, in *Rutledge*, plaintiffs submitted four expert declarations explaining that abortion is safe. 397 F. Supp. 3d at 1228, 1241, 1243, 1246.

178. Remote Videotaped Deposition of Donna Harrison, M.D., Jackson Women's Health Org. v. Dobbs, No. 3:18-CV-00171-CWR-FKB (S.D. Miss. Feb. 25, 2021); Deposition of Priscilla Coleman, Ph.D., Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488 (M.D. Tenn. 2020) (No. 3:15-CV-00705).

provided live testimony.[179] Judges often engaged deeply with the evidence, delving into the specifics of various studies and their flaws.[180] Following *Whole Woman's Health*, antiabortion junk science evidence broadly expanded its role in district court proceedings.

This Article ends its review of cases in 2022, when the Court found that no right to abortion existed in the federal Constitution, thereby overruling *Roe* and *Casey*.[181] *Dobbs* provides a natural stopping point, particularly since abortion litigation will progress differently in light of this decision. However, it is likely that antiabortion junk science will continue to play a role in litigation in the post-*Dobbs* era.

Following *Dobbs*, a number of states banned abortion entirely, and so further federal litigation involving scientific claims about abortion is unlikely in these states.[182] However, some litigation that had previously challenged abortion restrictions or bans in federal court moved to state court, and antiabortion junk science moved with them. In a state court challenge to a six-week abortion ban in Georgia, the state submitted an expert report from Dr. Coleman, who continued to insist that "the soundest empirical evidence indicates that abortion is associated with an increased risk for adverse psychological outcomes."[183]

Antiabortion junk science may also continue in new forms of federal litigation. In November 2022, a coalition of antiabortion groups filed a case seeking to cancel the FDA's approval of one of the two

179. Whole Woman's Health All. v. Rokita, 553 F. Supp. 3d 500, 515 n.7, 580 (S.D. Ind. 2021) (describing testimony of Dr. Harrison and Dr. Coleman).

180. *Adams*, 494 F. Supp. 3d at 535–38; *Rutledge*, 397 F. Supp. 3d at 1300.

181. Dobbs v. Jackson Women's Health Org., 597 U.S. 215, 231 (2022).

182. Allison McCann & Amy Schoenfeld Walker, *Tracking Abortion Bans Across the Country*, N.Y. TIMES, https://www.nytimes.com/interactive/2022/us/abortion-laws-roe-v-wade.html (last visited Oct. 1, 2024).

183. Expert Report of Priscilla K. Coleman, Ph.D. at 4, SisterSong Women of Color Reprod. Just. Collective v. Georgia, No. 2022-CV-367796 (Fulton Cnty. Super. Ct. Ga. Oct. 11, 2022). Dr. Coleman also testified at trial in this case. *See* Transcript of Bench Trial - Day 2 at 4, 195–215, SisterSong Women of Color Reprod. Just. Collective v. Georgia, No. 2022-CV-367796 (Fulton Cnty. Super. Ct. Ga. Oct. 25, 2022).

drugs used in medication abortion, mifepristone.[184] In their reply brief supporting their motion for a preliminary injunction, these plaintiffs included a declaration from Dr. Harrison about the dangers of medication abortion.[185] While abortion litigation may look different moving forward, it appears that antiabortion litigants' reliance on junk science will continue.[186]

III. *DAUBERT* IS NOT THE RIGHT TOOL FOR JUNK SCIENCE IN ABORTION LITIGATION.

A. History and Purpose of Daubert

In 1993, the Supreme Court attempted to prevent the admission of junk science into the courtroom by clarifying and strengthening courts' evaluation of expert witness evidence.[187] In *Daubert*, the Court interpreted Federal Rule of Evidence 702 to require that expert evidence be deemed "reliable" in order to be admitted.[188] The Court offered a few factors that might help a trial judge determine reliability: (1) "whether a theory or technique . . . can be (and has been) tested";

184. *See* Complaint, All. for Hippocratic Med. v. U.S. Food & Drug Admin., 668 F. Supp. 3d 507 (N.D. Tex. 2023) (No. 2:22-CV-00223), *vacated and remanded by* All. for Hippocratic Med. v. U.S. Food & Drug Admin., No. 23-10362, 2024 WL 4196546 (5th Cir. Sep. 16, 2024).

185. Declaration of Donna Harrison, M.D., *All. for Hippocratic Med.*, 668 F. Supp. 3d. 507 (No. 2:22-cv-00223-Z). The district court judge granted the plaintiffs' motion for a preliminary injunction, but the Supreme Court reversed on standing grounds. *See* U.S. Food & Drug Admin. v. All. for Hippocratic Med., 602 U.S. 367 (2024).

186. A recent essay by Valena E. Beety and Jennifer D. Oliva also suggests that post *Dobbs* "states will ramp up . . . their . . . policing . . . of pregnant people" by relying on junk forensic science. *See* Valena E. Beety & Jennifer D. Oliva, *Policing Pregnancy "Crimes"*, 98 NYU L. REV. ONLINE 29, 32 (2023).

187. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579 (1993); Worthington et al., *supra* note 12, at 159 ("With *Daubert*, the Supreme Court attempted to redress the distortions caused by the increasing influence of junk science in the courtroom.").

188. Reliability requires that "an inference or assertion must be derived by the scientific method" or "supported by appropriate validation . . . based on what is known." *Daubert*, 509 U.S. at 590.

(2) "whether the theory or technique has been subjected to peer review and publication"; (3) "the known or potential rate of error"; and (4) the "degree of acceptance within [a relevant scientific] community."[189] Furthermore, the Court found Rule 702 to have a "helpfulness" standard, meaning that there must be a "fit" between the testimony offered and what information is needed to resolve a factual dispute.[190]

The Court was clear that the district court must play "a gatekeeping role" in their preliminary assessment of expert testimony.[191] Judges should only let in evidence in which "the reasoning or methodology underlying the testimony is scientifically valid" and "that reasoning or methodology properly can be applied to the facts in issue."[192] The Court noted that "[s]cientific conclusions are subject to perpetual revision. Law, on the other hand, must resolve disputes finally and quickly," and "[c]onjectures that are probably wrong are of little use . . . in the project of reaching a quick, final, and binding legal judgment."[193] This suggested that the Court disfavored letting in junk, or even ambiguous, science to be later evaluated by a judge or jury.

In 2000, Rule 702 was amended to mirror *Daubert*.[194] The Rule currently reads:

> 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

189. *Id.* at 593–94.
190. *Id.* at 591–92.
191. *Id.* at 597.
192. *Id.* at 592–93.
193. *Id.* at 597.
194. FED. R. EVID. 702 advisory committee's notes to the 2000 amendment.

> (d) the expert's opinion reflects a reliable application of the principles and methods to the facts of the case.[195]

Many states have adopted the *Daubert* test as well.[196]

When a party believes that an expert witness' testimony is junk science, they can file a motion to exclude the testimony pursuant to Rule 702. The judge then undertakes a two-part analysis. The threshold question is if the expert is qualified to give the presented testimony.[197] Once the judge has found the expert qualified, then they assess the reliability of the expert's analysis in two ways. The judge must determine (1) if the expert has used reliable methods and principles *and* (2) if the expert has properly applied these methods to the facts at issue in the case.[198] If the judge finds the expert unqualified or their evidence unreliable, the judge should exclude the expert's evidence.

Daubert motions are commonly filed after discovery has concluded, when a party has learned through the expert's report and deposition what testimony the expert will provide at trial or in support of a motion for summary judgment.[199] Once excluded, the evidence cannot be used to support a party's claims or defenses, which may alter the case significantly.[200]

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195. FED. R. EVID. 702.

196. DAVID L. FAIGMAN ET AL., MODERN SCIENTIFIC EVIDENCE: THE LAW AND SCIENCE OF EXPERT TESTIMONY § 1:7 (2013).

197. FED. R. EVID. 702.

198. *Id.*; Brandon L. Garrett & M. Chris Fabricant, *The Myth of the Reliability Test*, 86 FORDHAM L. REV. 1559, 1566 (2018) ("A method can be sound, but the expert can extrapolate a method beyond its validated application or apply that method to unsuitable facts or in an unsuitable manner. A method can be reliable when applied carefully, but highly inconsistent or inaccurate in its results if it is applied poorly by a given expert.").

199. Edward K. Cheng, *The Consensus Rule: A New Approach to Scientific Evidence*, 75 VAND. L. REV. 407, 414 (2022); 29 CHARLES ALAN WRIGHT & ARTHUR R. MILLER, FEDERAL PRACTICE AND PROCEDURE EVIDENCE § 6270 (2d ed. 2023) ("[I]t is clear that Rule 702 governs the admissibility of expert testimony at trial, and on summary judgment . . . .").

200. *See* Douglas G. Smith, *Resolution of Common Questions in MDL Proceedings*, 66 U. KAN. L. REV. 219, 233 (2017) (explaining that *Daubert* can be

It is commonly understood that *Daubert* motions provide the greatest benefit before a jury trial, to keep juries from being swayed by unreliable expert testimony.[201] The judge, who is considered better equipped to evaluate evidence, removes the evidence before it can bias the jury.[202] *Daubert* motions can still be used to exclude evidence from a judge's adjudication of a motion for summary judgment or at bench trials,[203] but generally courts have found that they are less important when the risk of biasing the jury is removed.[204] Abortion cases do not involve juries, and so already the utility of *Daubert* is diminished.[205] The following section will explain why *Daubert* as currently used cannot fix the problems created by antiabortion junk science in litigation.

B. Why Daubert *is Not the Right Tool for Abortion Litigation*

This section evaluates twenty-four cases in which courts were faced with the three theories of antiabortion junk science between *Whole Woman's Health* and *Dobbs*.[206] While *Daubert* is typically used

"outcome-determinative" in litigation because it can dispose of entire categories of claims).

201. *See, e.g.*, Deal v. Hamilton Cnty. Bd. of Educ., 392 F.3d 840, 851 (6th Cir. 2004) ("[D]istrict courts must act as 'gatekeepers' to protect juries from misleading or unreliable expert testimony . . . .").

202. James R. Steiner-Dillon, *Epistemic Exceptionalism*, 52 IND. L. REV. 207, 219–20 (2019). Steiner-Dillon argues that this is a mistake, as judges are overconfident in their ability to understand expert testimony.

203. *Id.* at 218–19.

204. "All of the circuit courts to address the issue have stated that the gatekeeping inquiry applies less stringently in bench trials than in jury trials." *Id.* at 219; *see also* Gibbs v. Gibbs, 210 F.3d 491, 500 (5th Cir. 2000) ("Most of the safeguards provided for in *Daubert* are not as essential in a case such as this where a district judge sits as the trier of fact in place of a jury.").

205. The Seventh Amendment to the Constitution guarantees a jury trial in federal civil cases seeking monetary damages, but the parties in abortion litigation generally seek injunctive relief, not monetary damages. U.S. CONST. amend. VII.

206. I reviewed eleven cases in which Dr. Coleman provided expert evidence about abortion and mental health; eight cases in which Dr. Harrison provided expert evidence about the safety of abortion, and five cases in which antiabortion litigants relied on expert testimony about medication abortion reversal. For purposes of disclosure, I worked at the Center for Reproductive Rights from 2018 to 2022, and I was involved in litigating the following cases that are included in this review: S. Wind

to address dubious expert evidence, it was largely unhelpful for the problems created by junk science in abortion litigation. As these cases demonstrate, antiabortion junk science infected a case from the beginning, appearing in antiabortion litigants' earliest filings and reappearing in subsequent filings throughout the case. However, the abortion rights litigants' first opportunity to exclude it came much later, after the parties spent years litigating the case. When judges finally had an opportunity to exclude this evidence, they rarely did so, and yet, they later correctly assessed it, either disregarding it or finding it unreliable. Judicial decisions were not enough to stop false evidence from proliferating. Even after their evidence was rejected, antiabortion experts presented the same junk science in other courts. This antiabortion litigation strategy entrenched junk science in courts and in public opinion, hurt courts' credibility, and negatively impacted the abortion rights movement, thereby affecting access to abortion, by diverting legal resources.

1. Junk Science Appears Early and Often in Abortion Litigation

Much of the abortion litigation between 2016 and 2022 followed a similar model. A state legislature would pass an abortion restriction and abortion providers represented by abortion rights attorneys would bring litigation to stop the restriction from taking effect. Cases often began with abortion rights litigants filing a motion for a preliminary injunction of the challenged law.[207] Some courts would grant or deny the motion on the briefing alone.[208] Other courts would hold an evidentiary hearing in which experts provided live testimony in order

Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219 (W.D. Okla. 2020); State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct., Apr. 8, 2022); S. Wind Women's Ctr. v. Hunter, No. CV-2019-2506 (Okla. Dist. Ct. Jan. 14, 2020); and Tulsa Women's Reprod. Clinic v. Hunter, No. 2019-2176 (Okla. Dist. Ct. Oct. 25, 2019).

207. *See, e.g.*, *Stitt*, 455 F. Supp. 3d 1219; Am. Med. Ass'n v. Stenehjem, 412 F. Supp. 3d 1134 (D.N.D. 2019).

208. *See, e.g.*, Reprod. Health Servs. of Planned Parenthood v. Parson, 389 F. Supp. 3d 631, 634 (W.D. Mo. 2019); Bernard v. Individual Members of Ind. Med. Licensing Bd., 392 F. Supp. 3d 935, 964 (S.D. Ind. 2019).

to decide the motion.[209] Cases generally proceeded slowly in the district court after this point. The losing party often filed an interlocutory appeal of the trial court's decision on the preliminary injunction to an appellate court, and then either to a state supreme court or the U.S. Supreme Court.[210] This appellate process could take several years and discovery in the case might not begin until the case returned to the trial court.[211] Additionally, during this period, cases were often stayed in anticipation of relevant rulings from the U.S. Supreme Court.[212]

Because a party typically files a *Daubert* motion to prevent unreliable evidence from being considered for summary judgment or at trial,[213] it took years before a *Daubert* motion was filed, if it was filed at all, in the cases examined. Of the twenty-four cases examined, a *Daubert* motion was filed in eight, and decided in six.[214] In most of the

209. Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1220 (E.D. Ark. 2019); Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985, 988 (M.D. Tenn. 2021).

210. *See, e.g.*, *Parson*, 389 F. Supp. 3d 631 (W.D. Mo. 2019); Gainesville Woman Care, LLC v. State, 210 So. 3d 1243 (Fla. 2017).

211. In *Parson*, 389 F. Supp. 3d 631, no discovery schedule was put in place during a lengthy appellate process. In *Gainesville*, discovery did not begin until the district court's decision on a motion for a temporary injunction had been appealed to the Florida Supreme Court and its decision on a motion for summary judgment had been appealed to the state appellate court. *See* State v. Gainesville Woman Care, LLC, 278 So. 3d 216 (Fla. Dist. Ct. App. 2019).

212. *See, e.g.*, Order Granting in Part and Denying in Part Plaintiff's Motion to Continue Trial and Stay All Proceedings at 2–5, 7, Bernard v. Individual Members of Ind. Med. Licensing Bd., No. 1:19-cv-01660 (S.D. Ind. Sept. 15, 2021); Order Staying Case and Order Administratively Closing Case at 1, Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985 (M.D. Tenn. 2021) (No. 3:20-cv-00740).

213. WRIGHT & MILLER, *supra* note 199 ("[I]t is clear that Rule 702 governs the admissibility of expert testimony at trial, and on summary judgment . . . .").

214. *See* Plaintiffs' Memorandum of Law in Support of Motion in Limine to Exclude the Testimony of Dr. Harrison and Limit the Testimony of Dr. Boles and Dr. Delgado, Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985 (M.D. Tenn. 2021) (No. 3:20-CV-00740); Plaintiff's Motion to Exclude State Defendants' Expert Testimony and Memorandum in Support, Planned Parenthood Ass'n of Utah v. Herbert, No. 2:19-CV-00238 (D. Utah Oct. 21, 2020); Whole Woman's Health All. v. Rokita, No. 1:18-cv-01904-SEB-MJD, 2021 WL 650589 (S.D. Ind. Feb. 19, 2021); Plaintiffs' Motion to Exclude Testimony of Certain Defendants' Experts, Jackson Women's Health Org. v. Dobbs, No. 3:18-CV-00171 (S.D. Miss. Apr. 29, 2021); Motion to Exclude Testimony of Priscilla K. Coleman,

remaining cases, the parties did not conclude discovery. Some of these cases are ongoing and it's possible that a *Daubert* motion will be filed in the future.[215] Other cases were dismissed before they reached that phase of the case.[216]

In the cases in which a *Daubert* motion was filed, the case was often open for a long time before the filing. For example, the Florida legislative passed a law in 2015 requiring those seeking an abortion to meet with an abortion provider in person and then wait twenty-four hours before having an abortion.[217] Before the law took effect on July 1, 2015, abortion providers sued and filed a motion for a preliminary injunction.[218] Due to appellate proceedings,[219] the first *Daubert*

Ph.D. and Incorporated Supporting Memorandum of Law, Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488, 500 (M.D. Tenn. 2020) (No. 3:15-cv-00705); Motion To Exclude Expert Testimony, Doe No. 1 v. Att'y Gen. of Ind., 630 F. Supp. 3d 1033, 1058 (S.D. Ind.) (No. 1:20-CV-03247); Motion to Exclude Testimony of Priscilla K. Coleman, Ph.D., and Incorporated Supporting Memorandum of Law, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Feb. 11, 2022); Plaintiffs' Renewed Motion to Strike the Affidavit of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. May 19, 2017). The motions were never decided in *Dobbs* and *Herbert*.

215. *See, e.g.*, Tulsa Women's Reprod. Clinic v. Hunter, No. 2019-2176 (Okla. Dist. Ct. Oct. 25, 2019); Planned Parenthood of Mont. v. State *ex rel.* Knudsen, 2022 MT 157, 409 Mont. 378, 515 P.3d 301 (Yellowstone Cnty. Mont. 2022) (No. DV-21-999).

216. The most common reason for a case to end before resolution was that it was dismissed in the wake of *Dobbs*. *See, e.g.*, Order Dismissing Case Without Prejudice, Reprod. Health Servs. of Planned Parenthood v. Parson, No. 2:19-CV-4155 (W.D. Mo. July 13, 2022); Order Granting Motion to Dismiss Without Prejudice, Planned Parenthood Ark. & E. Okla. v. Jegley, No. 4:15-cv-00784 (E.D. Ark. Aug. 2, 2022). But cases also ended for other reasons. For example, *Stitt* concluded because Oklahoma allowed their ban on abortion, caused by COVID-19, to expire. *See* S. Wind Women's Ctr. v. Stitt, 823 F. App'x 677, 679 (10th Cir. 2020).

217. H.B. 633, 2015 Leg., Reg. Sess. (Fla. 2015).

218. *See* State v. Gainesville Woman Care, LLC, 278 So. 3d 216, 218–19 (Fla. Dist. Ct. App. 2019).

219. *See id.*

motions were not filed until 2022.[220] Similarly, for a case in Tennessee, *Daubert* motions were not filed until five years into the case.[221]

Yet a significant amount of antiabortion junk science came into a case—and was often evaluated by a court—during periods of litigation when *Daubert* motions did not play any role. In the typical scenario in which abortion providers brought litigation and sought to preliminarily enjoin an abortion restriction or ban, a significant dispute over antiabortion junk science could develop during the preliminary injunction briefing.

For example, when abortion providers challenged an Arkansas abortion ban and other abortion restrictions in 2019, the state sought to manufacture a controversy about the safety of abortion within the context of a preliminary injunction.[222] To assess if the abortion providers had established a likelihood of success on the merits of their undue burden claims, warranting a preliminary injunction, the court had to weigh the laws' benefits and burdens.[223] The state had relied on expert evidence to suggest that the laws furthered their interest in protecting women's health, submitting two expert declarations from Dr. Kathi Aultman and two expert declarations from Dr. Donna Harrison about the medical risks of abortion.[224] Dr. Harrison also testified at an evidentiary hearing.[225]

Dr. Harrison and Dr. Aultman made numerous unsupported claims about the risks of abortion. Dr. Aultman claimed that complications from abortion are "significantly underreported," and "there is no support for the statement that abortion is less risky than childbirth."[226] Dr. Harrison claimed that "there is an increased

220. Motion to Exclude Testimony of Priscilla K. Coleman, Ph.D., and Incorporated Supporting Memorandum of Law, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Feb. 11, 2022).

221. In *Adams & Boyle, P.C. v. Slatery*, the case was brought in 2015 and *Daubert* motions were filed in 2020. *See* 494 F. Supp. 3d 488, 492 (M.D. Tenn. 2020); Motion to Exclude Testimony of Priscilla K. Coleman, Ph.D. and Incorporated Supporting Memorandum of Law, *Slatery*, 494 F. Supp. 3d 488 (No. 3:15-CV-00705).

222. Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1220, 1256 (E.D. Ark. 2019).

223. *Id.* at 1277.

224. *Id.* at 1253–56.

225. *Id.* at 1221.

226. *Id.* at 1254.

psychological risk for mothers who abort" and abortion is associated with preterm birth in subsequent pregnancies.[227]

Though Judge Kristine Baker recognized that the Supreme Court in *Whole Woman's Health* had already "reviewed medication and surgical abortion statistics and research to reach its conclusion" that abortion was safe, she was required to carefully review the evidence and make her own determinations of the facts.[228] She carefully worked through the antiabortion experts' junk science. For example, when faced with Dr. Aultman's statement that "medication abortion patients are likely to require surgical follow-up treatment for retained products or bleeding," Judge Baker noted that "Dr. Aultman's citation for this proposition is found on a private website that cannot be accessed without a subscription."[229] And she observed that the abortion providers' expert, Dr. Stephanie Ho, had cited to an article from the prominent journal *Obstetrics & Gynecology* which found a 97.4% success rate for medication abortion.[230]

After evaluating the evidence, Judge Baker found that "[p]laintiffs present scientific record evidence that is generally accepted in the medical community that '[l]egal abortion is one of the safest medical procedures available in the United States.'"[231] In contrast, "the record evidence defendants rely on in an effort to refute this is lacking."[232]

Judge Baker had to review significant amounts of evidence and separate real science from junk science, all without the use of *Daubert.* Her analysis of Dr. Harrison's claim of a link between abortion and preterm birth shows the work required by a court to fully understand and investigate a single claim. Dr. Harrison had submitted a supplemental declaration with a list of 162 studies that purported to show an association between abortion and preterm birth in subsequent

227. *Id.* at 1256.

228. *Id.* at 1279.

229. *Id.* at 1253, 1253 n.6.

230. *Id.* at 1227 (citing Daniel Grossman et al., *Effectiveness and Acceptability of Medical Abortion Provided Through Telemedicine*, 118 OBSTETRICS & GYNECOLOGY 296, 300 (2011)).

231. *Rutledge*, 397 F. Supp. 3d at 1279.

232. *Id.* at 1280.

pregnancies.[233] Judge Baker reviewed at least some number of the 162 articles Dr. Harrison submitted because she noted the following:

> First, the Court notes that more than half of these articles now cited by Dr. Harrison were published over 20 years ago. Second, the Court observes that many of the more recent articles focus on populations from other countries. Third, while Dr. Harrison has not pointed the Court to any language in any particular study as supporting her position . . . [a]t most, [one study] indicates a correlation between certain types of surgical abortions and later preterm births, not any causal relationship between prior abortions and preterm births.[234]

Ultimately, the court found the articles "do not support an assertion that legal abortion is an unsafe medical procedure."[235]

In many of the cases reviewed, junk science evidence entered the case at an early phase. As in *Little Rock Family Planning Services*, it was often raised, disputed, and decided on as part of the motion for a preliminary injunction.[236] Antiabortion junk science could also appear in a motion to intervene,[237] a motion for summary judgment,[238] or a motion to dissolve an injunction.[239] Abortion rights litigants had to use significant resources to dispute it and courts had to carefully consider it. And all of this took place without any *Daubert* "gatekeeping."

233. *Id.* at 1256.

234. *Id.* at 1300.

235. *Id.* at 1282.

236. S. Wind Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219, 1227 (W.D. Okla. 2020); Planned Parenthood Ark. & E. Okla. v. Jegley, No. 4:15-cv-00784-KGB, 2018 WL 3816925, at *42 (E.D. Ark. July 2, 2018); Bernard v. Individual Members of Ind. Med. Licensing Bd., 392 F. Supp. 3d 935, 959 (S.D. Ind. 2019).

237. Memorandum in Support of Motion to Intervene at 16, Am. Coll. of Obstetricians & Gynecologists v. U. S. Food & Drug Admin., 467 F. Supp. 3d 282 (D. Md. 2020) (No. 8:20-CV-01320).

238. Whole Woman's Health All., Inc. v. Hill, 493 F.Supp. 3d 694, 711–13 (S.D. Ind. 2020).

239. Intervenors' Motion for Dissolution of the Preliminary Injunction, Planned Parenthood Minn., N.D., S.D. v. Noem, 556 F. Supp. 3d 1017 (D.S.D. 2021) (No. 4:11-CV-04071).

Furthermore, junk science appeared repeatedly in a case. After the parties and the court engaged deeply with junk science in the context of a motion for a preliminary injunction or motion for summary judgment, antiabortion experts could provide the same junk science testimony to support arguments in summary judgment briefing or at trial. For example, in a case challenging restrictions on medication abortion in Oklahoma, Dr. Harrison submitted an affidavit describing the risks of medication abortion in support of the Defendants' Opposition to Plaintiffs' Motion for a Preliminary Injunction,[240] Defendants' Motion for Summary Judgment,[241] and Defendants' Renewed Motion for Summary Judgment.[242] After she was deposed on her opinions, she then submitted another affidavit about the risks of medication abortion.[243] Similarly, Dr. Coleman provided a declaration about abortion and mental health in November 2017 in support of Florida's opposition to abortion providers' motion for summary judgment.[244] In November 2021, she submitted an expert report covering the same topic.[245] She was deposed, and her testimony was relied upon in the state's motion for summary judgment.[246]

In some situations, even after a court rejected antiabortion expert testimony at the preliminary injunction stage, the expert

240. Affidavit of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Oct. 20, 2014).

241. Affidavit of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Mar. 2, 2015).

242. Affidavit of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Sept. 8, 2016).

243. Affidavit of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. June 19, 2017).

244. State v. Gainesville Woman Care, LLC, 278 So. 3d 216, 219, 221 (Fla. Dist. Ct. App. 2019).

245. Supplemental Declaration and Rebuttal Report of Priscilla K. Coleman, Ph.D., State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Nov. 1, 2021).

246. Remote Videotaped Deposition of Priscilla K. Coleman, Ph.D. 367:15–369:10, Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 20. 2022); Statement of Undisputed Material Facts Submitted in Support of Defendants' Motion for Summary Judgment at 5, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Feb. 8, 2022).

continued to promote the same evidence later in the case.[247] Abortion rights litigants had to repeatedly rebut, and courts had to repeatedly evaluate, the same junk science for the same case. *Daubert* was not able to protect them from engaging with junk science.

2. Judges Fail to Exclude Junk Science Evidence But They Ultimately Get the Science Right in Their Decisions

Daubert motions had little impact on junk science in abortion litigation. The review of cases showed that not only were *Daubert* motions rarely filed, but when they were, judges rarely granted them. Judges would deny *Daubert* motions but later find the evidence unreliable. This was reflective of a larger trend in the litigation: judges properly assessed junk science outside of the context of *Daubert*, suggesting that when junk science was obvious, *Daubert* motions were unnecessary.

Of the six cases in which a judge ruled on a *Daubert* motion, only two were granted and they were only granted in part. In a case in Oklahoma state court, a judge excluded several paragraphs from two declarations Dr. Harrison had submitted about the safety of abortion, but let the rest of the declarations in.[248] Similarly, in a federal court in Indiana, the judge found "methodological errors infecting" some of the studies that Dr. Coleman relied upon for her opinions about mental health and abortion, and excluded this evidence.[249] However, she allowed in the remainder of Dr. Coleman's evidence that plaintiffs had challenged.[250]

247. For example, when preliminarily enjoining a restriction on second-trimester abortion care, a court in Indiana found Dr. Coleman's testimony about mental health and abortion "simply not relevant." Bernard v. Individual Members of Ind. Med. Licensing Bd., 392 F. Supp. 3d 935, 959 (S.D. Ind. 2019). However, the state continued to rely on her testimony later in the case. Defendants' Final Witness and Exhibit List, Bernard v. Individual Members of Ind. Med. Licensing Bd., No. 1:19-CV-01660 (S.D. Ind. Jan. 15, 2021).

248. Order Granting in Part and Denying in Part Plaintiffs' Motion to Strike the Third Affidavit of Donna Harrison, M.D., and Motion to Strike the Fourth Affidavit of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Sept. 6, 2017).

249. Whole Woman's Health All. v. Rokita, No. 1:18-CV-01904-SEB-MJD, 2021 WL 650589, at *6 (S.D. Ind. Feb. 19, 2021).

250. *Id.* at *6–9.

In the other four cases, the judges denied the *Daubert* motions entirely even though the evidence at issue was junk science.[251] For example, in a challenge to a mandatory waiting period law in Tennessee, plaintiffs explained how Dr. Coleman's evidence about abortion and mental health failed the *Daubert* reliability requirement.[252] Her opinions were not based on studies with reliable methodology as required by *Daubert*,[253] because the studies did not control for co-occurring risk factors; used inappropriate comparison groups; and employed an inappropriate sampling methodology.[254] Her opinions were also at odds with the mainstream scientific community,[255] which is a factor that trial judges can use to assess reliability.[256] And yet, the motion to exclude was denied.[257] Similarly, in a case challenging a medication abortion reversal law in Tennessee, plaintiffs moved to exclude evidence from Dr. Harrison about the science behind medication abortion reversal.[258] The plaintiffs

251. Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488, 500 (M.D. Tenn. 2020); Order, Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985 (M.D. Tenn. 2021) (No. 3:20-cv-00740) (ECF No. 60); Doe No. 1 v. Att'y Gen. of Ind., 630 F. Supp. 3d 1033, 1058 (S.D. Ind. 2022) (No. 1:20-CV-03247); Order on *Daubert* Motions, Gainesville Woman Care, LLC v. Fla, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Mar. 21, 2022).

252. Motion to Exclude Testimony of Priscilla K. Coleman, Ph.D. and Incorporated Supporting Memorandum of Law at 7–15, *Adams*, 494 F. Supp. 3d 488 (No. 3:15-cv-00705).

253. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 590 (1993) ("[I]n order to qualify as 'scientific knowledge,' an inference or assertion must be derived by the scientific method.").

254. Motion to Exclude Testimony of Priscilla K. Coleman, Ph.D. and Incorporated Supporting Memorandum of Law at 11–13, *Adams*, 494 F. Supp. 3d 488 (No. 3:15-cv-00705).

255. *See* APA, *supra* note 64, at 92; NATIONAL ACADEMIES, *supra* note 66, at 10.

256. *Daubert*, 509 U.S. at 594 (finding that "degree of acceptance within [a relevant scientific] community" can inform reliability).

257. *Adams*, 494 F. Supp. 3d at 500.

258. Plaintiffs' Memorandum of Law in Support of Motion in Limine to Exclude the Testimony of Dr. Harrison and Limit the Testimony of Dr. Boles and Dr. Delgado at 2, Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985 (M.D. Tenn. 2021) (No. 3:20-cv-00740), 2020 WL 10139534.

explained that Dr. Harrison was unqualified as she had never conducted or published any research on the topic and had not practiced medicine for twenty years.[259] Further, her opinions were unreliable because she repeatedly failed to cite sources for them or mispresented the findings of sources.[260] And again, the court denied the motion to exclude and allowed Dr. Harrison to provide this testimony.[261]

However, both judges ultimately assessed the evidence correctly at a later stage. In the mandatory waiting period case, the judge looked closely at the studies relied on by Dr. Coleman in her trial testimony and found, "[p]laintiffs have presented persuasive evidence that Dr. Coleman's opinions lack support and that her work has serious methodological flaws," and so, "Dr. Coleman's testimony is not credible and not worthy of serious consideration."[262] Noting the "general consensus within the scientific community," the court found that "the reliable research on this subject clearly demonstrates that undergoing an abortion does not increase the risk that patients will experience negative mental health consequences."[263] Similarly, in the medication abortion reversal case, the judge found that the medication abortion reversal law mandated the sharing of "untruthful and/or misleading" information because "neither Dr. Delgado's research nor his biological explanation supports the idea that an abortion can be undone or negated," and he preliminarily enjoined the law.[264]

There is no way to know why these judges denied the *Daubert* motions but ultimately agreed with the arguments made in the motions. They may have wanted let the adversarial process play out, allowing the experts presenting junk science to be cross examined, rather than

259. Pursuant to FRE 702, an expert must be qualified "by knowledge, skill, experience, training, or education." FED. R. EVID. 702; *see* Plaintiffs' Memorandum of Law in Support of Motion in Limine to Exclude the Testimony of Dr. Harrison and Limit the Testimony of Dr. Boles and Dr. Delgado at 3–7, *Slatery*, 523 F. Supp. 3d 985 (No. 3:20-cv-00740).

260. An expert's testimony must be "based on sufficient facts or data." FED. R. EVID. 702(b); *see* Plaintiffs' Memorandum of Law in Support of Motion in Limine to Exclude the Testimony of Dr. Harrison and Limit the Testimony of Dr. Boles and Dr. Delgado at 7–12, *Slatery*, 523 F. Supp. 3d 985 (No. 3:20-cv-00740).

261. Order, *Slatery*, 523 F. Supp. 3d 985 (No. 3:20-cv-00740).

262. *Adams*, 494 F. Supp. 3d at 538.

263. *Id.* at 561–62 (quotation omitted).

264. *Slatery*, 523 F. Supp. 3d at 989, 1003.

removing this evidence from consideration all together.[265] They may have believed that since they, rather than a jury, would be issuing a decision, allowing in junk science made no difference.[266] It is hard to not see the decisions as wasteful, as the parties and court devoted resources to live testimony that the court could have excluded.

However, the outcomes speak to a larger trend about the treatment of junk science evidence in the reviewed litigation: even though litigants and judges did not regularly utilize *Daubert* motions, the vast majority of district judges ultimately correctly assessed the reliability of junk science.[267] This presented in two ways: either the judge found the junk science to be unreliable or they simply ignored it and made a decision that aligned with science.

In addition to the two cases discussed above, there are several other cases in which judges specifically called out the junk evidence for what it was.[268] For example, in an Indiana case challenging various abortion restrictions, plaintiffs did not file a *Daubert* motion to exclude Dr. Harrison's testimony. However, following a bench trial, the judge

265. "[T]he trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system." FED. R. EVID. 702 advisory committee's note to the 2000 amendment (quotation omitted).

266. "Most of the safeguards provided for in *Daubert* are not as essential in a case such as this where a district judge sits as the trier of fact in place of a jury." Gibbs v. Gibbs, 210 F.3d 491, 500 (5th Cir. 2000).

267. Of the twenty-four cases reviewed, only once did a district court judge credit junk science. In a case in Florida challenging a law that required patients to wait twenty-four hours to have an abortion, the judge denied a *Daubert* motion to exclude Dr. Coleman's evidence and then granted the defendants' motion for summary judgment, stating in support of her decision that "[w]omen who have abortions, especially those who regret them, often experience psychological and emotional harm . . . ." Order on *Daubert* Motions, Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. March 21, 2022); Order Granting Defendants' Motion for Summary Final Judgment at 20, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Apr. 8, 2022).

268. *See, e.g.*, Planned Parenthood Ark. & E. Okla. v. Jegley, No. 4:15-cv-00784-KGB, 2018 WL 3816925, at *42 (E.D. Ark. July 2, 2018) (finding Dr. Harrison's testimony on medication abortion "must be rejected"); *Slatery*, 523 F. Supp. 3d at 1003 (stating that "neither Dr. Delgado's research nor his biological explanation supports the idea that an abortion can be undone or negated").

stated the following about Dr. Harrison's testimony regarding the risks of medication abortion:

> Dr. Harrison did not cite any personal experiences or research that supported it, nor did she direct the Court to medical literature supporting that view. We note as well that Dr. Harrison has never personally provided medication abortions and, in fact, no longer practices medicine, having instead chosen to dedicate her career to pro-life research. She also has not published any research on these issues in more than fifteen years . . . . [T]o the extent a disagreement exists between Dr. Grossman and Dr. Harrison as to the complications of medication abortion, we credit the opinions of Dr. Grossman, whose resumé and testimony reflect extensive experience and research in this field.[269]

It was equally common for judges to ignore the junk science presented and decide in favor of the abortion advocates' position.[270] In these situations, it is harder to know how the judge viewed the junk science. They may have thought it was unreliable and not worth addressing. They may have found it irrelevant to the questions at issue in the case and based their decision on other evidence.[271] Both conclusions are

269. Whole Woman's Health All. v. Rokita, 553 F. Supp. 3d 500, 515 n.7 (S.D. Ind. 2021).

270. *See, e.g.*, Planned Parenthood Minn., N.D., S.D. v. Noem, 556 F. Supp. 3d 1017 (D.S.D. 2021) (ignoring Dr. Coleman's evidence about abortion and mental health and denying the motion her declaration was in support of); Am. Coll. of Obstetricians & Gynecologists v. U.S. Food & Drug Admin., 467 F. Supp. 3d 282 (D. Md. 2020) (ignoring the evidence of both Dr. Coleman and Dr. Harrison when denying the motion their declarations were in support of).

271. We know that this did happen in several cases. In *Bernard v. Individual Members of Ind. Med. Licensing Bd.*, the court found that Dr. Coleman's opinions about abortion and mental health were irrelevant because the court was deciding about banning the most common form of second trimester abortion and Dr. Coleman did not address if mental health outcomes were different depending on the form of abortion. 392 F. Supp. 3d 935, 959 (S.D. Ind. 2019). Similarly, the court in *Rokita* found her evidence about mental health after abortion for fetal anomaly to be irrelevant. 553 F. Supp. 3d at 580.

ultimately positive; when judges ignored junk science evidence in their opinions, they generally decided in favor of abortion advocates.[272]

Considering the concerns that have been raised in the *Daubert* literature about judges' ability to understand science and accurately assess its reliability, this is both surprising and encouraging. *Daubert* has been the subject of significant criticism since the opinion was issued.[273] The most common criticism is that judges are unable to appropriately assess expert evidence because they do not understand the scientific principles underlying *Daubert*'s reliability test.[274] In his dissent to the *Daubert* opinion, Chief Justice Rehnquist noted that he did not believe that Rule 702 imposed on judges "either the obligation or the authority to become amateur scientists."[275] He believed that "definitions of scientific knowledge, scientific method, scientific validity, and peer review" were "matters far afield from the expertise of judges."[276] Empirical studies of judges have found that they do not understand basic scientific concepts that are necessary for a *Daubert*

272. *Noem*, 556 F. Supp. 3d 1017; *Am. Coll. of Obstetricians & Gynecologists*, 467 F. Supp. 3d 282; Smith v. Hochul, 568 F. Supp. 3d 190 (N.D.N.Y. 2021); Doe No. 1 v. Att'y Gen. of Ind., 630 F. Supp. 3d 1033 (S.D. Ind. 2022); Reprod. Health Servs. of Planned Parenthood v. Parson, 389 F. Supp. 3d 631 (W.D. Mo. 2019).

273. "Legal scholars have had a field day with the Supreme Court's 1993 decision in *Daubert v. Merrell Dow Pharmaceuticals, Inc*." A. Leah Vickers, Daubert, *Critique and Interpretation: What Empirical Studies Tell Us About the Application of* Daubert, 40 U.S.F. L. REV. 109, 109 (2005).

274. *Id.* at 114 ("Perhaps the most common complaint about *Daubert* is that it forces judges to become amateur scientists, a role they are not well-prepared for and should not be asked to play.") (alteration added); Cheng, *supra* note 199; Garrett & Fabricant, *supra* note 198, at 1568 ("The reliability language in Rule 702 . . . is widely perceived to have been neglected by federal judges."); David E. Bernstein & Eric G. Lasker, *Defending* Daubert*: It's Time to Amend Federal Rule of Evidence 702*, 57 WM. & MARY L. REV. 1, 19 (2015) (explaining that scholars criticize judges for either ignoring the requirements of Rule 702 completely or "pay[ing] lip service to the Rule by quoting its language but then proceed to ignore its text for the remainder of the opinion").

275. Daubert v. Merrell Dow Pharms., Inc., 509 U.S. 579, 601 (1993) (Rehnquist, J., dissenting).

276. *Id.* at 599.

analysis.[277] Edward K. Cheng has explained that given the limited time that judges spend with scientific evidence in a case, they are barely able to "acquire a surface-level understanding of the material, let alone develop the expertise necessary to make informed judgments."[278] And, in a court setting, a judge is attempting to learn from "warring experts," which requires the judge to "have a higher level of expertise than the disputants themselves."[279] In areas of scientific complexity, it seems that judges have been set up to fail.

However, it appears that when there are clear differences in the reliability of the evidence presented, as there are for the disputes discussed in this Article, judges *are* able to effectively evaluate scientific evidence and weed out junk science.[280] Judges in the cases reviewed were able to understand the underlying science and identify the flaws in the antiabortion experts' methodologies.[281] And they did not need a *Daubert* motion to do it.

3. Judicial Decisions Are Not Enough to Stop Antiabortion Junk Science

Antiabortion experts did not just reappear in the same case; they repeatedly brought their junk science to multiple courts—even after other courts found them to lack credibility. A Tennessee court wrote

277. *See* Joëlle Anne Moreno, *Einstein on the Bench?: Exposing What Judges Do Not Know About Science and Using Child Abuse Cases to Improve How Courts Evaluate Scientific Evidence*, 64 OH. ST. L.J. 531, 544 (2003) ("Researchers found that the overwhelming majority of judges have no working understanding of two of the four *Daubert* criteria."); Jules Epstein, *The National Commission on Forensic Science: Impactful or Ineffectual?*, 48 SETON HALL L. REV. 743, 757 (2018) ("Studies have shown an appalling lack of understanding of *Daubert*/Rule 702 terms such as 'error rate.'").

278. Cheng, *supra* note 199, at 416.

279. *Id.* at 418 (emphasis omitted).

280. This Article is solely focused on the behavior of district court judges. Others have discussed how appellate courts and the U.S. Supreme Court have treated junk science in abortion. *See* Ahmed, *supra* note 34; Moreno, *supra* note 33; Borgmann, *supra* note 34.

281. *See* Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488, 535–38, 545–49 (M.D. Tenn. 2020); Whole Woman's Health All. v. Hill, 493 F.Supp. 3d 694, 713 (S.D. Ind. 2020); Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1300 (E.D. Ark. 2019); Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985, 988 (M.D. Tenn. 2021).

that "Dr. Coleman's testimony [is] not credible and not worthy of serious consideration"[282] and "the reliable research on this subject clearly demonstrates that undergoing an abortion does not increase the risk that patients will experience negative mental health consequences."[283] Dr. Coleman then submitted an expert report presenting the same evidence in a case in Florida,[284] continuing to promote her study that the Tennessee court said "has serious flaws and can therefore be given no weight."[285] Similarly, a court in Arkansas said that "Dr. Harrison's statements regarding the incidence of complications from medication abortions must be rejected."[286] She continued to present the same evidence in multiple cases after this.[287] Despite a federal judge in North Dakota finding there was "no real, serious debate within the medical profession" about medication abortion reversal,[288] antiabortion experts continued to promote this false theory in multiple other cases.[289] If junk science theories are repeatedly rejected by courts—as well as the mainstream scientific community—we would expect that eventually they would fade away. A forensic scientist in the 1980s and 1990s would repeatedly testify in capital cases, claiming that it was "'a matter of medical certainty' that the defendant would repeat offend," despite evidence showing that his

282. *Adams*, 494 F. Supp. 3d at 538.

283. *Id.* at 562.

284. Supplemental Declaration and Rebuttal Report of Priscilla K. Coleman, Ph.D. at 44–53, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct., Nov. 1, 2021).

285. *Adams*, 494 F. Supp. 3d at 551.

286. Planned Parenthood Ark. & E. Okla. v. Jegley, No. 4:15-cv-00784-KGB, 2018 WL 3029104, at *42 (E.D. Ark. June 18, 2018).

287. Declaration of Donna Harrison, M.D., Jackson Women's Health Org. v. Dobbs, No. 3:18-CV-00171 (S.D. Miss. Apr. 24, 2020); S. Wind Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219, 1227 (W.D. Okla. 2020); Whole Woman's Health All. v. Rokita, 553 F. Supp. 3d 500, 515 n.7 (S.D. Ind. 2021).

288. Am. Med. Ass'n v. Stenehjem, 412 F. Supp. 3d 1134, 1151 (D.N.D. 2019).

289. Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985, 992–96 (M.D. Tenn. 2021); All-Options, Inc. v. Att'y Gen. of Ind., 546 F. Supp. 3d 754, 760–62 (S.D. Ind. 2021).

predictions were extremely unreliable.[290] He was kicked out of the American Psychiatric Association[291] and eventually "[t]he calls for [his] assistance dwindled."[292] Yet, this did not happen in the case of antiabortion expert witnesses. Antiabortion litigants were not deterred when their experts were found to lack credibility.

4. Consequences

While it is encouraging that most district court judges eventually discounted junk science, there were still consequences from the recurring presence of junk science throughout abortion litigation. Litigating issues that have been firmly decided by the scientific community, and by many other courts, wasted judicial resources, encouraged an entrenchment of junk science experts, hurt courts' credibility, and impacted the overall strength of reproductive rights litigation—and thereby hindered access to abortion care.

Litigating junk science used significant judicial and legal resources. If a case made it through discovery, typically the junk science expert and rebuttal experts provided multiple expert declarations.[293] The experts would be deposed, and their opinions incorporated into summary judgment briefing by the parties.[294] The

290. Brian Sites, *The Danger of Future Dangerousness in Death Penalty Use*, 34 FLA. ST. U. L. REV. 959, 992 (2007); Thomas Regnier, *Barefoot in Quicksand: The Future of "Future Dangerousness" Predictions in Death Penalty Sentencing in the World of* Daubert *and* Kumho, 37 AKRON L. REV. 469, 481 (2004).

291. Sites, *supra* note 290.

292. Mike Tolson, *Effect of "Dr. Death" and His Testimony Lingers*, HOUS. CHRON. (June 17, 2004), https://www.chron.com/news/houston-texas/article/Effect-of-Dr-Death-and-his-testimony-lingers-1960299.php.

293. For example, in *Gainesville*, Dr. Coleman provided both an expert declaration and a 147-page supplementary declaration, and two additional experts had to be brought in to rebut her opinions. *See* State v. Gainesville Woman Care, LLC, 278 So. 3d 216, 219, 221 (Fla. Dist. Ct. App. 2019); Supplemental Declaration and Rebuttal Report of Priscilla K. Coleman, Ph.D., State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Nov. 1, 2021); Expert Declaration of Julia Steinberg, Ph.D., State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Mar. 2, 2022); Expert Declaration of Jeffrey Huntsinger, Ph.D., State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Mar. 2, 2022).

294. Transcript of Deposition of Priscilla K. Coleman, Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 20, 2022);

parties may have also filed *Daubert* motions to exclude the experts' testimony.[295] And if a case made it to trial, then the experts presented live testimony and were crossed-examined.[296] Both the parties and the judge devoted significant time to understanding the underlying scientific evidence.

Even cases that did not make it to discovery involved significant resources. To decide a motion for a preliminary injunction in *Little Rock Family Planning Services v. Rutledge*, the court reviewed seven declarations about the safety of abortion, multiple motions to exclude expert testimony, and live expert testimony.[297] This is a significant amount of time and work for an issue that has been firmly decided by the medical community, and already heard and decided by many courts.

Wasting judicial resources is harmful in several ways. Courts have too many cases on their dockets and so wasteful litigation hinders access to justice; when resources are used on one case, other cases may languish.[298] Some scholars believe that the lack of efficiency in the judicial system also contributes to a low public opinion of legal proceedings.[299] Wasting resources on junk science in abortion litigation contributed to these problems.

Transcript of Deposition of Julia Steinberg, Ph.D., Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 21, 2022); Transcript of Deposition of Jeffrey Huntsinger, Ph.D., Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 10, 2022); Statement of Undisputed Material Facts Submitted in Support of Defendants' Motion for Summary Judgment at 5, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Feb. 8, 2022); Plaintiffs' Opposing Statement of Material Disputed Facts at 6–7, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Mar. 4, 2022).

295. Order on *Daubert* Motions, Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Mar. 21, 2022).

296. Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488, 532–41, 545–51 (M.D. Tenn. 2020).

297. Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1221, 1228, 1241, 1244, 1246, 1253–56 (E.D. Ark. 2019).

298. Austen L. Parrish, *Duplicative Foreign Litigation*, 78 GEO. WASH. L. REV. 237, 245 (2010) ("The concern for conserving scarce judicial resources should not be downplayed: the backlog of cases in U.S. courts threatens access to justice.").

299. For instance, scholars have stated:

Here, the wasteful litigation also impacted reproductive rights litigation and access to abortion around the country. Starting in 2010, more state abortion restrictions and bans went into effect each year.[300] In 2021, there were 106 restrictions enacted, the highest since *Roe v. Wade* was decided in 1973.[301] When litigation over a single restriction lasted many years and required ten to fifteen attorneys, abortion advocates could not challenge every restriction that went into effect.[302] For example, while litigants challenged medication abortion reversal bills in several states, similar bills went unchallenged and are in effect in a number of other states.[303] Furthermore, when abortion advocates had to spend their time seeking to prevent more restrictive laws from going into effect, they were not able to devote resources to litigation that would expand access to reproductive rights. The legal waste created by junk science evidence limited the ability of reproductive rights advocates to protect and expand access to abortion.

The continued use of junk science also encouraged its entrenchment in the legal system and beyond. Experts like Dr. Coleman and Dr. Harrison created an industry for themselves serving as expert witnesses in abortion litigation. They were highly compensated for their work, which was based on the number of hours

> [T]he efficiency of the system is seen as inextricably linked to the public's confidence in it. More than one court has noted that the delays and adversarial foot-dragging is "exactly the type of conduct that the public finds abhorrent and that contributes to the low esteem that the bar is currently trying to reverse."

Judith A. McMorrow et al., *Judicial Attitudes Toward Confronting Attorney Misconduct: A View from the Reported Decisions*, 32 HOFSTRA L. REV. 1425, 1447 (2004) (citation omitted).

300. *Last Five Years Account for More Than One-Quarter of All Abortion Restrictions Enacted Since* Roe, *supra* note 81.

301. Elizabeth Nash, *For the First Time Ever, U.S. States Enacted More Than 100 Abortion Restrictions in a Single Year*, GUTTMACHER INST. (Oct. 4, 2021), https://www.guttmacher.org/article/2021/10/first-time-ever-us-states-enacted-more-100-abortion-restrictions-single-year.

302. For example, in *Adams*, the case was filed in 2015, and the district court judge reached a decision in 2020 after trial. Sixteen attorneys were listed as representing the lead plaintiff. Civil Docket, 494 F. Supp. 3d 488 (M.D. Tenn. 2020) (No. 3:15-cv-00705).

303. *See e.g.* ARK. CODE ANN. § 20-16-1703 (2021); ARK. CODE ANN. § 20-16-1704 (2019); IDAHO CODE § 18-609 (2021); KY. REV. STAT. ANN. (West 2019) § 311.725; KY. REV. STAT. ANN. (West 2022) § 311.774.

they spent on a case.[304] They claimed to devote significant time to research and review of the literature in their fields, which then generated more material for both legal cases and their antiabortion policy work. Dr. Harrison said that she spent "50 hours per week reviewing the medical literature for the effects of abortion on women, teaching physicians and other health care personnel about the medical literature, and making that information known by way of scientific publication and through the AAPLOG [American Association of Pro-Life Obstetricians and Gynecologists] website."[305] Dr. Coleman said she spent approximately 140 hours working on an expert report for one case.[306] She then incorporated her theories created from reviewing the literature into articles she published in conservative journals and presentations she made at antiabortion conferences, which she could then refer back to in her role as expert witness.[307] It was a self-sustaining cycle that further embedded these experts' ideas in court cases and public opinion.

Over time, Drs. Coleman and Harrison vastly expanded the topics they would cover as experts. Dr. Harrison, despite not practicing medicine for twenty years, provided expert opinions on the safety of medication abortion, medication abortion reversal, the efficacy of fetal screenings and diagnostic tests, and fetal viability.[308] Dr. Coleman, a

304. Dr. Harrison charged $350 per hour. *See* Declaration of Donna Harrison, M.D. at 4, All-Options, Inc. v. Att'y Gen. of Ind., 546 F. Supp. 3d 754 (S.D. Ind. 2021) (No. 1:21-CV-1231). Dr. Coleman charged $250 per hour. *See* Transcript of Deposition of Priscilla K. Coleman, Ph.D. at 121:6–24, Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 20, 2022). This led to substantial income from expert witness services. For example, Dr. Coleman earned approximately $50,000 for writing an expert declaration and supplementary declaration. *See id.*

305. Declaration of Donna Harrison, M.D. at 3, *All-Options, Inc.*, 546 F. Supp. 3d 754 (No. 1:21-CV-1231).

306. Transcript of Deposition of Priscilla K. Coleman, Ph.D. 121:6–24, *Gainesville*, No. 2015-CA-001323.

307. *See* Exhibit A, Curriculum Vitae of Priscilla Coleman, Supplemental Declaration and Rebuttal Report of Priscilla K. Coleman, Ph.D., State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Nov. 1, 2021).

308. Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1255 (E.D. Ark. 2019); Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp.

psychologist, provided expert opinions on the safety of abortion, abortion stigma, the relationship between abortion and poverty, the psychology of decision-making, and medical informed consent.[309] In a 2021 expert report, she developed a new theory that patients experiencing domestic violence or trafficking were regularly coerced by their abusers or traffickers to have abortions, based on anecdotal news stories and unreliable data.[310]

Litigating new theories such as these not only further wasted judicial and legal resources, but legislators could use newly developed theories to support new abortion restrictions and bans around the country. For example, Dr. Delgado's theory about medication abortion reversal inspired fourteen states to pass laws requiring doctors to tell their patients about it.[311] Allowing antiabortion advocates to make a living serving as experts in abortion litigation entrenched junk science in courts, legislatures, and public opinion.

Finally, the recurring introduction of junk science by antiabortion experts can impact the public's confidence in the judiciary. In most legal cases, there will be a factual dispute; "that is, after all, what an adversarial system is all about."[312] However, another crucial principle in our legal system is that disputes over issues of fact or law must eventually end.[313] An adjudicator's judgments "must mean something with bindingness."[314] If a litigant's argument can be thoroughly debunked by one court, and they simply move on to the next court to make the same argument, seeking a different result, this weakens the respect the public has for judicial decision-making. While there are many factors that contribute to the low regard that the public has for the judiciary, this kind of litigation tactic enhances a sense that

3d 985, 995–96 (M.D. Tenn. 2021); S. Wind Women's Ctr. v. Stitt, 455 F. Supp. 3d 1219, 1227 (W.D. Okla. 2020).

309. Supplemental Declaration and Rebuttal Report of Priscilla K. Coleman, Ph.D. at 6–10, State v. Gainesville Woman Care, LLC, No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Nov. 1, 2021).

310. *Id.* at 76–93.

311. Sara K. Redd et al., *Medication Abortion "Reversal" Laws: How Unsound Science Paved the Way for Dangerous Abortion Policy*, 113 AM. J. OF PUB. HEALTH 202, 204 tbl. 1 (2023).

312. Larsen, *supra* note 20, at 179.

313. Kevin M. Clermont, *Res Judicata as Requisite for Justice*, 68 RUTGERS U. L. REV. 1067, 1069 (2016).

314. *Id.* at 1067.

the courts do not provide justice.[315] Allison Orr Larsen has argued that by standing up against junk science, judges can play a crucial role in maintaining our democracy.[316] But even when they do, as in the abortion context, our legal system suffers when litigants can peddle junk science from court to court without restrictions or consequences.

IV. SOLUTIONS

Scholars often suggest that problems related to the use of junk science in litigation can be solved by adjustments to the *Daubert* framework.[317] But because filing *Daubert* motions does not address junk science early enough, nor prevent repeated reliance on junk science across cases,[318] adjusting the standard by which a judge evaluates expert evidence is rarely useful in the abortion context.

This section proposes three solutions to address the abundance of antiabortion junk science in abortion litigation, while also recognizing that each solution has limitations. Attorneys filing *Daubert* motions at the preliminary injunction stage and judges excluding the junk science from the remainder of the case could stop junk science from infecting a case from the beginning and then lingering throughout a case. The consolidation of pretrial proceedings across abortion litigation in a multi-district litigation could avoid repetitive argument and evaluation of junk science. And finally, filing motions for Rule 11 sanctions against antiabortion litigants could prevent them from continuing to introduce junk science. While these solutions are considered here in the context of abortion litigation, they may also be relevant to other litigation contexts infected with junk science.

A. Solutions Meant to Reduce Admission of Junk Science Are Rarely

315. Andrew Strickler, *Americans' Confidence in The Judiciary Is In Steep Decline*, LAW360 (Dec. 8, 2022, 2:32 PM), https://www.law360.com/pulse/articles/1555991/americans-confidence-in-the-judiciary-is-in-steep-decline.

316. Larsen, *supra* note 20.

317. *See infra* Section IV.A.

318. *See supra* Section III.B.

Useful in the Abortion Context

Scholars are often interested in adjustments to *Daubert* that will prevent junk science from influencing a case's outcome. As the review of cases demonstrated, this is not the problem in abortion litigation: most judges did not credit junk science about mental health and abortion, the safety of abortion, and medication abortion reversal in their decisions. Therefore, the solutions that these scholars suggest might minimally reduce the presence of junk science in a case but will not truly address the proliferation of junk science in and across cases.

Some scholars have suggested that litigants filing more *Daubert* motions and judges better understanding *Daubert*'s mandates could help to prevent the admission of junk science.[319] They have even suggested changes to the language of *Daubert* to make it easier for judges to correctly apply.[320]

Improved understanding and use of *Daubert* by parties and judges could slightly reduce the resources needed to combat junk science in abortion litigation. Abortion rights litigants did not always challenge junk science testimony.[321] If they could exclude junk science testimony before trial, this would reduce the resources needed to rebut it at trial and remove it from lingering in a case. Of course, litigants may have calculated that judges were unlikely to grant a *Daubert* motion and did not want to devote resources to briefing one.

Judges would need to play their role by properly excluding unreliable evidence. If a judge later rejected the junk science, there is no reason they could not make that determination at the *Daubert* stage.[322] If simplifying the language of Federal Rule of Evidence 702

319. Hilbert, *supra* note 27, at 819; Bernstein, *supra* note 29, at 31.

320. Garrett & Fabricant, *supra* note 198, at 1580; Bernstein & Lasker, *supra* note 274, at 46.

321. For example, abortion providers did not challenge the testimony of Dr. Harrison in *Whole Woman's Health All. v. Hill*. *See* Plaintiffs' Memorandum of Law in Support of Their Motion to Exclude Expert Testimony at 2, Whole Woman's Health All. v. Rokita, No. 1:18-CV-01904-SEB-MJD, 2021 WL 650589 (S.D. Ind. Feb. 19, 2021).

322. *See, e.g.*, Adams & Boyle, P.C. v. Slatery, 494 F. Supp. 3d 488, 500, 561–62 (M.D. Tenn. 2020).

made it easier for judges to make these determinations, then this seems worthwhile.[323]

However, as previously discussed, by the time litigants file *Daubert* motions, the junk science has already spent significant time in the case.[324] The judge may have decided a motion for a preliminary injunction based on supporting expert declarations and live expert testimony in a hearing, and the experts have already submitted expert reports and been deposed. Even if a judge correctly excluded unreliable evidence, there are only small benefits gained, particularly when weighed against the resources needed to file and decide a *Daubert* motion. And this does nothing to address the problem of recurring junk science across cases.

The most common suggestion to prevent the admission of junk science in litigation is the use of a neutral expert, but this solution is both unnecessary and unhelpful to abortion litigation. Scholars often suggest the use of a neutral expert because they can provide judges with a guiding light to cut through the opinions of adverse experts.[325] However, because judges are correctly assessing the antiabortion junk science, it appears that they do not require help understanding it.

Additionally, the use of a neutral expert would likely only bog down the litigation. An expert appointed by the court pursuant to Federal Rule of Evidence 706 writes their own expert report, and can be deposed and cross-examined by the parties.[326] Because the parties can, and likely would, call their own experts, adding a neutral expert would only increase the judicial and legal resources required for a

323. Bernstein & Lasker, *supra* note 274, at 46.

324. *See supra* Section III.B.1.

325. Peter J. Goss et al., *Clearing Away the Junk: Court-Appointed Experts, Scientifically Marginal Evidence, and the Silicone Gel Breast Implant Litigation*, 56 FOOD & DRUG L.J. 227, 232 (2001); Joe S. Cecil & Thomas E. Willging, *Accepting* Daubert*'s Invitation: Defining A Role for Court-Appointed Experts in Assessing Scientific Validity*, 43 EMORY L.J. 995, 997, 1022 (1994); David E. Bernstein, *Expert Witnesses, Adversarial Bias, and the (Partial) Failure of the* Daubert *Revolution*, 93 IOWA L. REV. 451, 475 (2008).

326. FED. R. EVID. 706(b); Cecil & Willging, *supra* note 325, at 1035.

case.[327] Similarly, a special master appointed pursuant to Federal Rule of Civil Procedure 53 evaluates the parties' evidence and make recommendations to the judge, which the parties are able to challenge.[328] The parties would still need to present all of their evidence, and while the judge would not need to devote as much energy to understanding the science, they would still need to be able to evaluate any challenges to it. Involving a court-appointed expert or a special master is expensive for the parties and often further delays a case.[329] It would also do nothing to address the problems of recurrent junk science in abortion litigation.

B. Daubert *at the Preliminary Injunction Stage*

1. Proposal

Excluding junk science at the preliminary injunction stage and barring it from returning would reduce the prevalence of antiabortion junk science in litigation. In the abortion litigation reviewed, the abortion rights litigants often filed a motion for a preliminary injunction to enjoin a restriction or ban, and the antiabortion junk science would enter the case at this stage through expert declarations or expert testimony at an evidentiary hearing.[330] The junk science would then linger throughout the rest of the case, requiring significant

327. FED. R. EVID. 706(e). Samuel Gross described replacing all adversarial experts with court-appointed experts as the "obvious" solution to many *Daubert* problems. This would likely also address junk science problems in abortion litigation. However, he ultimately concluded that it was unworkable in our common law system because adversarial parties are responsible for the presentation of evidence. *See* Samuel R. Gross, *Expert Evidence*, 1991 WIS. L. REV. 1113, 1220–21 (1991).

328. FED. R. CIV. P. 53; Luis Balart, Comment, *Having Your Cake and Eating It, Too: Using Special Masters in* Daubert *Hearings to Promote Scientific Analyses of Expert Testimony*, 80 LA. L. REV. 847, 868 (2020).

329. Litigants assume the cost of a special master or court-appointed expert. *See* FED. R. EVID. 706(c)(2); FED. R. CIV. P. 53(g)(2); *see also* Margaret G. Farrell, *Coping with Scientific Evidence: The Use of Special Masters*, 43 EMORY L.J. 927, 985 (1994) ("In addition to costs, delay is cited most often as a reason why masters should not be appointed except in extraordinary circumstances.").

330. *See supra* pp. 42–44.

resources of the court and litigants.[331] Using a *Daubert* motion at this stage could have a significant impact.

Of the twenty-four cases examined, abortion rights litigants attempted to exclude evidence at the preliminary injunction phase in only one, and it was unsuccessful. In *Planned Parenthood of Tennessee & North Mississippi v. Slatery*, the plaintiffs filed a motion to exclude testimony from Drs. Harrison, Delgado, and Boles about the science behind medication abortion reversal prior to the evidentiary hearing.[332] The court denied the motion and told the parties they could "pursue those challenges during the preliminary injunction hearing, through cross examination, and, if appropriate, contemporaneous objection."[333] The court ultimately found that "neither Dr. Delgado's research nor his biological explanation supports the idea that an abortion can be undone or negated," and preliminarily enjoined the law.[334]

In order for *Daubert* motions like these to be effective, judges must (1) evaluate and exclude junk science under *Daubert* following a preliminary injunction evidentiary hearing, and (2) make determinations from the preliminary injunction binding on the remainder of the case. While this would be an unusual procedure, it is within a judge's authority and would align with the nature of preliminary injunctions in abortion litigation.

There is typically a lesser evidentiary standard applied to a preliminary injunction proceeding. A preliminary injunction is described as "an extraordinary remedy"[335] that is meant "merely to preserve the relative positions of the parties until a trial on the merits can be held."[336] Therefore, the standards by which a court considers the admissibility of evidence for this remedy do not need to correspond to the requirements of the Federal Rules of Evidence, including Rule

331. *See supra* Section III.B.

332. Order, Planned Parenthood of Tenn. & N. Miss. v. Slatery, 523 F. Supp. 3d 985 (M.D. Tenn. 2021) (No. 3:20-CV-00740) (ECF No. 60).

333. *Id.*

334. *Slatery*, 523 F. Supp. 3d at 1003, 1006.

335. Winter v. Nat. Res. Def. Council, Inc., 555 U.S. 7, 24 (2008).

336. Univ. of Texas v. Camenisch, 451 U.S. 390, 395 (1981).

702.[337] Some courts have interpreted this to mean that the Federal Rules of Evidence do not apply at all to the preliminary injunction stage.[338] Other courts do not exclude evidence from their consideration, but use the *Daubert* test to determine how much weight evidence should be given.[339]

But a judge evaluating antiabortion junk science can, and in fact should, apply *Daubert* to expert testimony at the preliminary injunction phase. While the Supreme Court has said that preliminary injunctions are "customarily granted" with less formal procedures, they have not barred the application of evidentiary rules and use of *Daubert* at this stage.[340] The attention often given to factual disputes at the preliminary injunction stage in abortion litigation by both the parties and the court demonstrates that the court is doing far more than simply "preserv[ing]" the parties' "relative positions."[341]

In the cases examined, because a decision at the preliminary injunction stage was a crucial part of abortion litigation, these were often not informal proceedings. Since many cases became tied up in interlocutory appeals, a district court judge's preliminary injunction opinion was significant. For example, in *Rutledge*, the court preliminarily enjoined two abortion restrictions on August 6, 2019,[342] and the preliminary injunction remained in place until plaintiffs

337. The Supreme Court has said that "a preliminary injunction is customarily granted on the basis of procedures that are less formal and evidence that is less complete than in a trial on the merits." *Id.*

338. *See, e.g.*, Heideman v. S. Salt Lake City, 348 F.3d 1182, 1188 (10th Cir. 2003) ("The Federal Rules of Evidence do not apply to preliminary injunction hearings.").

339. *See* Okla. *ex rel.* Edmondson v. Tyson Foods, No. 05-CV-329-GKF-SAJ, 2008 WL 4453098, at *4 (N.D. Okla. Sept. 29, 2008), *aff'd sub nom.* Att'y Gen. of Okla. v. Tyson Foods, 565 F.3d 769 (10th Cir. 2009) (finding that the testimony of two experts "presented at the hearing are not sufficiently reliable under the standards enunciated in *Daubert*").

340. *Camenisch*, 451 U.S. at 395. Further, in drafting the amendment to Rule 702 in 2000, the Advisory Committee said, "[t]he amendment makes no attempt to set forth procedural requirements for exercising the trial court's gatekeeping function over expert testimony." FED. R. EVID. 702 advisory committee's notes to the 2000 amendment.

341. *Camenisch*, 451 U.S. at 395.

342. Little Rock Fam. Plan. Servs. v. Rutledge, 397 F. Supp. 3d 1213, 1324 (E.D. Ark. 2019).

voluntarily dismissed their case in July 2022 following *Dobbs*.[343] For almost three years, the court's decision on the motion for a preliminary injunction was the law in Arkansas.[344] Arriving at this decision required significant effort from the parties and the court. Numerous experts submitted declarations and testified at an evidentiary hearing.[345] The judge carefully weighed the evidence and issued a 105-page opinion granting the preliminary injunction.[346] In situations like this, it is reasonable for *Daubert* to apply.

It would make most sense for the judge to exclude evidence after an evidentiary hearing. While *Daubert* motions are often filed before experts testify to keep unreliable evidence from reaching a jury, here that is not a concern.[347] Deciding *Daubert* motions after a hearing would allow the parties to cross-examine witnesses and would give the judge a fuller picture of the evidence. While an evidentiary hearing would require some litigant and court resources, it would pay dividends if it excluded junk science evidence for the remainder of the case.

If litigants filed *Daubert* motions regarding the junk science discussed in this Article and judges properly applied the *Daubert* standard, this evidence should be excluded. As discussed in Part II, there is no question that this evidence is junk science. Judges should find it unreliable and exclude it from being considered in their evaluation of a motion for a preliminary injunction.

Once a judge has excluded junk science at the preliminary injunction stage, this decision should be binding on the rest of the case. In *University of Texas v. Camenisch*, the Supreme Court said that since a preliminary injunction is only meant to preserve the parties' positions,

343. Notice of Voluntary Dismissal, Little Rock Fam. Plan. Servs. v. Rutledge, No. 4:19-cv-00449 (E.D. Ark. July 15, 2022).

344. The Eighth Circuit affirmed the District Court's decision on January 5, 2021. Little Rock Fam. Plan. Servs. v. Rutledge, 984 F.3d 682 (8th Cir. 2021), *cert. granted, judgment vacated*, 142 S. Ct. 2894 (2022), *and abrogated by* Dobbs v. Jackson Women's Health Org., 597 U.S. 215 (2022).

345. *Rutledge*, 397 F. Supp. 3d at 1221–60.

346. *Id.* at 1220–1324.

347. *See, e.g.*, Deal v. Hamilton Cnty. Bd. of Educ., 392 F.3d 840, 851 (6th Cir. 2004) ("[D]istrict courts must act as 'gatekeepers' to protect juries from misleading or unreliable expert testimony.").

"and given the haste that is often necessary if those positions are to be preserved, a preliminary injunction is customarily granted on the basis of procedures that are less formal and evidence that is less complete than in a trial on the merits."[348] Therefore, "the findings of fact and conclusions of law made by a court granting a preliminary injunction are not binding at trial on the merits."[349]

However, again, the nature of preliminary injunctions in abortion litigation suggests otherwise. As discussed above, these preliminary injunction proceedings are not hasty or informal. Furthermore, the evidence that an antiabortion expert provides in a declaration is often substantially similar to the evidence presented in their expert report.[350] If a judge were to mandate that the parties must present all of their evidence regarding certain factual disputes at the preliminary injunction stage, the presentation of evidence would likely change very little. This should mitigate any concerns that binding determinations from a preliminary injunction prevent a party from adequately proving its case.

At least one federal court has found that *Camenisch* does not prohibit binding preliminary injunction rulings.[351] In *AM General Corp. v. DaimlerChrysler Corp.*, the court explained that the Supreme Court generally follows *Camenisch* "only after examining the specific circumstances of the preliminary injunction hearing at issue."[352] In *AM General Corp.*, "[t]he extensiveness and timing of the preliminary injunction hearing . . . ma[de] th[e] case far different from

348. Univ. of Texas v. Camenisch, 451 U.S. 390, 395 (1981).

349. *Id.*

350. For example, in *Oklahoma Coal. for Reprod. Just. v. Cline*, the affidavits that Dr. Harrison provided in support of the Defendants' Opposition to Plaintiffs' Motion for a Preliminary Injunction were nearly identical. *See* Aff. of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Oct. 20, 2014); Aff. of Donna Harrison, M.D., Okla. Coal. for Reprod. Just. v. Cline, No. CV-2014-1886 (Okla. Dist. Ct. Mar. 2, 2015).

351. AM Gen. Corp. v. DaimlerChrysler Corp., 246 F. Supp. 2d 1030, 1035 (N.D. Ind. 2003).

352. *Id.*; *see also* Don King Prods., Inc. v. Douglas, 742 F. Supp. 741, 754 (S.D.N.Y.), *on reargument*, 742 F. Supp. 786 (S.D.N.Y. 1990) ("There are exceptions to the general rule [that findings and intermediate conclusions made in a preliminary proceeding are not given preclusive effect], arising in circumstances where a ruling is rendered 'practically' final owing to factors demonstrating 'that it was not avowedly tentative . . . .'").

[*Camenisch*]," and so the court's decision on the motion for preliminary injunction was the "law of the case."[353]

The Federal Rules of Civil Procedure provide further support for this procedure. Rule 65(a)(2) allows for consolidation of a preliminary injunction hearing with a trial on the merits,[354] particularly when "a substantial part of the evidence offered on the application will be relevant to the merits and will be presented in such form as to qualify for admission on the trial proper."[355] A full consolidation of an abortion case might not be warranted, as presumably there would be other factual and legal issues in the case which require a more developed record. But a judge could conduct a preliminary injunction hearing in which the parties had an opportunity to present their expert evidence regarding certain scientific disputes, the rules of evidence applied, and the judge's findings of fact on these disputes governed the remainder of the case.

This posture would allow abortion litigants and judges to set aside junk science early in the case. A judge finding junk science unreliable would render further discovery and briefing on these issues unnecessary, preserving resources and preventing further junk science entrenchment.

2. Concerns

Both judges and litigants may be wary of this proposal, but these concerns can be overcome. Judges may be hesitant to approach preliminary injunctions differently from the norm, particularly considering the Supreme Court's language in *Camenisch.*[356] However, it is so demonstratively wasteful to both courts and litigants to keep junk science throughout a case that some courts might be willing to try for purposes of efficiency.[357]

353. 246 F. Supp. 2d at 1033, 1035.

354. FED. R. CIV. P. 65(a)(2).

355. FED. R. CIV. P. 65(a)(2) advisory committee's note to 1966 amendments.

356. Univ. of Texas v. Camenisch, 451 U.S. 390, 395 (1981).

357. *See supra* Section III.B.4.

Litigants may be uncomfortable with binding findings of fact without first deposing experts and building more of a record. They may want to conduct discovery during the preliminary injunction phase. This would move discovery, and the resources associated with it, earlier in the case rather than eliminating them. Early discovery could still reduce the time that junk science lingers in a case and prevent the same disputes from arising in the context of the preliminary injunction and again at summary judgment or trial.

But litigants should not be afraid to eliminate discovery on these issues, as there is little to be gained by further developing the record on these theories of junk science. The antiabortion experts have been deposed many times,[358] and it is unlikely that they would present new evidence that cannot be adequately addressed through rebuttal declarations and cross-examination at an evidentiary hearing. Devoting additional and unnecessary resources to the junk science only serves to further entrench it in our legal system.[359]

C. Use of Multi-District Litigation

1. Proposal

Using multi-district litigation ("MDL") could solve the problem of repetitive argument and evaluation of junk science in abortion litigation. 28 U.S.C. § 1407 authorizes a panel of seven federal judges to centralize cases for all pretrial proceedings before one federal district court.[360] An MDL is only appropriate when (1) the cases involve "one or more common questions of fact," (2) the MDL will be "for the

358. *See, e.g.*, Remote Videotaped Deposition of Priscilla K. Coleman, Ph.D., 367:15–369:10, Gainesville Woman Care, LLC v. Fla., No. 2015-CA-001323 (Fla. 2d Cir. Leon Cnty. Ct. Jan. 20, 2022); Transcript of Deposition of Priscilla Coleman, Ph.D., 238:23–239:2, Adams & Boyle, P.C. v. Slatery, No. 3:15-CV-00705 (M.D. Tenn. Sep. 26, 2018); Remote Videotaped Deposition of Donna Harrison, M.D., Jackson Women's Health Org. v. Dobbs, No. 3:18-CV-00171 (S.D. Miss. Feb. 25, 2021); Transcript of Deposition of Donna Harrison, M.D., Planned Parenthood of Tenn. and N. Miss. v. Slatery, No. 3:20-CV-00740 (M.D. Tenn. Nov. 13, 2020).

359. *See supra* pp. 63–66.

360. 28 U.S.C. § 1407; Andrew J. Trask, *Ten Principles for Legitimizing MDLs*, 44 AM. J. TRIAL ADVOC. 113, 117 (2020). "The Panel has developed various criteria for determining the most appropriate jurisdiction" to send the centralized cases. *See* Smith, *supra* note 200, at 224.

convenience of parties and witnesses," and (3) the MDL will "promote the just and efficient conduct" of the cases.[361] A party to a case can file a motion to centralize or the panel can act on its own initiative.[362] Once the designated MDL court has issued decisions on pretrial proceedings such as discovery disputes, dispositive motions (such as motions to dismiss and summary judgment motions), and *Daubert* motions, then the cases return to their original court for disposition.[363] The goal of a MDL is efficiency, to resolve common issues across cases so that each individual case does not need to repeatedly resolve the same issues.[364] After all, any form of duplicative litigation is "patently wasteful."[365]

MDLs have proven effective in addressing junk science in toxic tort litigation. In several cases, the district court presiding over an MDL granted *Daubert* motions that eliminated significant amounts of expert evidence.[366] When the cases were sent back to their individual courts, that ruling either significantly narrowed the issues before the court or resolved them entirely.[367]

Abortion cases with junk science appear suitable for an MDL. Any federal district court case trying to resolve these common factual issues would have them centralized in one court.[368] This would be convenient and efficient because the antiabortion expert witnesses who appeared repeatedly in abortion cases would not need to be repeatedly

361. 28 U.S.C. § 1407(a); Smith, *supra* note 200, at 239.

362. 28 U.S.C. § 1407(c).

363. 28 U.S.C. § 1407(a); Trask, *supra* note 360.

364. Smith, *supra* note 200, at 225.

365. Parrish, *supra* note 298, at 244–45 ("[Duplicative litigation] imposes a heavy financial burden on the parties by forcing them to litigate the same case simultaneously in two places, and sometimes in piecemeal fashion. It also needlessly consumes scarce court resources, as two judges work on the same legal problem.").

366. *See* Smith, *supra* note 200, at 232–43 (discussing *In re* Phenylpropanolamine (PPA) Prods. Liab. Litig., 289 F. Supp. 2d 1230 (W.D. Wash. 2003); *In re* Heparin Prods. Liab. Litig., 803 F. Supp. 2d 712, 720 (N.D. Ohio 2011); *In re* Mirena IUD Prods. Liab. Litig., 202 F. Supp. 3d 304, 327–28 (S.D.N.Y. 2016)).

367. *See* sources cited *supra* note 366.

368. Cases can still be centralized even if the common questions of fact do not "predominate over other questions." *See* Martin H. Redish & Julie M. Karaba, *One Size Doesn't Fit All: Multidistrict Litigation, Due Process, and the Dangers of Procedural Collectivism*, 95 B.U. L. REV. 109, 120 (2015).

evaluated.[369] The presiding judge would decide *Daubert* motions about the reliability of the junk science evidence, and then could send the cases back to the individual courts for final disposition. The abortion litigants would still need to engage in discovery and *Daubert* motion briefing, but they would only have to do it once, saving enormous resources.

2. Concerns

There are important concerns to raise about this proposal. First, antiabortion litigants might oppose centralization. After a party or the panel proposes centralization, the parties can brief the issue and participate in a hearing before the panel.[370] Based on this advocacy, the panel can decide that centralization would not promote just and efficient conduct of the litigation.[371] It serves antiabortion activists to keep these issues tied up in multiple courts: their experts can further entrench their theories and there is a greater chance that one judge will break from the majority and side with them. Even if antiabortion litigants oppose centralization, the panel can still order it over their objections.

Second, abortion cases are filed at different times and proceed at different speeds and so may not be easily centralized. The MDL framework has contemplated this and allows for cases to be later added to an MDL.[372] Because abortion cases are frequently paused while they are appealed to a higher court, enough cases could be in discovery at the same time to make centralization worthwhile.

However, this connects to the most significant, and potentially fatal, problem with using an MDL for abortion litigation: an MDL can only centralize federal court proceedings.[373] Prior to the Supreme

369. 28 U.S.C. § 1407(a).

370. *Id.* § 1407(c).

371. *Id.* § 1407(a); Smith, *supra* note 200, at 222. The court could find there are not enough cases to merit centralization. *See, e.g.*, *In re* Chase Inv. Servs. Corp. Fair Lab. Standards Act (FLSA) and Wage and Hour Litig., 908 F. Supp. 2d 1372, 1373 (J.P.M.L. 2012). Alternatively, the court could find that the common issues do not predominate. *See, e.g.*, *In re* Electrolux Dryer Prods. Liab. Litig., 978 F. Supp. 2d 1376, 1377 (J.P.M.L. 2013).

372. Redish & Karaba, *supra* note 368, at 121.

373. 28 U.S.C. § 1407 is a federal statute.

Court's decision in *Dobbs*, many abortion cases were filed in federal court and so centralization under an MDL would have been more straightforward. Now that there is no federal right to abortion,[374] more abortion cases will be filed in state court, where centralization is not possible.

This is a common problem with MDLs. In many disputes involving multiple cases, it is common for cases to be filed in both federal and state courts, and there is no mechanism to centralize between federal and state or among states.[375] There has been effective coordination between an MDL court and state courts, including conducting joint *Daubert* hearings or inviting state court judges presiding over similar litigation to attend the *Daubert* hearings in the MDL.[376] It is too early to tell how abortion litigation will develop in federal and state courts post *Dobbs* and if an MDL or coordination between an MDL and state courts is even feasible. It is possible that an MDL would have been the correct solution between 2016 and 2022 but no longer is.

D. Use of Rule 11 Sanctions

1. Proposal

Abortion right litigants filing a motion for sanctions against litigants who state junk science evidence as fact might stop the repeated use of antiabortion experts. Federal Rule of Civil Procedure 11(b) requires that in any representation an attorney makes to the court, the attorney must certify that "to the best of the person's knowledge, information, and belief, formed after an inquiry reasonable under the circumstances . . . the factual contentions have evidentiary support or, if specifically so identified, will likely have evidentiary support after a reasonable opportunity for further investigation or discovery."[377] A party can make a motion for sanctions for violation of Rule 11(b) or the

374. Dobbs v. Jackson Women's Health Org., 597 U.S. 215, 231 (2022).

375. Smith, *supra* note 200, at 249.

376. *Id.* at 233, 249.

377. FED. R. CIV. P. 11(b).

court can order an attorney to show why their conduct did not violate Rule 11(b).[378] The sanctions are "limited to what suffices to deter repetition of the conduct or comparable conduct by others similarly situated," which can include both monetary and nonmonetary penalties.[379]

Briefings that incorporate antiabortion junk science could be considered to contain factual contentions that lack evidentiary support.[380] A court must determine "whether a reasonable and competent attorney would believe in the merit of an argument."[381] When pleadings are "either knowingly false or made in reckless disregard for the truth," then they are sanctionable.[382]

Antiabortion litigants might argue that there is some dispute over the theories of junk science they put forward, and they are simply relying on the factual contentions of their experts. However, as discussed in Section II, at this point, it is unreasonable to still believe that these theories have any merit. In *Ideal Instruments Inc. v. Rivard Instruments, Inc.*, the court found it sanctionable when attorneys continued to rely on clearly erroneous expert testimony.[383] The court said "it is simply no excuse for Rivard and its counsel to assert that they relied on an 'expert' for the basis for their original preliminary injunction motion, precisely because the flaws in the 'expert's' evidence should have been so readily apparent on any reasonable examination or inquiry."[384]

Similarly, the junk science evidence discussed in this Article has been so thoroughly discredited by both mainstream scientific

378. *Id.* 11(c)(2)–(3).

379. *Id.* 11(c)(4).

380. *Id.* 11(b)(3).

381. Miller v. Bittner, 985 F.2d 935, 939 (8th Cir.1993) (quotations omitted) (quoting Dodd Ins. Servs. v. Royal Ins. Co. of America, 935 F.2d 1152, 1155 (10th Cir. 1991)).

382. Trump v. Clinton, 640 F. Supp. 3d 1321, 1327 (S.D. Fla. 2022) (finding that the failure to accurately state where a plaintiff lived or what his title was, despite being informed by his attorney, indicated a "cavalier attitude towards facts").

383. Ideal Instruments, Inc. v. Rivard Instruments, Inc., 243 F.R.D. 322, 343 (N.D. Iowa 2007).

384. *Id.* at 342–43.

authorities and numerous federal courts that its "flaws" are "readily apparent on any reasonable examination or inquiry."[385]

The goal of sanctions against antiabortion litigants would be to deter the repeated use of antiabortion junk science in that case or in other abortion cases.[386] To this end, the court could exclude the junk science expert evidence[387] or strike the parts of antiabortion litigants' briefing that relied on the junk science.[388] This would hopefully deter other litigants from putting forward the same evidence in other cases. The court could also order the antiabortion litigants to cover the attorney fees that were required to dispute the junk science or order other kinds of monetary sanctions.[389] Generally, courts try to choose "the least severe sanction adequate to serve the purpose."[390]

2. Concerns

Courts might find it inappropriate to award sanctions in this context. Because abortion is a highly political issue, courts could be hesitant to use sanctions in what could be seen as an unusual circumstance. We often think of sanctions when a party engages in extraordinary misbehavior, such as filing entirely frivolous cases[391] or

385. *Id.* at 343.

386. FED. R. CIV. P. 11(c)(4) ("A sanction imposed under this rule must be limited to what suffices to deter repetition of the conduct or comparable conduct by others similarly situated.").

387. *See, e.g.*, Headley v. Chrysler Motor Corp., 141 F.R.D. 362, 365 (D. Mass. 1991) ("[T]his court finds and concludes that exclusion of any and all expert evidence . . . is the appropriate sanction.").

388. *See, e.g.*, Ivanova v. Columbia Pictures Indus., 217 F.R.D. 501, 512 (C.D. Cal. 2003), *aff'd sub nom.* Laparade v. Ivanova, 116 F. App'x 100 (9th Cir. 2004) ("[T]his Court strikes all alleged facts and references in Ivanova's Complaint which are contrary to known facts.").

389. FED. R. CIV. P. 11(c)(4).

390. Cabell v. Petty, 810 F.2d 463, 466 (4th Cir. 1987).

391. *In re* Engle Cases, 283 F. Supp. 3d 1174, 1243–44 (M.D. Fla. 2017) (ordering sanctions when attorneys filed hundreds of frivolous cases, including some from individuals they knew were dead).

committing fraud.[392] However, moving for sanctions against attorneys who make arguments based on scientific evidence that has been thoroughly and repeatedly disproven seems well within Rule 11.[393]

The other concern is that sanctions would not be a sufficient deterrent. If multiple courts finding junk science evidence unreliable has not convinced antiabortion advocates to stop making these arguments, it is hard to know if excluding the evidence in one case will impact their litigation strategy. Historically, conservative states have not been afraid to spend enormous amounts of money defending restrictions on abortion.[394] However, this concern should not be a barrier, as there is no way to know what will succeed until abortion rights advocates try different strategies.

E. Applicability of Proposals in Contexts Beyond Abortion

This Article is a case study of junk science in abortion, but the solutions proposed here may also be applicable to other kinds of litigation. Allison Orr Larsen has written about the rise of alternative facts, defined as "false but convenient statements of reality," in our society over the last several years.[395] And she has described how these facts increasingly appear in courts and determine important questions of Constitutional law.[396]

The use of expert witness testimony to promote manufactured controversies has become increasingly pervasive. Following the 2020 election, then President Trump and his allies filed over 50 lawsuits

392. Jimenez v. Madison Area Tech. Coll., 321 F.3d 652, 655 (7th Cir. 2003) (finding sanctions appropriate when plaintiff relied on "obviously fraudulent documents") (citing Jimenez v. Madison Area Tech. College, No. 00–C–424, at 14 (W.D.Wis. Aug. 13, 2001)).

393. *See* Ideal Instruments, Inc. v. Rivard Instruments, Inc., 243 F.R.D. 322, 342–43 (N.D. Iowa 2007).

394. Mike Scarcella, *Louisiana to Pay Abortion Case Legal Fees of $3.8 Million*, REUTERS (June 10, 2022), https://www.reuters.com/legal/litigation/louisiana-pay-abortion-case-legal-fees-38-million-2022-06-10; Andrea Zelinski, *Unconstitutional Anti-Abortion Law Costs Texas Another $2.5 Million*, HOUS. CHRON. (Sept. 23, 2019), https://www.houstonchronicle.com/politics/texas/article/Unconstitutional-anti-abortion-law-costs-Texas-14461220.php.

395. Larsen, *supra* note 20, at 178.

396. *Id.* at 182–83.

challenging the results of the election, often based on claims of voter fraud.[397] They used expert witnesses to suggest that voter fraud was a problem,[398] despite overwhelming evidence to the contrary.[399] Similarly, during the height of the COVID-19 pandemic, many lawsuits were brought to challenge state COVID-19 restrictions.[400] Dr. Jay Bhattacharya appeared as an expert witness in at least nine of these cases between 2020 and 2022 to suggest that COVID-19 should be allowed to spread among young, healthy people.[401] "[T]he

397. *Fact Check: Courts Have Dismissed Multiple Lawsuits of Alleged Electoral Fraud Presented by Trump Campaign*, REUTERS (Feb. 15, 2021), https://www.reuters.com/article/uk-factcheck-courts-election/fact-check-courts-have-dismissed-multiple-lawsuits-of-alleged-electoral-fraud-presented-by-trump-campaign-idUSKBN2AF1G1.

398. *See, e.g.*, Donald J. Trump for President, Inc. v. Boockvar, 493 F. Supp. 3d 331, 359 (W.D. Pa. 2020).

399. Andrew C. Eggers et al., *No Evidence for Systematic Voter Fraud: A Guide to Statistical Claims About the 2020 Election*, 118 PROC. NAT'L ACAD. SCIS., no. 45 (Nov. 2, 2021), https://doi.org/10.1073/pnas.2103619118.

400. Bart Jansen, *'Draconian'? 'House Arrest'? Coronavirus Lockdowns Prompt Raft of Lawsuits Against States*, USA TODAY (last updated May 27, 2020, 3:06 PM), https://www.usatoday.com/story/news/politics/2020/05/25/coronoavirus-lockdowns-prompt-raft-lawsuits-against-states/5231533002.

401. Tandon v. Newsom, 517 F. Supp. 3d 922, 956 (N.D. Cal. 2021), *appeal dismissed*, No. 21-15228, 2021 WL 3507736 (9th Cir. July 7, 2021); Declaration of Dr. Jayanta Bhattacharya, M.D., Ph.D., Cal. Rest. Ass'n, Inc. v. Cnty. of L.A. Dep't of Pub. Health, 2020 WL 8410014 (Cal. Super. Dec. 15, 2020) (No. 20STCP03881); Declaration of Dr. Jayanta Bhattacharya, Sid Boys Corp. v. Cuomo, No. 1:20-cv-6249 (E.D.N.Y. Dec. 14, 2020); Rebuttal Declaration of Jayanta Bhattacharya, M.D. in Support of Ex Parte Application for a Temporary Restraining Order and OSC re: Preliminary Injunction, S. Bay United Pentecostal Church v. Newsom, 2021 WL 2250818 (S.D. Cal. June 1, 2021) (No. 3:20-CV-865); R.K. v. Lee, 568 F. Supp. 3d 895, 900–906 (M.D. Tenn. 2021); Declaration of Dr. Jayanta Bhattacharya, Kate v. de Blasio, 2021 WL 8741841 (S.D.N.Y. Oct. 4, 2021), *vacated and remanded sub nom.* Kane v. De Blasio, 19 F.4th 152 (2d Cir. 2021), *and adhered to sub nom.* Kane v. de Blasio, 575 F. Supp. 3d 435 (S.D.N.Y. 2021) (No. 21-CV-7863); Declaration of Jayanta Bhattacharya, M.D., Ph.D., in Support of Plaintiffs' Motion for a Preliminary Injunction, Doe v. San Diego Unified Sch. Dist., No. 3:21-cv-01809-LL-MDD, 2022 WL 3573276 (S.D. Cal. May 11, 2022); Declaration of Dr. Jayanta Bhattacharya, Hartman v. Santa Clara Cnty., No. 4:22-CV-01591-YGR, 2022 WL 3356159 (N.D. Cal. Apr. 2, 2022); Declaration of Jayanta Bhattacharya, M.D., Ph.D., Lemons v. City

overwhelming majority . . . rejected and criticized" this view because it would lead to "uncontrol[able] community spread, strain on the health care system, and excess preventable deaths."[402] Finally, most recently, states have passed a flurry of laws restricting access to healthcare for transgender and non-binary youth.[403] When these laws have been challenged in court, states have put forward expert witnesses to testify that "surgical treatments for gender dysphoria are not supported by rigorous scientific study and pose severe health risks."[404] Courts have not credited this testimony, recognizing that "decades of clinical experience in addition to a body of scientific research demonstrate the effectiveness of these treatments."[405]

In each of these situations, litigants relied on the same junk science evidence across multiple cases. The solutions discussed in this Article might provide a way to prevent these, and other junk science theories, from being entrenched in courts in the way that antiabortion junk science has.

V. CONCLUSION

This Article has proposed possible solutions based on the abortion litigation that took place between 2016 and 2022. While litigation after *Dobbs* seems to suggest that these theories of junk science will continue to appear in abortion litigation, the problems they present may shift. In April 2023, Judge Kacsmaryk in the Northern District of Texas wrote an opinion validating two of the junk science theories discussed in this Article.[406] First, he found that "[w]omen who

of L.A., No. 2:21-CV-07296-RGK-JPR., 2021 WL 9274843 (C.D. Cal. Nov. 12, 2021).

402. Cnty. of L.A. Dep't of Pub. Health v. Super. Ct. of L.A. Cnty., 61 Cal. App. 5th 478, 492 (Cal. Dist. Ct. App. 2021).

403. Francesca Paris, *See the States That Have Passed Laws Directed at Young Trans People*, N.Y. TIMES (June 5, 2023, 2:19 PM), https://www.nytimes.com/2023/06/05/upshot/trans-laws-republicans-states.html.

404. Kadel v. Folwell, No. 1:19CV272, 2022 WL 2106270, at *12 (M.D.N.C. June 10, 2022), *order corrected and superseded*, 620 F. Supp. 3d 339 (M.D.N.C. 2022); *see also* Brandt v. Rutledge, 677 F. Supp. 3d 877, 915 (E.D. Ark. 2023).

405. *Brandt*, 677 F. Supp. 3d at 915; *see also Kadel*, 2022 WL 2106270, at *13.

406. Memorandum Opinion and Order, All. for Hippocratic Med. v. U.S. Food & Drug Admin., 668 F. Supp. 3d 507 (N.D. Tex. Apr. 7, 2023) (No. 2:22-CV-00223), *vacated by* 2024 WL 4196546 (5th Cir. Sept. 16, 2024).

have aborted a child . . . often experience shame, regret, anxiety, depression, drug abuse, and suicidal thoughts because of the abortion," citing an article of Dr. Coleman's.[407] Then he found "good reasons to believe" that "adverse events from chemical abortion drugs" will overwhelm the medical system, "possibly with greater frequency than in the past."[408] Judge Kacsmaryk's biases are well documented,[409] and the Supreme Court ultimately reversed his opinion,[410] so it is possible he is an outlier. But his opinion could also suggest an increased willingness from district court judges to allow their biases to interfere with their evaluation of junk science. If this is the case, then future scholarship will need to go beyond the solutions discussed in this Article.

407. *Id.* at 526.

408. *Id.* at 523, 529.

409. Devan Cole, *Matthew Kacsmaryk: The Trump-Appointed Judge Overseeing the Blockbuster Medication Abortion Lawsuit*, CNN (last updated Apr. 7, 2023, 7:50 PM), https://www.cnn.com/2023/03/15/politics/matthew-kacsmaryk-texas-judge-medication-abortion-lawsuit/index.html.

410. U.S. Food & Drug Admin. v. All. for Hippocratic Med., 602 U.S. 367, 374, 397 (2024). The Supreme Court did not comment on Judge Kacsmaryk's reliance on junk science in his opinion.