UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION

STERLING MISANIN, *et al.*, *Plaintiffs,* v. ALAN WILSON, *et al.*, *Defendants.*	No. 2:24-cv-4734-RMG

REPLY IN FURTHER SUPPORT OF PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION

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H 4624 prevents all adolescents and many adults from receiving gender-affirming medical care ("GAMC"), regardless of a person's individualized medical situation.[1] But Defendants' own expert supports GAMC and acknowledges that it may be appropriate for adolescents and adults in some cases, *see* Cantor Tr. 103:3–7 (supporting HRT for adults "who otherwise meet the criteria" for gender dysphoria), 115:21–23 (acknowledging that GAMC may benefit certain adolescents in South Carolina), and the Fourth Circuit has confirmed such care is "safe, effective, and often medically necessary," *Kadel v. N.C. State Health Plan for Tchrs. & State Emps.*, 12 F.4th 422, 427–28 (4th Cir. 2021), as amended (Dec. 2, 2021) ("*Kadel 2021*"). There is no basis in the record to put aside the Fourth Circuit's judgment that a state's decision to ban such care for transgender people while continuing to allow it for non-transgender people violates the law. *See Kadel v. Folwell*, 100 F.4th 122 (4th Cir. 2024) (*en banc*) ("*Kadel*").

Defendants challenge Plaintiffs' demonstration of standing and redressability and claim that Plaintiffs have not shown a likeliness of success on some of their claims. To the contrary**,** and as discussed further below, Plaintiffs have established (i) standing and redressability to seek their requested injunctive relief and (ii) that they are likely to succeed on their claims, including their equal protection, due process, ACA, and Medicaid claims.

RESPONSE TO DEFENDANTS' STATEMENT OF FACTS

Defendants' "statement of facts" offers several key distortions about GAMC. *First*, there is no scientific support for Defendants' contention, Dkt. 46 ("Opp.") 4-6 (citing Dkt. 46-1 ("Cantor Decl.") ¶¶ 156–57)), that with the advent of social media, there has been an "explosion" in the number of transgender youth or percentage of people diagnosed with gender dysphoria. Instead, clinical experience shows that increased access to care is a result of reducing stigma and discriminatory barriers to coverage. Karasic R. Decl. ¶¶ 36–39; *Kadel v. Folwell*, 620 F. Supp. 3d 339, 365–67 (M.D.N.C. 2022) ("*Kadel 2022*") (rejecting "social contagion" theory as mere

[1] All capitalized terms not defined herein have the same meaning as defined in Plaintiffs' opening Motion for Preliminary Injunction, Docket 7 ("Mot.").

"hypothesis"). In addition, Defendants' conflation of the increase in the number of individuals identifying as transgender with the number of individuals diagnosed with gender dysphoria is misguided: the rates of diagnosis of gender dysphoria remain the same.[2]

Second, Defendants present psychotherapy and GAMC as two separate alternatives for the treatment of gender dysphoria. Opp. 6–7. This is a false dichotomy. Psychotherapy is a critical component of treatment for patients with gender dysphoria because it can help alleviate other mental health conditions, like depression and anxiety, that may be exacerbated by gender dysphoria; however, unlike GAMC, which is prescribed alongside a robust mental health evaluation, Dkt. 7-4 ("Shumer Decl.") ¶ 41, psychotherapy does not treat the underlying incongruity between a person's sex assigned at birth and gender identity. Karasic R. Decl. ¶ 9. Banning one type of care strips appropriate treatment from those who need it. *Id.*

Third, Defendants argue that GAMC's potential side effects justify H 4624's restrictions on medical care. Opp. 9–12. Defendants' expert lacks a basis to opine on such side effects, *see, e.g.*, Cantor Tr. 40:9–41:19, 46:7–49:5, and potential side effects are rare and easily managed when they present. Shumer R. Decl. ¶¶ 15–17. Moreover, for minors GAMC is only provided after the patient, their parents, and their provider determine that the benefits outweigh the risks and informed assent/consent is provided. *Id.* And South Carolina cannot rely on side effects as a reason to ban "gender transition" when the same medications, with the same side effects, remain available to non-transgender individuals for any purpose, including to bring their bodies into alignment with their sex assigned at birth. Shumer Decl. ¶¶ 64, 68, 85. Indeed, Defendants' own expert characterized Defendants' position that GAMC is "harmful" as "extreme." Cantor Tr. 131:13–15.

Fourth, Defendants critique the evidence base supporting GAMC. Opp. 7–9. But the quality of the evidence supporting GAMC is comparable to that supporting many other pediatric interventions. Dkt. 7-3 ("Antommaria Decl.") ¶ 6; Dkt. 7-1 ("Karasic Decl.") ¶ 38; Shumer Decl.

[2] *See* Wiepjes, C. M., et al., *The Amsterdam Cohort of Gender Dysphoria Study (1972-2015): Trends in Prevalence, Treatment, and Regrets*, 15 J. Sexual Med., no. 4, 2018, at 582–590.

¶ 89; *see also* Olson-Kennedy R. Decl. Nor have any of the European countries that Defendants invoke categorically banned GAMC for adolescents as South Carolina has. Antommaria R. Decl. ¶¶ 18, 26–33; Karasic R. Decl. ¶¶ 29–32. And Defendants' suggestion that gender dysphoria will simply desist if treatment is withheld has no basis in modern scientific research. Karasic Decl. ¶¶ 56–59; Karasic R. Decl. ¶ 15; Cantor Tr. 160:15–22 (admitting he cannot opine on desistence rate).

Other courts, when presented with testimony from Defendants' lone expert, James Cantor, have discredited his testimony because he does not have expertise in medically necessary GAMC nor pediatric care writ large. *See, e.g.*, *Koe v. Noggle*, 688 F. Supp. 3d 1321, 1352 n.28 (N.D. Ga. Aug. 20, 2023) (assigning Dr. Cantor's views "less weight" because he "is not a physician and has no experience treating gender dysphoria in youth"). Dr. Cantor is not a medical doctor, nor is he an endocrinologist. Cantor Decl. App. 1 at 190. He has no clinical experience in pediatric care. Cantor Tr. 40:9–41:19, 46:7–49:5. He is unable to say how many people diagnosed with gender dysphoria he has provided ongoing care for because the care he provides "usually would occur before they would receive a diagnosis." Cantor Tr. 62:10–22. He has not conducted original research on GAMC's efficacy or safety, or ever performed a systematic review of gender dysphoria treatment himself. Cantor Tr. 83:25–85:9. Defendants' sole expert lacks any notable experience, let alone expertise, with GAMC, rendering his testimony similar to that rejected in *Kadel 2022*, 620 F. Supp. 3d at 362–71.

ARGUMENT

I. Plaintiffs Have Standing to Seek Their Requested Injunctive Relief

A. The Requested Relief Will Redress Plaintiffs' Injury

Defendants argue that Plaintiffs lack standing for their challenge to the Healthcare Ban and their Affordable Care Act (ACA) claims. That is wrong. As to the Healthcare Ban claims, Defendants argue that because the private right of action remains in the statute, Plaintiffs' claims are not redressable. Opp. 17–19. But the question is whether enjoining enforcement by the

Attorney General ("AG") "significant[ly] increase[s] . . . the likelihood that [the plaintiffs] would obtain relief that directly redresses the injury suffered." *Reed v. Goertz*, 598 U.S. 230, 234 (2023) (citing *Utah v. Evans*, 536 U.S. 452, 464 (2002)). It does, and no more is required.[3] "The removal of even one obstacle to the exercise of one's rights, even if other barriers remain, is sufficient to show redressability." *Sierra Club v. U.S. Dept. of the Interior*, 899 F.3d 260, 285 (4th Cir. 2018) (citing *Larson v. Valente*, 456 U.S. 228 (1982)); *see also Doe 4 v. Shenandoah Valley Juv. Ctr.*, 985 F.3d 327, 336 (4th Cir. 2021) (redressability requirements are "not onerous") (citing *Deal v. Mercer Cnty. Bd. of Educ.*, 911 F.3d 183, 189 (4th Cir. 2018)). The AG can "bring an action to enforce compliance" with the challenged law. S.C. Code Ann § 44-42-360(F). An enforcement injunction against the AG, particularly when accompanied by the collateral declaratory relief Plaintiffs seek,[4] also significantly increases the likelihood that public health insurance plans and clinics that receive public funding would resume GAMC that they suspended or refused because of the threat of enforcement. *See* Mot. § V.A. Thus, Plaintiffs "personally would benefit in a tangible way from the court's intervention" and therefore have standing. *Sierra Club*, 899 F.3d 260, 284 (quoting *Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*, 204 F.3d 149, 162 (4th Cir. 2000)); *see also Doe 4*, 985 F.3d at 337–38 (finding redressability because defendant's actions would have a "powerful coercive effect" on other actors).

Defendants' cases (Opp. 16–17) are not on point. *Haaland v. Brackeen*, 599 U.S. 255 (2023), concerned relief sought against the federal government even though state authorities had the relevant enforcement powers and were not party to the suit. Here, there is no question that the AG has enforcement powers under H 4624 and is a party. In *Whole Woman's Health v. Jackson*, 595 U.S. 30 (2021), the statute did not grant enforcement authority to the defendant Texas attorney general: unlike H 4624, it could only be enforced through a private right of action by parties not

[3] Even if additional parties were necessary (they are not) or could be joined, that is not a standing issue.

[4] A declaration of facial unconstitutionality, which Plaintiffs seek, *would* apply to private actors and state licensing boards. *See Foti v. City of Menlo Park*, 146 F.3d 629, 635 (9th Cir. 1998) ("A successful challenge to the facial constitutionality of a law invalidates the law itself.").

part of the lawsuit. *See* 595 U.S. at 43–44. State actors granted explicit enforcement authority under a state law are not insulated from actions seeking to enjoin that power when the statute provides multiple enforcement mechanisms, including a private right of action. *See, e.g.*, *Allstate Ins. Co. v. Abbott*, 495 F.3d 151, 159 (5th Cir. 2007) ("redressability [is] easily satisfied" in an action seeking to enjoin a state attorney general's enforcement power under a challenged statute that also includes a private right of action). And unlike either *Whole Woman's Health* or *Murthy v. Missouri*, 144 S. Ct. 1972 (2024), Plaintiffs here do not seek indirect injunctions against non-parties, but to resume care that was suspended because of the passage of H 4624 and the resulting threat of enforcement by the AG. Mot. 1, 33; Dkt. 1 ("Compl.") ¶¶ 10–12.

Defendants are also wrong that Plaintiffs lack standing to seek injunctive relief as to their ACA claims because their ACA claims are not directed against the AG. Opp. 19. First, the fact that the AG is not named as a defendant as to Plaintiffs' ACA claims has no bearing on the ability to enjoin him from enforcing the Public Funds and Medicaid Restrictions. Setting aside the ACA claims, Plaintiffs challenge the Public Funds and Medicaid Restrictions through their Equal Protection claim, *see, e.g.*, Compl. ¶¶ 202–204, and have sought to enjoin the AG's enforcement of those Restrictions on that basis. Mot. 1, 12–17, 33. Second, as for the ACA claims, it is MUSC and the insurance providers that have ceased providing Plaintiffs with care and coverage as a result of H 4624, *see* Mot. 29–31 (describing Plaintiffs' denials of care by MUSC and insurance coverage by PEBA due to H 4624). This Court's order requiring these entities to cease denying GAMC based on H 4624 would "significant[ly] increase . . . the likelihood" that Plaintiffs' ACA care and coverage that was suspended due to H 4624 would resume. *See Reed*, 598 U.S. at 234; *see also Doe 4*, 985 F.3d at 337 (redressability demonstrated by suing the party "directly implementing" the challenged policy, even where that party was not granted enforcement power).

B. Plaintiffs Have Standing to Enjoin the Healthcare Ban on Surgery and Puberty Blockers

Because Plaintiffs bring this action on behalf of themselves and the presumptive Classes, Defendants' reliance on Justice Gorsuch's concurrence in *Labrador v. Poe*, 144 S. Ct. 921 (2024),

Opp. 20–21, which was not a class action, is misplaced. Plaintiffs have established all the necessary requirements to receive injunctive relief across the Classes, including as to specific procedures they themselves do not currently seek. *Cf. Carolina Youth Action Project v. Wilson*, 60 F.4th 770, 780 (4th Cir. 2023) (class shares "same injury," and may be entitled to class-wide injunctive relief, where they share a common contention against challenged law).[5] H 4624 does not distinguish among treatments and applies equally to all transgender minors who have or will access "gender transition procedures" in South Carolina. § 44-42-320; Compl. ¶¶ 100–101. Regardless of the specific treatment sought by a given Plaintiff or prospective class-member, the common contention that binds the Classes asks: "*why was I disfavored*." *Fain v. Crouch*, 540 F. Supp. 3d 575, 584–85 (S.D.W. Va. 2021) (emphasis original). And although Plaintiffs are not required to bring "exactly the same claims" to be entitled to class-wide relief, *Moodie v. Kiawah Island Inn Co., LLC*, 309 F.R.D. 370, 378 (D.S.C. 2015), here they do. Dkt. 6 ("Class Mot.") 14.

In any case, though there is no question that courts must "mold [their] decree[s] to meet the exigencies of the particular case," *Roe v. Dep't of Def.*, 947 F.3d 207, 232 (4th Cir. 2020), *as amended* (Jan. 14, 2020), courts in this Circuit may grant injunctive relief as to non-parties so long as "relief is carefully tailored to address only those defects giving rise to the specific irreparable injury as demonstrated in the preliminary injunction record." *Roe v. Shanahan*, 359 F. Supp. 3d 382, 422 n.47 (E.D. Va. 2019), *aff'd*, 947 F.3d 207. Alongside the specific treatments sought by Plaintiffs, the record before this Court amply captures the harms of denying medically indicated puberty blockers and gender-affirming surgeries to South Carolinians. *See* Karasic Decl. ¶¶ 50–55; Dkt. 7-2 ("Olson-Kennedy Decl.") ¶¶ 37-50, 65–67.

C. Plaintiff Nina Noe Has Demonstrated Injury in Fact as to the Medicaid Act Claim

Nina Noe is a Medicaid recipient and real party in interest suffering an injury in fact as the

[5] Because "courts may enter class-wide injunctive relief before certification of a class," there is no obstacle to class-wide preliminary injunctive relief. *J.O.P. v. U.S. Dep't of Homeland Security*, 409 F. Supp. 3d 367, 376 (D. Md. 2019); *see also* Mot. 32–33 (collecting cases).

person who will lose coverage under the law. *Fain v. Crouch*, 618 F. Supp. 3d 313, 334 (S.D.W. Va. 2022), *aff'd sub nom*. *Kadel*, 100 F.4th 122 (discussing standing on Medicaid Act claims). It is irrelevant whether Nina Noe receives coverage through her father's Medicaid policy, or whether both her parents are parties to this case (or live together, for that matter). Opp. 21–22. Nor is Nina's injury solely a "pocketbook injury." Opp. 21. Nina also suffers the harm of being denied healthcare based on sex and transgender status. *Cf. Griffin v. Dep't of Lab. Fed. Credit Union*, 912 F.3d 649, 653–54 (4th Cir. 2019) (dignitary harms are injury in fact under federal healthcare anti-discrimination protections).

D. Plaintiff Misanin Has Demonstrated Injury in Fact that is Traceable to MUSC

Defendants also argue that Misanin lacks any traceable injury to MUSC because he has obtained care elsewhere. Opp. 22. But Misanin was denied surgical care—this alone is an injury in fact—and Misanin was forced to delay treatment and interrupt his work schedule as a result of this denial. Dkt. 7-11 ("Misanin Decl.") ¶¶ 25–26; *see also Hammons v. Univ. of Maryland Med. Sys. Corp.*, 551 F. Supp. 3d 567, 577 (D. Md. 2021) ("It is undisputed that the cancellation of [gender-affirming hysterectomy] surgery constituted an injury in fact."). Misanin was also unable to receive care from his preferred provider and was forced to seek care at clinics that are less able to protect his privacy, Misanin Decl. ¶¶ 12, 19, 23, 25, "diminish[ing] [his] access to high-quality health care suited to [his] needs," and thus inflicting an injury in fact. *Planned Parenthood S. Atl. v. Baker*, 941 F.3d 687, 707 (4th Cir. 2019).

II. Plaintiffs Are Likely to Succeed on Their Equal Protection Claim

A. Defendants Do Not Dispute That H 4624 Is Subject to Heightened Scrutiny

Even Defendants acknowledge (as they must) that *Kadel* binds this court. *See* Opp. 24 n.5. *Kadel* dictates that H 4624 be subjected to at least heightened scrutiny because it facially classifies based on transgender status and sex.

Defendants also do not dispute that H 4624 facially classifies based on transgender status by (1) restricting or banning treatments based only on whether they are directed at a physical

gender transition, necessarily discriminating on the basis of transgender status, § 44-42-310(5-6); *see Kadel*, 100 F.4th at 143–49; *see also* Mot. 15–16; (2) treating individuals differently *based* on their sex by enforcing distinct sex-based rules on birth-assigned males and birth-assigned females, *Kadel*, 100 F.4th at 147, 153; *see also* Mot. 15–17; and (3) punishing transgender people for not conforming with sex stereotypes, *see* Mot. 15–17; *Grimm v. Gloucester County School Bd.*, 972 F.3d 586, 608 (4th Cir. 2020).

B. The Health Care Ban Fails Heightened Scrutiny

H 4624 cannot survive the "exacting test" imposed by heightened scrutiny because South Carolina has not met its burden of showing H 4624's ban on GAMC is "substantially related to a sufficiently important governmental interest." *Grimm*, 972 F.3d at 607; *Kadel*, 100 F.4th at 156.

First, H 4624 does not survive heightened scrutiny because South Carolina put forth only post-hoc rationalizations for the law. In place of contemporaneous justifications relied upon by the South Carolina legislature when enacting H 4624, Defendants offer only platitudes—including "protecting children from drugs" and/or "protecting the public from ineffective and harmful medical and surgical interventions," Opp. 24, 28, the merits of which are discussed below—that were conjured up by Defendants in response to this lawsuit. *Contra* Opp. 28. Indeed, and as Defendants do not dispute, the South Carolina legislature made *no* legislative findings. Put simply, there is no record to support any interest purportedly advanced by the law, and indeed, Defendants cite none. *See Kadel*, 100 F.4th at 156 ("A law that discriminates against a quasi-suspect class 'must be genuine, not hypothesized or invented *post hoc* in response to litigation.'" (quoting *United States v. Virginia*, 518 U.S. 515, 533 (1996))).

Further, "[c]ourt[s] need not in equal protection cases accept at face value assertions of legislative purposes, when an examination of the legislative scheme and its history demonstrates that the asserted purpose could not have been a goal of the legislation." *Weinberger v. Weisenfeld*, 420 U.S. 636, 648 n.16 (1975). Protecting the public from harmful medical treatment and protecting children from drugs cannot reasonably be regarded as the purposes of H 4624 since the

law allows the same medications and procedures to be used for minors and adults in South Carolina, so long they are not prescribed for "gender transition." *See Eisenstadt v. Baird*, 405 U.S. 438, 451 n.8 (1972) (law banning contraception only for unmarried persons is "illogical to the point of irrationality" because "[i]t is inconceivable that the need for health controls varies with the purpose for which the [treatment] is to be used when the physical act in all cases is one and the same").

Second, even if Defendants' made-for-litigation purpose was sufficient, Defendants cannot show H 4624 is substantially related to protecting South Carolinians from allegedly ineffective and harmful medical treatment for two reasons: (a) Defendants have not shown GAMC is ineffective or harmful; and (b) Defendants have not shown that banning the relevant treatments *only* for transgender people is narrowly tailored to that end. Defendants' reliance on a single expert who lacks GAMC expertise, *see supra* 1–3, is insufficient to carry their heavy burden.

GAMC is safe and effective. *See supra* 1; Mot. 18–20. Defendants' laundry list of "critical aspects"—which are either (a) unsupported by research and evidence or (b) otherwise speculative—does not change that reality. *Contra* Opp. 25.

- **Cause.** While the cause of gender incongruence is not yet fully understood, ongoing research demonstrates the biological basis and genetic components of gender identity. Dkt. 46-3 ("Shumer Tr.") 31:8–32:22; Shumer Decl. ¶¶ 28–32.

- **Diagnostic Test.** The fact that a gender dysphoria diagnosis is made by a clinician based on patients' reports of their symptoms using verified assessment tools is not unique to this area of medicine. The absence of an "objective" test, like a blood test or x-ray, does not undermine its validity as a medical condition. All mental health conditions share this diagnostic process, as do medical conditions like migraine headaches. Antommaria R. Decl. ¶ 7; Cantor Tr. 149:23–150:2. Symptoms themselves are often sufficient to make a diagnosis, and clinical practice guidelines frequently recommend against unnecessary diagnostic testing. Antommaria R. Decl. ¶ 7; Karasic R. Decl. ¶¶ 8–11.

- **Desistance.** Data and clinical experience show that when gender dysphoria persists into adolescence, it is highly likely to continue into adulthood. Shumer R. Decl. ¶¶ 37-40. Defendants' own expert, who does not treat patients with gender dysphoria on an ongoing basis, is unable to quantify the desistance rate. Cantor Tr. 62:10–63:13, 160:15–161:11. The studies cited by Defendants' expert about desistance pertain to pre-pubertal youth (who do not receive the treatments banned by the law), not adolescents, and use outdated criteria much broader than those used to diagnose gender dysphoria. Shumer R. Decl. ¶ 37.

- **Safety of Puberty Blockers.** Puberty blockers are safe and effective for treating adolescents with gender dysphoria. Shumer R. Decl. ¶¶ 13-20. Puberty blockers have been studied for decades. *Id.* No research suggests treatment has a negative impact on brain development. Shumer R. Decl. ¶ 20.

- **Rise in Diagnoses.** Defendants conflate the increase in the number of individuals identifying as transgender with the number of individuals diagnosed with gender dysphoria. The rates of diagnosis of gender dysphoria remain the same. *See Wiepjes, C. M., et al., supra* n.2. The recent increase in the number of individuals identifying as transgender is explained by several factors, including greater awareness of youth and their parents of gender dysphoria and GAMC and lessened stigma surrounding being transgender. Karasic R. Decl. ¶¶ 36–37.

- **Rise in Transgender Men.** The rise in numbers and percentage of patients assigned female at birth observed at some clinics in recent years reflects a shift away from parents' disproportionate concern about gender non-conforming boys and increased awareness among the general public of the existence of transgender males that made it possible for individuals who ultimately identify as transgender men to seek care. Karasic R. Decl. ¶¶ 38–39. Nor are changing demographics unique to GAMC. Antommaria Decl. ¶ 62.

- **Co-Occurrence.** The comprehensive bio-social assessments used to diagnose and treat gender dysphoria take into account co-occurring conditions, including autism, which is not in itself an impediment to an accurate diagnosis. Karasic Decl. ¶ 7; Karasic R. Decl. ¶ 9; Shumer Decl. ¶¶ 37, 73.

- **Bone Density.** Puberty blockers do not lower bone density: in temporarily delaying puberty, they also delay the accelerated rate of bone mineralization that happens during puberty. Shumer R. Decl. ¶ 16. Any potential risks to bone health can be mitigated by ongoing monitoring, screening, and treating for vitamin D deficiency, and by limiting the treatment period. *Id*. ¶¶ 16–17. Research does not show lifelong bone density repercussions after taking puberty blockers. *Id.*

- **Longitudinal Studies.** Robust data along multiple study types shows the safety and efficacy of GAMC over time. *See* Antommaria Decl. ¶¶ 23–24; Antommaria R. Decl. ¶¶ 9–12. Moreover, clinical experience—including from providers like Dr. Karasic, who has been treating patients for more than thirty years—demonstrates that patients benefit across the lifespan. Karasic R. Decl.¶ 45.

Research on GAMC published since the close of the summary judgment record in *Kadel* supports, not refutes, the safety and efficacy of GAMC. *Contra* Opp. 27–28. (1) The Cass Review and underlying York systematic reviews do not support banning GAMC for minors the way South Carolina has—the Cass Review acknowledges that GAMC is appropriate based on individualized

assessments,[6] Karasic R. Decl. ¶ 27; Brief for Amici Curiae Expert Researchers & Physicians in Support of Petitioner, *United States v. Skrmetti*, No. 23-477, 2024 WL 4122031 (Sept. 3, 2024); (2) HRT is available for English adolescents at age 16, Antommaria R. Decl. ¶ 28; (3) WPATH's role as an advocacy organization is not mutually exclusive with its pursuit of rigorous scientific research, Shumer R. Decl. ¶¶ 12, 31; Brief for Amici Curiae Clinical Practice Guideline Experts in Support of Petitioner, *Skrmetti*, No. 23-477, 2024 WL 4122034, at *24–25 (Sept. 3, 2024).

And Defendants have presented no evidence that justifies treating GAMC differently from all other healthcare posing similar risks. Defendants do not even address this critical issue, which was central to the Fourth Circuit's ruling in *Kadel*. *See* 100 F.4th at 148–54.

Finally, H 4624 cannot survive even rational basis review. There is no rational basis to conclude that allowing adolescents with gender dysphoria to receive GAMC that they, their parents, and their doctors agree is medically necessary "would threaten legitimate interests of [South Carolina] in a way that" allowing other types of care "would not." *City of Cleburne v. Cleburne Living Ctr.*, 473 U.S. 432, 448 (1985); *see also Eisenstadt*, 405 U.S. at 452–53 (health risks of contraception not a rational basis for barring access only for unmarried people). What H 4624 does is "so far removed from [the asserted] justifications that . . . it [is] impossible to credit them." *Romer v. Evans*, 517 U.S. 620, 635 (1996). Plaintiffs have shown the law "lack[s] any purpose other than a bare desire to harm," *contra* Opp. 28, because (1) the law lacks any *ex ante* stated purpose, *see Brandt v. Rutledge*, 551 F .Supp. 3d 882, 893 (E.D. Ark. 2021) ("pretextual" justifications insufficient to survive rational basis review); (2) H 4624's legislative history makes clear that the law is driven by animus toward transgender people, *see* Mot. 18 n.9; and (3) Defendants' *post hoc* rationalization is not rationally related to prohibiting care allowed for other diagnoses.

[6] Defendants rely on Dr. Cantor's opinions on the Cass Review, but Dr. Cantor ignores the limitations of the methodologies underlying it. Karasic R. Decl. ¶ 28; Antommaria R. Decl. ¶¶ 24–25.

III. Parent Plaintiffs Are Likely to Succeed on Their Due Process Claim

Although the state (and its sole expert) implicitly concedes that adults are capable of balancing the benefits of GAMC against any potential risks, it denies parent decisionmakers the same opportunity to do so for their children. This infringes on parents' fundamental right to direct their children's healthcare, a right well-established and deeply rooted in our nation's history. *See, e.g.*, *Parham v. J.R.*, 442 U.S. 584, 602 (1979) (parents' fundamental rights and duties include right to "recognize symptoms of illness and to seek and follow medical advice").

Far from "break[ing] new ground," as Defendants claim, Opp. 23, Parent Plaintiffs seek to exercise a right to care and custody of children, which *Parham* explicitly extended to a parent's evaluating risks regarding medical care and procedures: "Simply because the decision of a parent [to have a child undergo a medical procedure] . . . involves risks . . . does not automatically transfer the power . . . to some agency or officer of the state." *Parham*, 442 U.S. at 603; *Wallis v. Spencer*, 202 F.3d 1126, 1141 (9th Cir. 2000) (noting that due process "includes the right of parents to make important medical decisions for their children, and of children to have those decisions made by their parents rather than the state"). Parents' fundamental rights in the medical decision-making context (including for GAMC) are thus based on a "basic presupposition" regarding parental rights. *Bellotti v. Baird*, 443 U.S. 622, 638 (1979) (discussing the tradition of respect for parental authority in the reproductive healthcare context); *see also Mann v. County of San Diego*, 907 F.3d 1154, 1161 (9th Cir. 2018) ("The right to family association includes the right of parents to make important medical decisions for their children." (internal citation omitted)); *Brandt v. Rutledge*, 677 F. Supp. 3d 877, 923 (E.D. Ark. 2023) (recognizing parent plaintiffs' fundamental right to seek GAMC for their children); *Poe by & through Poe v. Labrador*, 709 F. Supp. 3d 1169, 1195 (D. Idaho 2023) (same); *Doe v. Ladapo*, 676 F. Supp. 3d 1205, 1220 (N.D. Fla. 2023) (same).

IV. Plaintiffs Are Likely to Succeed on Their ACA Claim, Including with Respect to Pubertal Suppression

Except as to pubertal suppression treatments, Defendants concede that, if standing is satisfied, Plaintiffs' ACA claims are likely to succeed. Opp. 32. Defendants argue that *Kadel*'s

application of the but-for test from *Bostock v. Clayton County*, 140 S. Ct. 1731, 1742 (2020), does not apply to puberty blockers because the same drug is provided to both boys and girls. Opp. 32. That individuals from both sexes receive the same drug does not change the fact that the patient's sex is the but-for cause in the denial of puberty blockers. As the Fourth Circuit recognized in *Kadel* when affirming summary judgment of plaintiffs' ACA claim, including as to puberty blockers, banning GAMC to individuals diagnosed with gender dysphoria qualifies as sex discrimination under *Bostock* because it restricts care only for transgender individuals who seek to induce physiological effects inconsistent with their sex assigned at birth. *See Kadel*, 100 F.4th at 163–64. Because H 4624 prohibits puberty blockers for transgender adolescents while allowing them for cisgender adolescents as long as the results conform with the individual's sex assigned at birth, sex "plays an unmistakable … role" in the ban. *Bostock*, 140 S. Ct. 1741–42; *see also* Mot. § I.A.2.

V. Plaintiffs are Likely to Succeed on Their Medicaid Act Claim

Defendants incorrectly assert that Plaintiff Nina Noe's Medicaid Act claim is unlikely to succeed because "there is no private cause of action to enforce the Medicaid Act's availability and comparability requirements." Opp. 29.[7] But *Kadel*'s ruling that the availability and comparability provisions of the Medicaid Act are enforceable through Section 1983 is consistent with other courts' rulings, both before and after *Armstrong*. *See, e.g.*, *Waskul v. Washtenaw Cnty. Cmty. Mental Health*, 979 F.3d 426, 448 (6th Cir. 2020) (availability and comparability provisions "are amenable to judicial remedy" because they "specifically define[] what care and services must be made available to recipients by reference to § 1396d(a) and set[] forth criteria for determining whether those services are equitably provided") (citations omitted);[8] *Davis v. Shah*, 821 F.3d 231, 255 n.12 (2d Cir. 2016) ("[C]laims [under the comparability provision] remain viable after *Armstrong*."); *Cruz v. Zucker*, 116 F. Supp. 3d 334, 344–46 (S.D.N.Y. 2015).

[7] Defendants do not dispute that H 4624 violates the Medicaid Act's comparability provision.

[8] Defendants' attempt to distinguish *Waskul* using the Sixth Circuit's "promptness" analysis is misplaced. Opp. 29 n.8. That analysis was limited to the court's discussion of a different provision of the Medicaid Act, § 1396a(a)(8), which specifically requires "promptness." *Waskul*, 979 F.3d at 448. The court's analysis of § 1396a(a)(10) does not rely on its analysis of § 1396a(a)(8). *Id.*

Defendants separately argue that H 4624 does not violate the availability requirement because, unlike in *Kadel* where the state's third-party medical contractor deemed GAMC to be medically necessary, South Carolina has categorically concluded that GAMC is "not medically necessary." Opp. 31-32. But *Kadel*'s ruling that categorical exclusion of GAMC from Medicaid coverage violates the availability requirement did not turn on a single actor's determination of medical necessity. *Kadel*, 100 F.4th at 162.[9] As both Congress and the courts have made clear, the opinions of medical experts and providers, not just legislators, are crucial to determinations of medical necessity for purposes of Medicaid coverage.[10] And the scientific consensus establishes that "[m]edical transition . . . treatments . . . are safe, effective, and *often medically necessary*." *Kadel 2021*, 12 F.4th at 427–28 (emphasis added) (internal citations and quotation marks omitted); *see also Cano v. S.C. Dep't of Corr*., 2024 WL 1005553, at *4 (D.S.C. Jan. 30, 2024), *appeal dismissed*, 2024 WL 4501805 (4th Cir. Oct. 16, 2024); *see also* Mot. 17. As discussed above, Defendants' own expert correctly acknowledged that GAMC may benefit certain adolescents, refuting their claim that it is never medically necessary. Cantor Tr. 115:21–23.[11]

VI. Plaintiffs Have Satisfied the Remaining Preliminary Injunction Factors

First, Plaintiffs have already demonstrated irreparable harm. H 4624 will deprive Plaintiffs

[9] In *Kadel*, the determination of medical necessity of GAMC was made by the relevant state contractor, InterQual, based on "the systematic continuous review and critical appraisal of the most current evidence-based literature and include input from an independent panel of experts." *Id.* at 139–40 (also noting that InterQual relies on WPATH and Endocrine Society guidelines). There, West Virginia's "Medicaid Program [did] not follow InterQual's coverage criteria," *id.* at 140, just as South Carolina's Medicaid program diverges from the medical consensus on GAMC.

[10] *See, e.g.*, *Pinneke v. Preisser*, 623 F.2d 546, 549–50 n.3 (8th Cir. 1980) (citing S. Rep. No. 404, 89th Cong., 1st Sess., reprinted in (1965) U.S. Code Cong. & Admin. News, p. 1943, 1986–89 (physician is "key figure in determining utilization of health services and . . . who is to decide upon . . . drugs and treatments")); *Rush v. Parham*, 625 F.2d 1150, 1156 n.11 (5th Cir. 1980) (consensus of the medical community as to whether sought-after treatment is "an effective and proven treatment for the condition" is a "basic consideration" in Medicaid coverage decisions).

[11] Defendants' suggestion that Dr. Karasic's assistance in drafting the WPATH SOC 8 statement of medical necessity is biased casts no doubt upon this consensus. Opp. 31–32. That Dr. Karasic helped draft this statement only underscores his ability to speak on the medical consensus. *See* Dkt. 46-5 ("Karasic Tr.") 162:23–163:1 (agreeing the statement constitutes "the professional and clinical opinions of the signers").

of lifesaving care. *See, e.g.*, Dkt. 7-10 ("Ray Decl.") ¶ 24 ("I simply cannot afford to pay for my medically necessary gender affirming surgery without the coverage . . ."). Courts in this district and others have already held that denial of GAMC is an irreparable harm. *See Cano v. S.C. Dep't of Corr.*, 2023 WL 10286851, at *22 (D.S.C. July 31, 2023), *report and rec. adopted as modified*, *Cano*, 2024 WL 1005553, at *4.[12]

Second, Defendants' own claim as to "irreparable" harm is unsupported. Opp. at § II. As explained above, *supra* 9–10, Defendants' expert evidence shows, at best, that some professionals differ on how or when to provide care, but not whether the care should be generally available. In fact, when asked, Dr. Cantor *refused to say that gender transition procedures are harmful*. Cantor Tr. 131:3–12 (Q: "Did you believe that the science shows that gender transition procedures are harmful?" A: "I don't think we can have a meaningful answer when asked generally. There's a wide range of possibilities and a wide range of unknowns . . ."). A single psychologist's gesture to a "wide range of unknowns" does not demonstrate that Defendants will suffer irreparable harm, nor does it erase the concrete harm Plaintiffs will suffer absent a preliminary injunction. *Id.*; Mot. 8. Nor does it outweigh the substantial body of evidence on the safety and efficacy of the care for those who need it. *See, e.g., Ladapo*, 676 F. Supp. 3d at 1223 ("great weight of medical authority" supports GAMC); *Poe*, 709 F. Supp. 3d at 1199 (GAMC is "crucial part of treatment").

VII. A Statewide Injunction Is Necessary and Appropriate to Protect the Interests of Plaintiffs and the Classes

Because Plaintiffs have standing to support a class action, *see supra* § I; Class Mot. § I, and meet the requirements for a class action under Federal Rule of Civil Procedure 23(b)(2), *see* Class Mot., the Court should grant a preliminary injunction enjoining enforcement of the harmful provisions of H 4624 against the respective putative Classes.

[12] With respect to Plaintiffs' Medicaid claim, the public-interest factor of the test for a preliminary injunction should "compel[]" this court "to conclude that the public will be better served by the entry of an injunction with the clear conscience that Medicaid recipients will continue to have available certain [treatment] deemed medically necessary by their physicians pending a final determination of the merits." *Dodson v. Parham*, 427 F. Supp. 97, 109 (N.D. Ga. 1977).

Date: November 18, 2024

Respectfully submitted,

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*Appearing *Pro Hac Vice*

Attorneys for Plaintiffs, Sterling Misanin, et al.

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
CHARLESTON DIVISION
No. 2:24-cv-4734-RMG

----------x

STERLING MISANIN, et al.,

Plaintiffs,

V.

ALAN WILSON, in his official capacity as the Attorney General of South Carolina, et al.,

Defendants.

----------x

November 7, 2024

Video-Recorded Deposition of
James Michael Cantor

Stenographically Reported By:
Mark Richman, CSR, CCR, RPR, CM
Job No. J11971784

Thursday, November 7, 2024

9:33 a.m.

Video-recorded Deposition via Zoom Videoconference, of James Michael Cantor, taken by Plaintiffs, before Mark Richman, a Certified Shorthand Reporter, Certified Court Reporter, Registered Professional Reporter, and a Notary Public within and for the State of New York.

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ALSO PRESENT:
Sruti Swaminathan, Esq.
ACLU on behalf of Plaintiffs

Emory Smith, Esq.
South Caroling AG's Office

Jon Popham, Videographer

THE VIDEOGRAPHER: We are now on the record. The time is 9:33 a.m. Eastern Time on November 7th, 2024.

This begins media 1 of the video recorded deposition of Dr. James Cantor taken in the matter of Sterling Misanin, et al., versus Alan Wilson in his official capacity as the Attorney General of South Carolina, et al., filed in the United States District Court for the District of South Carolina, Charleston Division, Case Number 2:24-cv-04734-RMG.

This deposition is taking place at multiple locations via video conference.

My name is Jonathan Popham and I'm your videographer today.

The court reporter is Mark Richman.

We are representing Esquire Deposition Solutions.

Counsel, will you please

introduce yourselves and state your affiliations for the record.

MS. SINGER: Good morning, Julie Singer from Selendy Gay for the plaintiffs and I'm here with several of my colleagues. I'll let them introduce themselves.

MS. SWAMINATHAN: Hi, there. This is Sruti Swaminathan from the ACLU on behalf of plaintiffs, that's S-R-U-T-I, S-W-A-M-I-N-A-T-H-A-N.

MR. SMITH: And you also have Zachary Smith from Selendy Gay on behalf of the plaintiffs.

MR. RAMER: Good morning. My name is John Ramer from Cooper & Kirk on behalf of the defendants.

THE VIDEOGRAPHER: Will the court reporter please swear in the witness.

JAMES MICHAEL CANTOR, having been called as a witness, having been first duly sworn by the Notary Public (Mark Richman), was examined and testified as follows:

EXAMINATION BY MS. SINGER:

Q. Good morning, Dr. Cantor. Thanks for your time today.

A. Hi.

MS. SINGER: I'd just like to note, before we get started with the questions, that the plaintiffs have taken the position that time used in these depositions counts towards the seven hour allotment.

Defendants have taken the position that time used in these depositions does not count towards the seven hour allotment.

So I represent the plaintiffs.

(Reporter clarification.)

MS. SINGER: Let me try to move the microphone closer and see if that helps. But please let me know if it continues and we will try to work on a solution on our end.

Q. I represent the plaintiffs in this action and thank you very much for your time today, Dr. Cantor.

Would you please state and spell your name for the record.

A. James, J-A-M-E-S, Michael, M-I-C-H-A-E-L, Cantor, C-A-N-T-O-R.

Q. Have you ever been deposed before?

A. Yes, I have.

Q. How many times?

A. Oh, goodness. It's has to be north of 20 at this point.

Q. Okay. So this will likely be review, but I'd like to go over some rules that will hopefully make today go smoothly for all of us.

I'd ask that you ask me rather than your counsel for clarifications, definitions or explanations of any words, questions or documents presented during the course of the deposition.

Understood?

A. Yes.

Q. I will be asking you questions today. Your lawyer may object, but unless he instructs you not to answer,

you are required to answer my questions.

Do you understand?

A. Yes, I do.

Q. The court reporter is transcribing your testimony for the record today, so you should try to provide full oral answers. You should not simply nod or shake your head or say uh-huh in response to questions.

Agreed?

A. Yes.

Q. And to get an accurate transcript we should try our best not to speak over each other. I shouldn't talk when you're talking and you should not talk when I'm talking to the best that we can.

Agreed?

A. Yes.

Q. And if you do not understand a question, will you let me know what you do not understand about it?

A. Yes.

Q. If you answer my question I will

assume you understood the question; is that fair?
A. Yes.
Q. Do you understand that you've taken a legally binding oath to answer my questions fully and truthfully today?
A. Yes, I do.
Q. Is there any reason you cannot provide full and truthful answers today?
A. No.
Q. Are you on any medications that might interfere with your memory?
A. No.
Q. Are you represented by counsel here today?
A. Yes.
Q. Who is your counsel?
A. Mr. Ramer.
Q. Have you discussed the deposition with anyone other than Mr. Ramer?
A. Only in a scheduling, in a generic manner that it's happening, that it's going on, that the association with the similar ones before, but otherwise,

nothing specific to today's.
Q. And with whom did you discuss scheduling and logistical matters?
A. My, my partner and our dog walker so that I can't be disturbed during the deposition today. But the dog comes in somewhere between half an hour to an hour from now.
Q. Understood. Have you prepared for today's deposition?
A. Yes, I have.
Q. With whom did you prepare?
A. Mr. Ramer and of course because the content of the, of the material for today's case is so similar to several other cases, it's also an accumulated set of experience and everybody who's helped me prepare for each of those individual depositions.
Q. So did you prepare with anyone besides counsel specifically for this deposition?
A. For today's? No.
Q. How long did you spend preparing?

A. Roughly 45 minutes. If you still mean the time specifically with Mr. Ramer, closer to two to three hours in total reviewing the relevant documents.
Q. So you mentioned reviewing the relevant documents. Which documents did you review in preparation for today's deposition?
A. My CV and the report I submitted.
Q. Any additional documents?
A. Again, not specific to today's proceedings, but of course, you know, as the information continues to accumulate, there are documents which are relevant to multiple cases which I'm just, as part of keeping up in general with the field, the development, the policy developments and that and so on.
Q. Understood. Did you conduct any additional research to prepare for this deposition specifically?
A. Not specific to today's deposition, no.
Q. Did you bring anything with you

today for your deposition?

A. A clean copy of my CV and a clean copy of my report and a black -- blank pad of paper.

Q. Okay, great. And because we are remote and can't see each other, I just ask that if you have anything else in front of you at any point just let us know so that we're all aware of what you have.

A. I understand. And I can't help but make the joke that it's probably the only time during my entire career during which my desk is clear.

Q. That is a treat.

A. It, clearing it is quite a chore actually.

Q. So I'd like to introduce as Exhibit 1 for today your report and the attached appendices.

(Exhibit 1, Expert Declaration of James M. Cantor was marked for identification.)

MS. SINGER: Can we put that up

on the screen as well.

Q. Do you recognize this document?

A. Yes, I do.

Q. Is this the report and appendices that you submitted in connection with this case?

A. Yes, it appears to be.

Q. And did you draft this report?

A. Yes, I did.

Q. I'd like to turn to Appendix 1 and specifically page 32.

(Reporter clarification.)

MR. RAMER: Can you repeat the page number you wanted.

MS. SINGER: Sure, Appendix 1, page 32.

A. I'm there.

Q. Does this list reflect the full set of cases in which you have testified?

A. I'd have to check the dates to see if there have been a few additions more recently, but it was accurate as of that date. Oh, is that recent? Oh,

okay, yes, it's accurate.

Q. We can scroll to the 2024 appearances just to confirm.

Does this reflect all of the testimony you've given this year?

A. I believe it does, yes.

Q. So in this full list of expert witness testimony starting in 2010 going through 2024, did any of these cases involve a ban on gender-affirming healthcare?

A. Yes.

MR. RAMER: Objection. Objection to the form.

You can answer.

A. Yes, several.

Q. Which of the cases involved that?

A. Oh, goodness. Again, I'd have to check my master list in order to associate which case was on which material.

I keep, of course, a separate list with a reminder to myself of which one was which. I just -- it's too easy

for me to mix up which ones, for example, were about a sports team and other related issues. I would hesitate to name them without referring to my list because I don't want to misstate them. But it is probably three-quarters of them or so were --

Q. The -- sorry to interrupt you. Please finish.

A. About three-quarters of them were about regulating or limiting the availability of medicalized transition for minors. But again, the other quarter were participation in, in sports teams and other issues. But again, it's without my other list in front of me, I would hesitate to name them only because it's very easy for me to -- because they are so similar and my contribution to each of them so similar, it's very easy for me to mix them up without double-checking.

Q. And when you say three-quarters of them, are you referring to the full

list going back to 2010 or are you looking just at the 2024 set?

A. I was thinking 2022 and forward.

Q. 2022 and forward? Did any cases that predate 2022 concern bans on gender-affirming care?

MR. RAMER: Objection to the form.

A. No. Some of the cases in 2021 were on other trans issues but not on medicalized transition of minors.

Q. Approximately how much of your annual income is derived from expert work?

A. At this point, it's the majority of it. I've had to shut down most of my private practice in order to make time, to make the time for it.

Q. So it's fair to say it's more than 50 percent?

A. Yes, that would be fair.

Q. Would you say it's more than 75 percent?

A. Probably. I don't calculate it.

Well, I don't try to tally it really. Each of the billings goes to the, goes to the same professional corporation that I work through. The billings go directly to there, then I pay myself the same salary now as I always have and then the accountants take care of the rest.

But of course, the specific rate, the hourly rate I have that I receive is the same as, you know, the experts on, on each of the sides. But because they are medical doctors, for me it's a larger increase than it is for -- that it is for them.

The biggest change in my own income of course has been when I left science itself. Nobody becomes a scientist for, for the salary. We do it for the love of the material, which is exactly how I got started in this specific question which I did, of course, for free just on my own time because it's important for people to

have the relevant science in order to make the relevant decisions.

Once my contributions to that or formal contributions to that became of interest to the -- to the cases going on, then that's when I started doing this as a -- well, including that topic with the expert witness topics that I more typically testify on. Because my background is in, specifically in forensic psychology, that testifying in court about it has been a standard or at least a standard option really for most of my career. It's just shifted with this issue having, you know, exploded until, you know, it continues going through the system for as long as it takes.

Q. Is it fair to say that you shut down your, your private practice to do this expert work?

MR. RAMER: Objection to the form.

A. To make the time for it. My

expectation really at the beginning is, throughout my entire career in science and in teaching was always to provide anybody with whatever information about my field that, that I could.

My expectation at the beginning would be that there would be a case or two where I would present the relevant information and the system would do what it needed to do.

What I did not expect was so few people would be willing to speak about the science in a public manner, so I became one of only very few people doing it. So it resulted in an enormous number of cases.

So as I say, so these will last for as long as they last and then presumably I'll switch back to where I was before.

But it just was not feasible to take on this number of cases and maintain the same full-time practice that I was.

Q. Is it fair to say that at this point in time your livelihood is dependent on your expert work?

MR. RAMER: Objection to the form.

A. No, not dependent because, again, it was never my intention. It was never my plan. And I have every reason to be -- I always need to be prepared for it to end all of a sudden.

So it's just, the advantage of my career is that I -- there are several things that I can do. This is one of, one of the ways that I can apply it. But I will use it for as long as it's available and then switch at whatever juncture that's, that's appropriate.

My love for the field, again, is the learning the material, the sharing of the material and helping people apply it in the best way available.

So this is, you know, the best opportunity for now. It's fascinating, and I have no reason to expect it to be,

to be permanent.

Q. Who first approached you to be an expert in cares -- in cases involving bans on gender-affirming care?

MR. RAMER: Objection to the form.

A. Well, as a sex researcher I've always been -- it's always been an option. The first cases specific to trans issues were sports cases and a freedom of speech case on trans issues.

Then the first case that was specific to medicalized transition, I believe, was the Alabama case, Boe versus Marshall and for that I was approached by, by Roger Brooks who was in a different arm of that same group who was, who was working on the case that I was working on on free speech issues.

So it kind of morphed from issue to issue rather than, you know, having come out of nowhere. It was a logical progression, as I say, with a sports

case on trans issues, a free speech case on trans issues, and then it had care and treatment regarding trans issues.

So it was -- it didn't come out of nowhere, it was just the next of a set of cases on the same basic material.

In what I present and then what the court and others need to know is usually the same or very similar, largely overlapping groups of material.

How that gets applied is specific to the case. But what is known stays the same, largely, for each of the cases given updates, given updates.

I should limit that. I meant that to refer to, largely to when all of this started.

As these cases internationally have gone on, of course, there's been an explosion of material, and with that other types of research methods which have changed the kinds of questions that people have needed addressed during a case.

But as I say, it's how it gets applied is not really the questions, are not really the questions for me. The basic science and how to conduct it properly is relatively constant.

Q. Understood. So please correct me if I'm not getting this right, but is it fair to say that your work on the freedom of speech case is what led you to work on cases involving what you call medicalized transition?

A. I'm not exactly sure I know what would count as led to.

For this very, very strange branch of my field -- again, having been a professional in forensic psychology or in forensic psychiatry, you know, for decades, the number of people involved in, specifically with sex research are relatively few. Because I've been a prominent member or leader of that field also for many years, my name is always on the table or in circulation for many of the relevant top -- topics.

But for this one specifically, the, the environment in which these cases were happening, far fewer people were willing to speak out loud about it during cancellation culture.

But I'm one of the few people who was able and willing -- who was able and still willing to.

So I would hesitate to say led so much as the circumstances led to it, and it's my accumulated experience and expertise at it that made me one of very few people, few logical people to go to.

Q. You also mentioned working on sports cases involving transgender individuals. How did you come to participate in those cases?

A. It was the same basic -- it was the same basic method. I lose track of the exact timeline. But it was still that there were a few people willing to speak on it. The relevant questions pertained to under what circumstances transition would -- was appropriate or

not appropriate or experimental or potentially beneficial for, for a child.

So the questions were the same. Again, whether it's -- the questions -- the cases tend to vary by which part of transitions are potentially beneficial or harmful in which circumstances.

Well, the circumstances changed but the science, as I've said, stayed the same.

Now, I've been speaking on trans issues broadly or of parts of trans issues for 30 years. So as I say, this is not -- this is not new to me. It's society and society's treatments and policies which have, which have changed.

The first case on sports issues was a West Virginia case B.P.J. versus, I don't remember the defendant's name. But the approach was, again, similar. Amongst the people with expertise in sex research, sex research methodology and the content of the development of, of gender identity and human sexuality, the

number of people was relatively few.

When most other people, you know, under cancellation culture and other pressures took a step back, I was one of the few people with the experience and the expertise still willing to do it.

So it was not something that -- I think the thing that led to me wasn't a thing that led to me at all. It's what removed everybody else, leaving me as the one remaining person rather than sometimes it's me, sometimes it's one of, you know, one of, one of the other people.

Q. You mentioned you've been speaking on trans issues broadly or parts of trans issues for 30 years. When did you first start speaking on trans issues?

A. 1990, late 1990s.

Q. And in what context did you speak on trans issues?

A. In the media. It wasn't talked about much at all in those days. I was

explaining the basics, the needs for civil rights, you know, the myths about people who were, who were transitioning.

The broader, the broader conversations then were here in Canada, my own jurisdiction, when my province here where we have a public healthcare system, a single-payer system, that they delisted medicalized transition for qualified adults. Because most of the people who, who were involved in that were in a conflict of interest, but I wasn't. I was still able to speak in support of the reinstatement of medicalized transition of qualified under the gatekeeping model adults.

So I became one of the outspoken experts then saying that the medical policy at the time did not match up with the science, did not match up with the science.

Then there was a change in the provincial leadership and the new leadership did indeed reinstate

medicalized transition for qualified adults.

Q. Dr. Cantor, has anyone ever tried to exclude your testimony?

A. Oh, repeatedly.

Q. In what cases did they try to exclude your testimony?

A. Oh, in one way or another, probably all of them.

Q. Has any testimony you provided been excluded?

A. Not in a trans-related case, no.

Q. How about in other cases?

A. In one case the judge deemed the argument for which the lawyer needed my testimony to have been irrelevant, but it wasn't anything specific to me.

Q. What was the nature of that case?

A. Oh, goodness. It was an atypical sexuality related to the person's consumption of a particular kind of pornography. So the questions to me were about the development of that, of that atypical sexuality which medically

and scientifically we call a paraphilia.

But then when they decided that the nature of that sexual interest pattern wasn't relevant to the case, then my testimony was no longer relevant.

But the basis of my testimony was the development of, of that sexual behavior pattern.

Q. Do you recall the name of that case?

A. That was the 2018 case on my CV. It's the only one listed in 2018.

Q. Has the court ever assigned your testimony little or no weight, setting aside the 2018 case?

A. I remember --

MR. RAMER: Objection to the form, calls for legal conclusion.

A. I just lost a window. I don't know how or why. Somebody say something clever and devastating?

Q. That's a tall order. Can you hear us?

A. Yes, that was perfect. Thank you. I'm impressed that you were able to meet that tall order with -- on such short notice.

MR. RAMER: Julie, do you want to just repeat the question and then I'll lodge my objection and then the doctor can answer.

MS. SINGER: Sure, let me go back.

Q. The question was: Has a court ever assigned your testimony little or no weight, setting aside the 2018 case?

MR. RAMER: And objection to the form, calls for a legal conclusion.

A. I recall language along those lines but not quite like that either. In the Alabama case, I recall the judge who was essentially pitting my testimony against that of, that submitted as I understand it, by the amicus brief submitted by the various medical institutions, so from the judge's point of view as best as I can understand it,

it was this one guy no matter how clever he sounds versus the entire medical establishment.

And so, but because the brief arrived that morning I'd never seen it, I had never read it. I didn't know it existed. I was never, you know, given a chance to evaluate it or fact-check it.

And the judge's decision then was to give that -- to give that more weight, but it wasn't, as I say, anything about the content of anything I said, it wasn't that any fact I ever said has ever been determined to be incorrect, and the decision itself was overturned on, on, on appeal and the whole thing is now awaiting trial.

And there have been other chapters, of course, to that particular case but not really relevant to me.

Q. Have you ever testified regarding gender-affirming medical treatment for adults?

A. Not that I recall, no.

Q. Have you ever testified regarding medicalized transition for adults?
A. Not that I recall, no.
Q. Dr. Cantor, where did you complete your doctorate degree?
A. McGill University.
Q. What did you focus on in your doctorate program?
A. It was, of course, human, human sexuality. Do you mean my dissertation specifically, the research projects I was involved in or the education more broadly?
Q. Let's take all those in turn. So let's start with the dissertation.
What did you focus on in your dissertation?
A. The effect of antidepressants on, on human sexual, mostly on male sexual behavior.
Q. You mentioned research projects. What research projects -- what were the subject -- withdrawn.
What was the subject matter of

research projects that you participated in during your doctorate program?

A. Oh, those were the ones that comprised my dissertation. McGill University has a pattern, a policy, a history of a series of published papers qualify as a dissertation. Their philosophy is rather than writing a two- or 300-page document in addition when they're supposed to be training you to write research papers, the research papers themselves they would, you know, with a narrative to show the flow of the research, would themselves count as the dissertation.

As I say, that's part of what made them famous is that it is, is slash was such a research-oriented department.

Q. Did you focus on any other topics of study either in course work or research related to your dissertation or otherwise?

A. Not course work. The expectation is the basic material is completed by

the time one enters a Ph.D. program. Really it's focused on research methodology itself which would then be applied regardless of the particular questions that one is doing that research on.

Best way to describe it is as an apprenticeship program, you know, one is participating together with one's supervisor and one is doing one's research.

I also had a much more neuroscientific bent more than others.

I said antidepressants on sexual behavior. More specifically, it was the neurochemical circuitry that's involved both in how antidepressants work and how human sexual behavior is managed, handled, programmed in the brain.

So it's because of my studies in that circuitry that I was able to at first theorize and then demonstrate why antidepressants, Prozac mostly in those days, had the anti-sexual side effects

that it does and therefore propose a neurochemical treatment for it.

So again, even though it was a psychology department that's very science-oriented and my background in neuroscience allowed me to cross-pollinate those fields.

Q. As part of your Ph.D. did you ever conduct any research concerning transgender or gender dysphoric people?

A. During my dissertation? No.

Q. Did you have any other educational training related to transgender or gender dysphoric people?

A. Not specific to people with gender dysphoria or expressing gender dysphoria. But of course the reality of it doesn't carve apart quite so easily.

A substantial portion of gender identity and gender dysphoria issues are about distinguishing between gender dysphoria and various conditions which can be mistaken for or can interact with gender dysphoria.

So they're indirectly related. But it wasn't, nothing that took gender dysphoria explicitly as the central topic. But very many of the topics lead to or interact with the various components of gender dysphoria.

Q. And did you specifically study as part of your doctorate program distinguishing between gender dysphoria and various conditions which can be mistaken for or can interact with gender dysphoria?

MR. RAMER: Objection to the form.

A. I can't say that that was ever the object of what I was studying. But it's needed -- one needs to study it in order to understand each of the other, each of the other components. Human sexuality is, of course, made of many different behaviors, interests, interest patterns, fantasies and so on. And so one needs to understand all of them in order to appropriately understand any of

them.

Understanding, you know, how the research is done and how to distinguish any phenomenon from any phenomenon is, again, an overlapping set of material.

I suppose the most predominant example is a very much of gender identity and sexual -- gender identity and sexual orientation overlap and interact, you know, both in regards to behavior and development and brain anatomy.

So studying one is studying the other in the sense that one can't understand one without understanding the other.

So it was never really the focus of, of anything I studied in order to understand gender dysphoria. If anything, I was trying to understand sexual orientation, but that requires understanding gender identity so as not to conflate them.

Q. Have you ever had any educational

training related to transgender or gender dysphoric adolescents?

A. I'm sorry, could you repeat that.

Q. Sure. Have you ever had any educational training related to transgender or gender dysphoric adolescents?

A. Yes.

Q. What training?

A. This would be clinical. Well, part clinical training, part science. Again, human adults are not created out of nothing from the ether.

In order to understand any adult, one needs to understand the human existence from conception forward. Some scientists would argue even before that just for understanding that one needs to understand evolution in order to understand modern humans.

So it's not possible to treat under -- or understand adults without understanding each of the stages that led to it and, of course, one can't

understand any of those stages without understanding the associated brain anatomy.

The clinical training that I did as part of my Ph.D. included, included adolescents, of course, and as an expert in the development of human sexuality, that, of course, is adolescents is a very central portion of that. It's as, I say, inescapable, these, the development and expression of human sexuality does not divide, doesn't divide. Stages lead to stages and all forms, you know, come from prior forms.

Q. But do you have any specific training regarding adolescents with gender dysphoria?

MR. RAMER: Objection to the form, asked and answered.

A. I guess I'm not understanding what you mean by "specific." It's like asking, asking an architect if they ever studied bedrooms. Well, if you are designing buildings, one designs the

entire building which, which includes it. It doesn't divide that way. You can't understand left without right. One can only understand them in regards to each other.

So I don't know what else "specific" might mean.

Q. Is it fair to say that beyond your training regarding human sexuality generally, you don't have other specific training regarding the study of transgender adolescents?

MR. RAMER: Objection to the form.

A. One can't study adults without studying adolescents. Understanding a person in adulthood includes, requires understanding their adolescence, even during treatments with somebody during their adulthood, very frequently refers back to events of adolescence, never mind the chemical, neurochemical events of adolescence. But their experiences and how they integrate their experiences

for a substantial portion of adulthood, a substantial portion of adulthood is spent coming to grips with and understanding and working out what happened during one's adolescence. These, these don't separate.

So these are not sequels in a movie. They are one single continuous line.

Q. So is it your position that anyone who studies adults necessarily studies adolescents as well?

A. Yes.

MR. RAMER: Objection to the form.

A. That's, and that's, again, that's human psychology. That has nothing, that's not specific to gender dysphoria.

Q. Have you ever provided care to transgender people?

A. Yes, I have.

Q. In what positions do you provide care to transgender people?

MR. RAMER: Objection to form.

A. In training as a psychology intern and then after receiving my Ph.D., as a psychologist.

Q. What care did you provide to transgender people as an intern?

A. Assessment for preparedness for undergoing the stages of social and physical transition. In psychotherapy, primarily helping someone to either work through issues of transition or work through issues that were interfering with their transitions. Or finding, you know, alternative ways of dealing with their gender dysphoria and integrating it into their lives in as healthy a way as possible.

Q. Approximately how many transgender people did you provide care to as an intern?

A. It's a little hard to count. The assessments were one a week for that year, so roughly 50 minus, you know, initial training and weeks off and so on.

The therapy cases were largely facilitating groups and, but it was -- it was more than a drop-in group but it wasn't a formal enrollment either so the people rotated, changed and came and went which is what makes that hard to count. But those would be in the several dozens.

And then ongoing psychotherapy cases would be somewhere between a dozen, six to ten-ish.

Q. You mentioned the roughly 50 assessments. Were those one time assessments?

A. They were single session assessments from my point of view, but the person being assessed had several assessments over the course, typically, of years. But the internship itself is one year, so I had one cross-section, if I can call it that, the person's -- I guess what I'm saying is that I gave each person one assessment. But the person was receiving multiple

assessments over longer periods of time and from multiple clinicians.

Q. And each of those assessments was of a transgender individual?

A. Well, that, that question assumes that being a transgender individual is a discrete, concrete, already verified situation. In a very important way, whether the person is transgender or not is the question for which they were being assessed in the first place.

So everybody was experiencing some kind of discontent and strongly considering whether to transition. Whether that counts as transgender or, of course, depends on whatever definition a person is using to define transgender and that, those definitions are broad and varying.

The predominant questions were about whether a person met the diagnostic criteria of the DSM at that time which was also changing at that time.

And then the broader assessment together with it for whether the person is prepared to or would likely benefit from either social and/or medical transition.

So, I guess to ask, assessing a transgender person, whether they're transgender or not was part of the question and it's -- the question was more -- the clinical question to me about them was to assess gender dysphoria, whether experiencing gender dysphoria is sufficient to qualify a person as transgender, again, people continue to debate, mostly nonscientifically, what counts as transgender in the first place.

So there, I guess there is no clear way to answer that question without having a clear set of criteria. But the criteria themselves are being contested.

The question to me was a much more focused, specific question which

ultimately would lead to clinical preparedness for undergoing transition which is not everybody who today calls themselves gender dysphoric -- calls themselves transgendered.

Q. Was any of the care or the assessments that you provided as an intern as to transgender prepubertal kids?

A. No, my exposure to them was observational.

Q. What do you mean by that?

A. I was not a clinician active in their care, but I got to watch such cases which were, there was a substantial clinic, one of the world's top clinics for exactly that at, at my institution, so I got to watch what was going on. But I didn't participate as a clinician.

Q. And how about for transgender adolescents?

A. Well, again, whether they count as transgender in the first place is,

one can't take for granted because different people are -- use that term to mean different things in different situations.

The -- at that time especially, at that institution especially, the questions were much more focused, focused on that. But those did not include adolescents, they were post prepubescent -- they were post pubescent but not yet adult.

Oh, I should probably add also that in those days the -- it's funny to say the phrase the late 90s and early 2000s, the epidemiology of who presents, who refers to themselves as transgender and who presents themselves to clinics is different today by every objective variable we have then -- had then, which is, again, a very substantial portion of why -- of the misunderstandings that people have today when trying to apply what we know from who was attending clinics and who was participating in

science then and just assuming that it's the same for this objectively distinct group that we're seeing today.

So many of the people who were trying to apply the methods that we developed for the classic presentations of gender dysphoria and apply it to the current presentation of gender dysphoria, it's exactly because they had no exposure to the classic types that they don't recognize that what we're seeing today is so -- is a completely different phenomenon.

So again, when we say adolescents, the adolescents who were attending then are not like the adolescents who come to clinics now. The adolescents then were people who were gender dysphoric prepubertally and then got older, became adolescent.

As opposed to the large, large majority that are -- attended clinics today who didn't experience any gender dysphoria in childhood and only started

to express those feelings in adolescence, which, with every objective variable we have, represents a different phenomenon altogether.

Q. What's the basis for your understanding that this represents a different phenomenon?

A. What's the basis for?

Q. For your understanding that this represents a different phenomenon?

A. As I say, every research study presenting objective data that's ever been published on it.

The ages of onset, the sex ratios, the comorbidity patterns, the, as I say, anything that can be verified, anything that can't be faked ultimately it's what's now called the clinical epidemiology.

And each of these are, of course, summarized pretty thoroughly in my report.

MS. SINGER: If it works for you, I think now would be a good time to

take a break.

THE WITNESS: Sure.

MS. SINGER: Natural stopping point. Does that work for everyone?

MR. RAMER: That works for us.

THE VIDEOGRAPHER: We're going off the record at 10:33 a.m., this marks the end of media 1.

(A recess was had.)

THE VIDEOGRAPHER: We are back on the record at 10:43 a.m., this marks the beginning of media 2.

BY MS. SINGER:

Q. Dr. Cantor, approximately how many transgender people have you provided care to in your career?

MR. RAMER: Object to the form.

A. Again, that question assumes that transgendered status is a discrete feature which it isn't.

There are people with gender dysphoria as one among many different issues that they are presenting with and they're not sure. And there are many

people wondering if what they are experiencing is gender dysphoria or something else.

So the count is not a straightforward demographic, is not like -- is not like counting a straightforward demographic.

So the numbers will differ according to how broadly, you know, one would say that a person counts.

The assessment cases I've already summarized for you, the treatment cases then continuing through my first year of supervised practice which is how licensing up here in Ontario works, and then after that, again, the several dozen others. But it wasn't always the central issue or at least transition and whether a person should transition or is prepared for transition isn't -- wasn't always the question.

There were people that I've worked with on regular, every other day -- other regular everyday issues and

they happened to have been either already living as a different gender or it was a person with, you know, one experiencing several sex-related or gender sex-related issues and in that mix was gender issues for the person, or identity issues for the person, one of which was gender.

So which of those count as, you know, transgender, again, people use the word transgender exactly because it's amorphic, undefined, self-defined and easily manipulated.

So the, so the exact cutoff is a little bit tougher to count or at least, you know, how much and how often does the person have to experience, experience it before we shift saying it's a person with gender -- with gender dysphoria issues to a transgender person to the person who happens to be transgender to a person who doesn't know or doesn't know yet or hasn't decided yet or their feelings or they had

feelings that they wish under other circumstances they might transition or they want to transition just for certain portions of their lives but decide not to for reasons unre- -- practical or pragmatic reasons unrelated to their gender identity.

Q. Approximately how many people who identify as transgender have you provided care to in your career?

A. Again, I think my answer is the same. You're using different words to describe, to describe the people, but it's the same sit- -- situation. A person who identifies, and this is again even more true today than before, it's questioned whether self-identity is actually -- whether calling oneself to be transgendered is what makes someone transgendered, is the person's declaration of that being their identity accurate?

Well, that's the question being, you know, put forth to the person during

the assessment.

If the identity itself were sufficient, then nobody would ever need an assessment. If nobody were ever wrong, then if -- but all the science shows that that's not the case. People are not accurately identifying their experiences and people are using these terms in very broad, very nebulous and sometimes very desperate situations.

So that that's -- so it's not just a matter of which words are asking the question, it's the concept itself that the words are getting to. It depends on where the cutoff is to -- which is, of course, the entire question really that we're aiming to answer or inform.

Q. Is it your testimony that you cannot quantify how many transgender patients you've provided care for?

MR. RAMER: Objection to the form.

A. No.

MR. RAMER: Sorry. Objection. Objection to the form.

You can answer.

A. No. I'm saying the number changes according to where one is going to apply that cutoff and that without -- and so asking the question without defining the terms is to give an answer without defining the terms which is meaningless, literally.

Q. Have you provided care to any patients you have determined are transgender?

A. That to me is circular. The predominant question before me is to do the assessment in order to answer that question. I can't know the answer to the question at the assessment. That's the purpose of the assessment.

Q. So you're referring in your answer to the assessment. Have you provided ongoing care to anyone that you have determined is transgender?

MR. RAMER: Objection to the

form.

A. I don't determine. I -- who is transgender. I'm asked a specific clinical question. Does a person qualify for a diagnosis of gender dysphoria, before that called gender identity disorder.

The DSM and the medical system where I perform my practices don't diagnose transgender. That's not the question put before me. That's a sociopolitical term, but I'm not diagnosing a person's sociopolitics. I'm diagnosing diagnosable clinical conditions which is not transgender.

Q. What clinical conditions are you diagnosing?

A. Gender identity disorder under the DSM-IV or gender dysphoria disorder in the DSM-V.

Q. Have you provided ongoing care to any patients diagnosed with gender identity disorder?

A. Who were already diag- -- who had

already been diagnosed with one or the other of those? Yes.

Q. How many patients?

A. These would be the members participating in the ongoing group therapy that I mentioned and the ongoing psychotherapy cases that I mentioned.

So again, these would be the cases that I mentioned because the continuing care is only offered to those receiving the diagnosis and, by definition, a person undergoing the assessment doesn't yet have the diagnosis until after the assessment.

Q. When you refer to the ongoing psychotherapy cases, what did the care entail for those people?

A. That's what I was describing earlier. For some people it's preparing to undergo transition, providing them the support as they disclose it to the people in their environment and rearrange their lives and deal with the stresses associated with transition.

For some people it's deciding whether to transition at, at all.

And for some people it was the full range of human psychological issues that can interfere with the person's transition and so helping them deal with those various, you know, anxieties, mood disorders and so on.

And for some people who decided that even though they're genuinely gender dysphoric that they, for whatever reasons, don't want to physically transition, or at least permanently physically transition and are looking to explore other ways to integrate their sexuality and gender feelings into their lives.

So very often it's helping them experiment, provide feedback and live out different compromises that can help, you know, maximize the options before them.

Q. And how many such patients did you personally provide ongoing care for?

A. Again, at best count, some, somewhere around 80 to a hundred.

Q. And when did you provide that care?

A. The largest concentration of them would have been earliest in my career than most of my clinical activities were related to, only tangentially related to transgender issues. And again -- and then again more as I increased my clinical activities once I left my academic post.

Q. Were any of these patients under the age of 18?

A. Yes, some of them.

Q. How many?

A. For ongoing care, a handful earlier in my career and then accumulating relatively slowly over, over my career, and there was a glut of them.

Again, the way that you've been asking the question and adjusting your question kind of switches, switches

things a bit.

For very many of the people that, that I'm discussing such issues, it's where -- whether they fit over whatever appropriate line or criterion is the question. For their already having -- for their already having received a full time diagnosis and undergoing physical transition, again in my jurisdiction that doesn't happen until later.

So again, the numbers change according to exactly where one is drawing the line, and a great deal of what my function is, any clinician's function is, is helping decide where the line is and whether a person is over whatever line.

So it's -- I don't mean to sound evasive, but it is exactly because people are trying to make numbers look like other numbers that I have to know exactly, you know, what it is that anyone is talking about for any given question.

So it's the ongoing care for someone who is transgendered, again, leads me to, well, what do you mean by transgender? There are people using very broad definitions and then, you know, in a clinical context where the government either is or is not going to pay for the care. The line, as I say, the lines are very, very meaningful and they differ widely in different contexts. So I can't take for granted what you or anyone else means in using the word.

Q. I appreciate that. So let me clarify my question.

I'm talking now about individuals who've received a gender dysphoria diagnosis for whom you've provided ongoing care.

A. I don't -- it would be a small handful who had already received a diagnosis. Typically they have questions about gender in their minds amongst many other identity and

developmental issues going on in their minds, but they will have not yet received such a diagnosis.

Typically they want to understand themselves and the mix of their feelings more broadly, and those who then want to explore opportunities or possibilities for transition would do so afterwards.

Q. So is it your testimony that you're not able to point to a number of people who have been diagnosed with gender dysphoria for whom you've provided ongoing care?

MR. RAMER: Objection to the form.

A. The care I provide usually would occur before they would receive a diagnosis, that -- it would happen before they -- they're trying to answer that question for themselves never mind undergo a diagnosis for it.

Again, this is one of the distinctions between the American healthcare system and the Canadian

healthcare systems.

Up here one can receive such care, one can receive such care because one is a Canadian, period.

In the US it's under what circumstances, under what -- who is going to pay for it, whether insurance is going to pay for it. If you have a diagnosis, then insurance will pay for pay for it so you get the diagnosis.

But that's not about the patient anymore, that's about the doctor.

Q. Understood. With respect to any employment you have held, have you ever been subject to discipline by your employer?

A. No, not that I recall.

Q. Have you ever been subject to professional licensing discipline?

A. Not -- there have been complaints launched. Nothing that I think counts as what a -- my hesitation is I'm trying to recall exactly what it is that they count as discipline.

I don't think anything ever got that far.

Q. What was the nature of the complaints that were lodged?

A. Oh, usually somebody would be upset with something that I said somewhere on the Internet and lodged a complaint to try to -- well, I don't want to assume the other person's mindset, but essentially as a way to express -- a way to intimidate or express their discontent with whatever it was I said.

Q. And do you recall what it was you said that caused the complaint or caused that reaction?

A. One, it was -- there was one 20 years ago-ish. I don't think it was even a specific thing I said.

A trans person was presenting at the hospital where I was, but he wasn't actually -- and the particular part that I contested was not anything that he said about himself but what he said the

procedures of the clinic were.

Well, they weren't the procedures of the clinic and I said so as part of -- during the Q&A period and he entered that as a, as a complaint which he, I think, said was targeting him when of course I was just saying what the policies of the clinic actually were.

That was one.

The other one I recall was from Jack Turbin. I don't remember exactly what it was, but he made some claim which just did not match up with the research and I said what -- go ahead, what's the study, you know? And silence, as very often happens when one actually has something specific evidence behind his words.

He said, couldn't answer. And so once it became apparent then to his audience that he wasn't going to answer, then whatever, a week or two later, there was, my HR -- my licensing board informed me that he had entered a

complaint with, with them.

Q. Do you recall any other complaints?

A. There's at least one other, but that didn't even get that far. My recollection of it was that it was so clear that the person -- that I wasn't breaking any rules. The person simply disagreed with me and again was trying to abuse the, up here, the licensing boards are called the colleges.

It was so clear to the college that the person was trying to abuse the process in order to just, you know, keep me from speaking that there really wasn't anything for me to do. They were just informing me that it was, that it was launched, that the complaint was launched.

Q. And do you recall the content of the complaint?

A. Not really. It was -- it was the belief that whatever I -- the only time I ever -- the only things I really ever

say in public are the topic or the contents of the science. I really avoid as much as possible specifics about particular policies.

But that the person believed that whatever it was I said, which again, is the content of the science, that that would lead people to suicide or whatever extreme they were claiming.

But again, it was really -- it had no factual basis to it.

So they are required to inform me and they're required to, you know, give me the opportunity to say anything. But there really wasn't anything to add. I think I might have submitted whatever research articles that backed up whatever it was the person contested. But -- it amounted to the person was blaming me but the person who lodged the complaint just didn't like the facts.

Q. Do you recall who lodged the complaint?

A. I don't believe I was given the

name ever.

Q. Understood. Have you ever been involved in any medical malpractice cases?

A. I don't think so. Because this question followed your prior question, do you mean cases lodged against me or where I'm serving as an expert when a complaint is lodged against somebody else?

Q. Thanks for the question. I was referring to cases lodged against you.

A. No.

Q. Thank you. So I'd like to turn back to Appendix 1 of your report, this is your CV, and look specifically at pages 3 through 7.

Do you have that in front of you?

A. Yes, I was going to say do you mind if I use a hard copy?

Q. That's fine with me and we will also put it up on the screen for others.

A. Page 3?

Q. Yes. Looking at page 3, the

seven which here lists your publications; is that correct?

A. Yes.

Q. And these are publications you've both authored and co-authored; is that right?

A. Yes.

Q. What topics do you predominantly write about?

A. Historically, mostly about pedophilias and related phenomena. But, of course, the entire range of human sexuality. These don't divide so neatly. The ones where I had the greatest opportunity to make the most novel contributions has been with sex offenders and pedophiles.

Q. Have you ever published on the topic of transgender individuals?

A. Yes.

Q. When did you first do so?

A. First?

Q. Yes.

A. About 15 years ago.

Q. And which publication was that?
A. I believe that was the Recalled Child Questionnaire with Ken Zucker.
Q. Was that peer reviewed?
A. Yes.
Q. After that publication, when did you next publish on the topic of transgender individuals?
A. Was another relatively technical paper. Was there one --
Q. Sorry, Dr. Cantor, I don't know if you said something or you are just looking. I didn't hear you.
A. Mostly I'm looking and just half thinking to myself.
Q. Sure, take your time. I just want to make sure I didn't miss it.
A. I'm thinking of the book chapters. The most relevant ones, of course, would be my fact check of the American Academy of Pediatrics then policy statement that they came out with where I, you know, just went through their own reference list and just

demonstrated that the articles that they were citing did not say what they claimed that they said. Indeed, often said the opposite.

And then the chapter and then the revised chapter and then the again revised chapter on paraphilias gender identities and sexual orientation for the Oxford Textbook of Psychopathology was also included gender dysphoria.

Q. And the first one you mentioned, I just want to make sure I understand what the publication is. You said it's a fact check of the American Academy of Pediatrics. Which publication on the list is that?

A. Number 2.

Q. Was that peer reviewed?

A. Yes, it was.

Ah, it was. I'm sorry. And also number 3, that was the one.

Q. When you say that's the one, can you --

A. That was the other paper that I

included gender dysphoria and medical transition issues because, of course, the use of cross-sex hormones and puberty blockers was part of what changed the steroid exposure to the brain and then the, you know, how the brain develops in response.

Q. Have you ever presented on the topic of transgender issues?

MR. RAMER: Objection to the form.

A. Yes, predominantly early in my career, around my internship when trans issues were really not yet largely on the radar screen and GLBT issues were still discussed as GLB issues and I was one of the first people, especially within the American Psychological Association, introducing T issues with the GLB issues.

Most of those were relatively informal but again, just helping people to understand. And in those days they appreciated that they didn't know, but

wanted to know about gender dysphoria and transgender issues.

Q. And are these presentations that you're referencing on your list of paper presentations and symposia or listed elsewhere on your CV? The paper presentation list I'm referring to is page 16 to 18.

A. Yes.

Q. Which presentations are those?

A. Oh, I'm just looking.

Q. Oh, sure.

A. The ones that --

Q. Sorry.

A. -- that are in my head were relatively informal. I don't remember if I included them.

No, I don't think I did include them.

Usually they would be in discussion hours or relatively informal question and answer, Q&A kind of formats during conventions and those kinds of things, not, not formal academic

presentations.

Q. Understood. Is that why you didn't include them in the CV?

A. Correct.

Q. In addition to those presentations you've referenced, any other presentations that you've given on transgender issues?

MR. RAMER: Objection.

A. Again, not academically. Predominantly, several would be, for example, in the media, again presenting the same issues to the public in the days when they really were not discussed at all.

Q. And in the informal presentations you've been referencing, what did you convey in those presentations?

A. The association and distinctions between gender identity and sexual orientation, the developmental progress of what we know about what caused them, and more than anything else the typology that transgender and gender dysphoria is

not one thing in the way that sexual orientation or more specifically that homosexuality is, that there's more than one thing that can motivate a person to feel gender dysphoric or to want to live as the other sex and the outcomes, research that was available then on adults only who were, you know, otherwise mentally healthy and successfully using the gatekeeping process or clinics successfully implementing the gatekeeping process in order to identify the people most likely to benefit from medicalized transition.

Q. And what was the basis for the information you were conveying at these presentations?

A. The existing research at the time, either the clinical epidemiology and the outcomes research.

Q. And am I getting it right that the presentations focused on adults but not on adolescents?

A. Correct. Some of the -- yes,

that would be correct. That was the content of the outcomes research at the time.

There was -- the equivalent didn't yet exist for minors.

Well, that's not completely true or that's not all of it.

There didn't exist outcomes research for transition because there didn't yet exist outcomes data for transition. But we did have and do have substantial evidence about the developmental process, and so the distinctions between the childhood onset kinds of case versus the, what was then called late onset or adult onset type of case.

So we had the clinical epidemiology and we had the knowledge that these were distinct phenomena, so it was relevant and I did include those kinds of things.

But not outcomes research because medicalized transition for minors hadn't

yet been happening.

Q. When did you become interested in the study of transgender individuals?

MR. RAMER: Objection to the form.

A. That's not, as we say, carving nature at its joints. It's not that I ever didn't have and then did have an interest in it. My interest was in human sexuality and how human sexuality develops. One can't understand any portion of that without understanding every portion of that.

One only knows what one is looking at by distinguishing each of the various developmental trajectories and we only can do that by contrasting them with each other.

So studying -- one can't study homosexuality without studying heterosexuality because that's your control group. You can't see what's specific to sexual orientation without contrasting it with gender identity.

You can't contrast -- can't understand gender identity without understanding sexual identity.

You can't understand sexual orientation without also understanding age orientation.

So as I say, and also especially because it's such a small field, the tools and the techniques and the variables we look at are very, very highly cross-pollinated.

Once somebody figures out how to use, for example, handedness turned out to be a very substantial variable. Handedness ratios. Once it was understood that that was a way to understand early developmental processes in the brain at first for sexual orientation then it was ah, we should do that with, and then everybody started using it with whatever populations they had at their disposal in order to, in order to see if it applied to whatever phenomena they were working with.

So as I say, these are all mixes of the same thing.

So my -- I never developed or avoided an interest specific to gender identity. It's you can't understand the left hand without understanding the right hand. We only understand each in relation to the other.

So it was just -- I'm trying to come up with another analogy to phrase it. Like going to medical school but only studying from the waist up. That's not how it works. You have to understand the whole thing in order to understand it.

In fact, it would be fair to say that that is a mistake that has been made in the recent generation of clinicians, is that gender identity is being approached in isolation from all the other aspects of human sexuality, and so they're not seeing the big picture and they're mistaking what they are seeing to be about gender identity

when it's actually about a different part of human sexuality. Usually sexual orientation, which is what led to all the confounded studies that claims that are being made about gender identity such as the very common claim about female brains in male skulls and so on. That's not about gender identity. Those variables are attributable to sexual orientation.

But because these people don't study sexual orientation they don't recognize what it is that they are seeing and they are misattributing it.

Q. Have you ever conducted original research pertaining to the treatment of gender dysphoria in adolescents?

MR. RAMER: Objection to the form.

A. I haven't conducted any outcomes studies of them.

Q. So you're isolating outcome studies. I just want to make sure I understand the answer.

Is there other research pertaining to the treatment of gender dysphoria in adolescents that's not outcome studies that you have conducted?

A. The -- it's a little bit esoteric. I'm just trying to be scientifically valid but also do my best to understand the question as I think you probably mean it.

The other predominant kind of clinical question would be an assessment question. For example, what does one find upon assessing or assessing a group of trans people or people who think, are expressing gender dysphoria.

What I have published, for example, is the article with Zucker was in how to develop -- was the development of an assessment instrument that would then go ahead and be applied to children expressing gender dysphoria.

Now, in developing the research, the assessment method or the clinical technique for conducting that assessment

requires the bodies of these kids and then the clinical information about the kids, then the results of the clinical questionnaire with what we know more exhaustively from the full clinical file.

But the purpose of the paper was to use the clinical sample to develop the clinical instrument rather than the more common but less fundamental kind of research where one uses an already existing assessment instrument to assess the population.

Again, I participated in the reverse, the rarer but more fundamental and meaningfully more important kind of research where we take the population to develop the instrument itself which then everybody else goes ahead and uses.

The same with the Shirazi paper. Again, it's a sample including people with gender dysphoria onsetting at different ages in order to see how it influences the brain.

But it wasn't a question about gender dysphoria itself. I mean, it wasn't, you know, for a clinical purpose, but it was people who happened to have been already in a clinical situation which would tell us something novel about how the brain develops, which is relevant to the people with gender dysphoria but it wasn't a clinical study where we were seeing how people respond to, you know, for a clinical purpose.

So again, it's usually we would call that basic research versus clinical research. So I've participated in basic research but not clinical research which would be assessment for the purpose of assessing individual people. But it was assessment research in the sense that we're figuring out the best way to do the assessments in the first place.

Q. I appreciate the distinction, that's helpful.

So focusing on treatment, you've

not conducted original research pertaining to the treatment of gender dysphoria in adolescents, correct?

A. Again, the word I'm hesitating on is "pertaining to." Well, yes, developing a method for conducting that assessment pertains to it. But it wasn't outcomes research. The question being asked was not does treatment work or not work.

Q. Have you ever completed a systematic review of gender dysphoria treatment?

MR. RAMER: Objection to the form.

A. A systematic review of my own? No.

Q. And how about a systematic review of puberty blockers?

MR. RAMER: Objection. Objection to the form.

A. No.

Q. And how about a hormone treatment?

MR. RAMER: Objection to the form.

A. Of my own, no.

Q. And how about of surgical care for transgender people?

MR. RAMER: Objection to the form.

A. No.

Q. Have you ever been part of a group that develops guidelines for the treatment of gender dysphoria?

A. No. No. I've consulted with various groups that were asking questions about how to instantiate various policies, but not groups that were forming broad, forming clinical practice guidelines that would in turn be used by other organizations.

They were asking me about what they needed to know in order to decide their own internal policies but not to make a cross-association or institution set of guidelines.

Q. And what were those groups?

A. Oh, goodness. Usually they were hospitals or educational systems asking about how to, how to integrate what the potential needs, usually triggered by a specific individual person who was considering medical institution -- medical transition and what would be necessary -- what would be necessary, what are the risks and what are the pathways.

Q. Have you ever participated in a review pertaining to the development of clinical practice guidelines?

MR. RAMER: Objection to the form.

A. I'm sorry, could you ask that again.

Q. Sure. Have you ever participated in a review pertaining to the development of clinical practice guidelines?

MR. RAMER: Same objection.

A. Not for gender dysphoria in minors, no.

Q. Have you ever been a member of WPATH?
A. No.
Q. Have you ever participated in development of SOC8?
A. In its development, no.
Q. What is your understanding of what this case is about?
A. Well, this is, of course, one of several very similar cases going on in several states. The specific issues are the ending of medicalized -- what's ultimately the medicalized transition of minors and the removal of public funding for medicalized -- removal of the funding that would otherwise have supported the medical transition of, of adults under the current, currently used guidelines. Currently used -- more specifically, under the current WPATH standards or which would -- I'm getting ahead of myself -- which ultimately would be under the current -- in the current environment I think is

appropriately broad.

Q. And where did your understanding of this case come from?

A. A combination of the original documents sent to me with the case and, my discussions, of course, with the legal representatives for the state.

Q. Did anyone request your involvement in this case?

A. I don't think I understand that question separately from when I was first engaged to be in the case. If they didn't, I wouldn't be here. Am I misunderstanding the question?

Q. No, that's fair. That's a fair response.

So I take it your testimony is that Cooper & Kirk engaged you for this case, am I getting that right?

A. Yes, that sounds correct.

Q. And have you worked with them before?

A. Yes, in two other cases, I think. Again, I'd have to go through my list.

Q. And also in the capacity as an expert?
A. Yes.
Q. Why did you agree to serve as an expert in this case?
A. Really the same as with them, not only with all the cases, but really in every arena in which I'm asked to contribute. This is why I became an academic and a scientist in the first place.

The material itself is, again, to me, intellectually fascinating. It never occurred to me that it would become the legal phenomenon that it has. But the point of being a scientist in my field is to learn about and to share with whoever it is that asks me whatever information I can provide about human sexuality.

It's, but rather unexpectedly, it's turned out to be the contemporary controversy that it has.

The more direct entrance to this

portion of the public debate really was from my critique that I published of the American Academy of Pediatrics clinical statement.

Of course, again, having been in and around this material for several decades, each time the WPATH criteria came out, you know, I read them rather thoroughly just as part of knowing what's going on and again the material is fascinating to me.

And I was watching version after version departing farther and farther away from what the science was saying. I never really, you know, got involved. It wasn't part of my -- I was just working. I focused on other, other materials.

But then when the AAP statement came out which was not merely putting a good face on or a bit of a spin on the material, but I, of course, was intimately familiar with the documents it cited and I knew immediately that

those documents did not say and often said the opposite of what was in, in that article.

So, you know, not paid by anybody, not part of any particular case, it -- I could not -- I wouldn't be able to live with myself or sleep at night knowing what it was they were doing wrong being one of the few people to be in a position to say something and not do it.

So I, just on my own, wrote that paper just to point out that, to the world, you know, you want to double-check this perhaps?

And being really the first person to have said that out loud, in black and white, where anybody can check. Nothing, you know, none of it was opinion of mine. None of it was view. It was just here's what AAP said, the document said and then I demonstrated what it actually said. And as I say, anybody who wanted to check it could

check it.

So that's where I started and it was like with everything else I just couldn't sit by and watch such misrepresentation of the science.

Because so few other people were willing to do that, that when the legal system started getting engaged and they were looking for experts who knew the material and were able to speak in public in an environment where that was not easy, I was one of the few people able to do it. And so then, once in one case and, you know, when other states get involved that led to the other cases and so on.

So it's not so much this case as this is just the next wave of all the same initial spark, if I can call it that.

Q. What is your understanding of the provision of gender-affirming care in South Carolina?

A. I can't say that I know the

specifics, and I don't really -- and don't claim to be making any claims about -- and I specifically avoid making any claims about any policy. I'm not a policy -- I'm not a policy analyst, I'm a scientist.

I will tell and share the science with anybody who asks. But how that science is best instituted with any given jurisdiction is up to, you know, that jurisdiction and their values and preferences in various political and financial constraints.

There are nonscientific issues of course that go into public policy.

But my only interest and the only claims I make are about the science itself.

So whether -- when a policy is made, you know, on the basis of the belief that it will improve the mental health of the youth, of course that group, the policymakers, need to know that the evidence does not demonstrate

with any meaningful clarity that there will be an improvement in mental health.

Now, exactly how they apply that information is up to that jurisdiction and is no longer a scientific question. The part that's relevant to me and, of course, the only parts I include in my report are what the science says. Then it's up to each individual jurisdiction, South Carolina included, to decide how best to implement or what policy to implement given that state of knowledge. Given the knowledge and its state.

Now, that's still ambiguous, isn't it? Well.

Q. Have you ever spoken with doctors in South Carolina who provide gender-affirming care?

A. I don't know. I receive communications from people all over the world and they ask me specific questions about, you know, whatever situations they're in, whether it's an individual case or not, and it's rarely, if ever,

relevant where they are.

As I say, it's my knowledge is the scientific base not the legal base.

Q. But as far as you recall, you don't recall any doctor you've spoken with being from South Carolina treating patients in South Carolina, to the best of your recollection?

A. It's not even my recollection. As I say, it's not relevant. They don't tell me. I don't ask. It's just not -- it's -- the better answer really is that I don't know. I don't ask. It's never been relevant to any, any conversation that I've had or question that they've put to me.

Q. Understood. Do you know any of the individual plaintiffs in this case?

A. No.

Q. You have not personally spoken with any of the plaintiffs in this case; is that right?

A. That is correct.

Q. Have you read any of the

plaintiff declarations in this case?

A. I don't recall. I don't recall.

In some cases it's relevant, and the legal representatives will sometimes ask me specifically to review them in order to help them identify any relevant issues. But I don't recall reading them for this case.

MS. SINGER: Understood. I know we've been going for a little over an hour. Is this a good time -- can we go off the record, actually.

MR. RAMER: Yes.

MS. SINGER: Thank you.

THE VIDEOGRAPHER: We're going off the record 11:49 a.m., this marks the end of media 2.

(A recess was had.)

A F T E R N O O N S E S S I O N

(Time noted: 12:34 p.m.)

JAMES MICHAEL CANTOR, resumed, having been previously duly sworn, was examined and testified further as follows:

THE VIDEOGRAPHER: We are back on the record at 12:34 p.m., this marks the beginning of media 3.

BY MS. SINGER:

Q. Dr. Cantor, you are not an endocrinologist, correct?

A. That is correct.

Q. Have you ever studied puberty-delaying treatment?

A. When you say "studied," do you mean published research, took a degree in endocrinology? Yes and no.

My doctoral dissertation, again, the chemical circuit I was describing that antidepressants interfere with is neuroendocrinology so, of course, my dissertation was in, specifically, in oxytocin is the relevant hormone.

So I've done substantial studies with specific endocrinological aspects, but clinical endocrinology in what an endocrinologist would do, again, is much, much broader. The parts I've studied are specific to sexual behavior.

Q. Do you currently prescribe puberty-delaying treatment?

A. No, I don't. In fact, that would be one of the things which would, you know, put me legitimately in a conflict of interest.

Q. Do you prescribe hormone therapy?

A. No.

Q. Do you currently treat prepubertal kids?

A. I treat kids ages -- well, people ages 16 and up.

Q. And do you currently treat adolescents?

MR. RAMER: Objection to the form.

A. I'm qualified to but, of course, since I reduced my clinical load for

now, I'm treating relatively few people of any age. None of them are currently adolescents. But of course, the basis of my testimony is on the existing research literature, not my personal clinical anecdotes, which is what systematic research is meant to overcome.

Q. Are you offering an opinion that hormones are never an appropriate treatment for individuals under the age of 18?

MR. RAMER: Objection to the form.

A. The state of the research can't be too definitive in any direction. It's, as the systematic reviews have pointed out and as I emphasized in my report, we have an enormous number of unknowns, and with unknowns anything remains possible in the future with continued research.

But clinical decisions are performed on the basis of the four part

risk-to-benefit ratio. The other two parts being the unknowns and the alternatives.

So because the harms are well established and quite dramatic, it's, the major unknown is whether it benefits. And despite many attempts, there has not been any kind of meaningful evidence of benefit. So that's the current status.

So that's the current status at a policy level. But it's generally impossible for any kind of research, any kind of outcomes research on any intervention to say that there can't be an exception. But that's not -- but we have no good way of identifying, we have no accurate way of identifying even close to who such an exception might be.

So the balance on a policy level is more people are being saved from the harms than the unknown potential theoretical undemonstrated possibility of future benefit.

Q. Is that an expert opinion you're offering, that more people are saved from the harms than, than that outweighs the benefit that they could receive?

MR. RAMER: Objection to the form.

A. I'm saying that that statement is the only one that's consistent with the existing evidence. But of course, if somebody can demonstrate some alternative or if something, some science develops in the future that, you know, that rebalances it, that is always possible.

I guess what I'm pointing out is, what you asked me was the -- I don't remember the phrasing of the question, but ultimately it's -- no, I'm pointing out that there can exist exceptions. We just have no way of using that unusable policy. Or we have no way of using that in any kind of a policy because we can't identify who such an exception might be.

Q. Are you an expert in policy?

A. I am not sure how to answer. I don't think I'm offering an opinion about policy per se. I'm pointing out what aspects of a specific policy are consistent with the, with the relevant science.

Q. Speaking about risks and benefits, is it the case that risks and benefits are to be weighed for individuals?

A. Yes and no. As I often emphasize, there are actually four parts to risk and benefit. It's risk and benefit of all alternatives given the unknowns of all of them. As I said, there are four components to it.

That basic ethical structure, I mean, it is enacted in different ways for different individuals versus groups, but the basic clinical ethic principle is the same.

Q. Do you personally support hormone treatment for some individuals?

MR. RAMER: Objection to the

form.
A. That's a bit general. For adults who otherwise meet the criteria that match the research that demonstrate its benefits given the other components, yes.
Q. Are there some adolescents for whom you would support such treatment?
MR. RAMER: Objection. Objection to the form. Sorry, I couldn't hit the mute.
A. I don't have a principle which -- I don't hold any ideological principle which opposes it in theory. To me, this is, as I emphasize, a matter of what the research tells us and the existing research is that the -- we have very strong evidence of very specific undeniable harms, but have only very ambiguous, unreliable and sometimes lack, and very often lack of evidence of benefit relative to the alternatives which is psychotherapy.
The question is, the relevant

clinical question is not hormone therapy versus nothing, it's versus the alternatives available. For mental health phenomena, the alternative available is mental health treatment. But all of the evidence being brought -- being offered, by that I mean existing in the research literature, the ones that demonstrate benefit, are people who received both psychotherapy and hormone treatment.

Well, if either of those is, you know, feasibly responsible for the mental health benefit, we necessarily go -- well, ethically necessarily go with the one which is less risky which is psychotherapy because it doesn't have the physical side effects that the physical treatments do.

But as I say, I don't have an ideological principle that opposes it. It's simply that the science says that we have alternatives with a superior risk-to-benefit ratio.

Q. In practice, do you oppose the provision of hormone treatment to every single adolescent?

MR. RAMER: Objection to the form.

A. I don't have any ideological opposition to it, but, of course, society has to decide how best to implement it and whether it has the capacity to identify the exceptions. That there can exist an exception, doesn't mean that we get -- doesn't mean, under basic clinical ethics, that we get to put large number of people at risk in order to potentially benefit relatively few.

So making the decision for the group is not identical to, to that of the individuals, to that of each individual case.

So it's, for example, the classic medical ethic first do no harm, if we're not sure if this is going to help or hurt, we don't weigh these equally. The

one that's riskier has the burden of proof to demonstrate that it can provide benefits superior to that risk.

It's possible, but that possibility isn't sufficient when the risks are much more concrete, demonstrable and established.

And by any meaningful criterion, the evidence of benefit, we keep finding the better the research the less evidence of benefit there is. It's only when it's ambiguous and there are several possibilities that potential benefit is theoretically one of the possibilities.

But the better the research is able to isolate those and get rid of the potential side effects, the effects that are attributable to medical interventions evaporate.

Q. Just so I understand the expert opinion you're offering, you're not offering an opinion that on an individual basis it is never appropriate

to prescribe hormone treatment for adolescents; is that correct?

MR. RAMER: Objection to the form.

A. My hesitation is with the word "never" which indicates that there can't be circumstances under which things change. But it is always possible for research in the future to change the balance.

As I say, I hold no, and I'm offering no ideological argument. But the state of the science is that the risks of harm are substantial and the potential benefits are not well demonstrated if demonstrated at all relative to the alternatives.

Q. I appreciate the response but I don't think it's answering my question. It was just whether you are offering an opinion as an expert that on an individual basis it is never appropriate to prescribe hormone treatment for adolescents.

Are you or are you not offering that opinion?

MR. RAMER: Objection to the form, asked and answered.

A. I'm pointing out that the word "never" can be interpreted in more than one way and I can't use the word "never" because it covers the future which I can't give any testimony about.

Q. So you're not offering that opinion as phrased?

MR. RAMER: Objection to the form, asked and answered.

A. I'm saying the question is ambiguous as phrased. It's not a direct or answerable question.

Q. So you're not as an expert proffering an answer to that question, correct?

A. It has nothing to do with my expert --

MR. RAMER: Doctor, let me interject.

Objection to the form. Asked and

answered.

You can answer.

A. It has nothing to do with me as an expert. It has to do with me as a speaker of English and knowing what the words mean.

Q. You're familiar with the report you submitted in this case, right?

A. I'm sorry?

Q. You're familiar with the report that you submitted in this case, correct?

A. Yes, quite.

Q. In that report, do you offer an opinion that it is never appropriate for an adolescent to receive hormones as part of treatment for gender dysphoria?

MR. RAMER: Objection to the form, asked and answered.

Doctor, you can answer again.

A. I don't recall the exact phrasing that I use. I would have to again see it within the context and together with whatever evidence it was that I divined

then summarizing.

Q. So you don't recall offering an opinion to that effect?

MR. RAMER: Objection to the form.

A. No, I said I don't recall the exact words.

Q. Do you recall offering an opinion to that effect?

MR. RAMER: Objection to the form, asked and answered.

A. Everything I recall expressing was about comparing policies and discussions to the content of the science which acknowledges very many of the unknowns and missing information and incomplete data and its implications for, for policy.

But any policy, individual or group level is also dependent on the values and preferences of those people and that group which are not scientific questions.

I can only point out what is and

is not consistent with the science.
Q. And does the science in your view reflect that providing hormones to adolescents is never an appropriate form of treatment?
MR. RAMER: Objection to the form.
A. It's not possible for science ever to say never because it's always possible for future research to, to change things. But the combination of the existing science and the medical ethics which require the burden of proof to be on the demonstration of benefits that outweigh the evidence -- to outweigh the evidence of benefit to outweigh the evidence of harm, we lack evidence demonstrating benefits superior to the risks of harm.
So the ethical implication is that the procedure not be done. But it's not possible for any science of any subject to say never.
Q. If psychotherapy is found to be

an ineffective method for an individual, what in your view does the science support doing next?

A. It's not possible for science to support a treatment not working. That's called proving the null which is not in science possible. We can only fail to find evidence of benefit. If we run a study that finds -- even though we have a study or a large number of studies showing no benefit, it once again remains possible for a future study to find evidence of benefit.

So it's not possible to find -- to prove no benefit. It's only possible to fail to find evidence of benefit.

As I said, that's the basic procedure of a scientific method.

Q. And are you purporting to speak about individual cases or you're talking about trends supported by the study? My question was if an individual does psychotherapy and doesn't work, what does the science support doing?

MR. RAMER: Objection to the form.

A. That's not how science works. Science doesn't say things about individual people. Science identifies. Again, that's just the basic scientific method. Science identifies the generalizable principles that apply to the entire universe of discourse. It doesn't speak to individuals.

What speaks to individuals are the application of the general principles which then whatever clinician or actor, again, uses the generalizable principles of science to apply to a specific case.

But science itself doesn't say what to do in an individual case, nor does science in statistical applications in the clinical sciences where there's a range of -- where there's a much larger number of variables at play, it's, you know, more feasible for there to be exceptions.

But the existence of an exception does not disprove a rule nor does it change the policy level weighing of risks and benefits.

Or in the absence of a method of identifying who the exceptions are going to be, engaging in a procedure in one person is to have as a policy putting at risk everybody else because we can't predict which of those people it will benefit.

So acknowledging the possibility of exceptions does not change the policy -- does not change the policy because it doesn't change the risk-to-benefit ratio for everybody affected by the policy.

In order to be giving the treatment to the one out of a hundred exceptions, we're putting 99 at risk.

So the overall balance of the risk-to-benefit ratio is not to implement that treatment because we don't know which of these people is

going to be that exception ahead of time.

It's only if we could identify the potential exception that we would need then to start -- that we then can change the bottom line ratio of risk to benefit.

But we don't have that, such a procedure.

Q. So you referenced in your answer exceptions.

Do you have an understanding of the number of, quote/unquote, exceptions applicable in South Carolina?

MR. RAMER: Objection to the form, calls for a legal conclusion.

A. Such a number is unknown at all in any jurisdiction. And it's not clear. We don't have clear evidence that they exist. As I said several times, we have a theoretical possibility that they can.

Q. Do you have an understanding of the consequences of withholding medical

care for adolescents with gender dysphoria?

MR. RAMER: Objection to the form.

A. I have an understanding of the range of possibilities including that, again, the assumption built into withholding again ignores one of the four components of the basic clinical ethical question.

The question -- the clinical question is not give it versus not, it's medical intervention versus not nothing, but psychotherapy.

And all -- and this is one of the great faults of the research literature, is that the only studies which have been providing -- there's an exception -- the studies that have been providing medical transition, they've been providing psychotherapy at the same time.

So we can't know which of those that were providing the benefit.

The exception that I mentioned

did apply the two treatments in a way that was separable and found that there was no significant difference in their outcomes.

Well, if there's no significant difference in their benefits and psychotherapy has substantially less physical harm, then the risk-to-benefit ratio of the alternatives is to use psychotherapy.

Q. Do you agree as a general matter that delaying access to care that is medically indicated could cause a patient harm?

MR. RAMER: Objection to the form.

A. There are a bunch of things built into that. Even though the question uses each of those terms in a binary way, each of those exist on a continuum.

The question can't -- no such risk-to-benefit ratio question can be asked in the absence of any of the four components to it. It always has to be

relative to the unknowns and it has to be relative to the alternatives.

The other term you used, which again, depends on what it's composed of, is medically indicated. Well, how do we know what was medically indicated in the first place?

Q. Have you read the text of the law at issue in this case, H 4624?

A. I recall that I read it. I don't recall it -- but I don't actually recall the text itself. As I say, I'm testifying to the content of the science itself, not the specific, not any individual policy following from it.

Q. Do you have an understanding that the law prohibits using public funding for gender transition period -- procedures?

MR. RAMER: Objection to the form.

A. Yes, I remember that as the basic idea. Or one of its basic ideas.

Q. And do you have an understanding

of the basis for that?

MR. RAMER: Objection to the form.

A. What do you mean by "basis"?

Q. A basis for that, the law.

MR. RAMER: Same objection.

A. Same question. But I'm not sure what you mean by "basis."

Q. Do you have an understanding of the foundation that gave rise to the law that prohibits using public funding for gender transition procedures?

MR. RAMER: Objection to the form.

A. Although a synonym, I'm not sure if you're referring to alleged motivations of a particular population, the alleged motivations of the particular politicians to the, to the justifications that were used in the text or negotiations of the, of the law.

Again, in different senses people use "basis" to mean different things.

Q. So of those options you gave, so

motivations of a particular population, motivations of particular politicians, justifications that were used, do you have an understanding of any of those as to this law?

MR. RAMER: Objection to the form.

A. I -- not specific to South Carolina. I haven't studied any of its voting patterns or the political discussions surrounding it. No. As I say, I'm focused on the science itself and then it's up to each jurisdiction of a democracy to decide whether and how to make its policy in order to integrate the science.

Q. Would you agree that surgical care for adults with gender dysphoria is appropriate in some cases?

MR. RAMER: Objection to the form.

A. I -- it overall depends on the criteria. But for some cases -- what's been demonstrated are that the cases

most likely to benefit are those who have undergone meaningful gatekeeping procedures, have already dealt with any comorbid mental health concerns and have lived as a -- in a substantial -- for a substantial amount of time in the other gender before progressing to the, to the next steps.

After WPATH, however, removed or replaced the gatekeeping procedures with informed consent procedures, we have no research indicating how successfully, how many cases benefit versus risk-harm without benefit under the new model that they implemented on the basis of no science at all.

Q. Do you support such treatment at least in some cases?

MR. RAMER: Objection to the form.

A. There can, can and do exist such cases just because WPATH has changed its model which enable, now facilitating or enabling transition for, amongst people

that the prior model would have delayed or held off or would have directed other kind of treatments to first.

That doesn't mean that people who would have benefited under the old model have ceased to exist or that kind of person is no longer presenting. It's just the removal of the gatekeeping procedure has now allowed in all of the people who otherwise would have been directed to other kind -- to better matched treatments.

So we're back to the unknown. So we're back to the unknown situation where we don't know how many or which people are being harmed or potentially harmed or how harmed versus benefited.

Q. Would you agree that HRT care for adults with gender dysphoria is appropriate in some cases?

MR. RAMER: Objection to the form.

A. Same basic answer. I mean, people undergoing cross-sex hormone

therapy are, of course, a subset is one of the treatments that adults, you know, otherwise qualified through the same methods that were used in the research that demonstrated efficacy would still work. We have no reason to think that such people have ceased to exist.

But under the informed consent model now being used, we can no longer identify which or what proportion of those people are -- could be benefiting versus or undergoing the risks without reasonable expectation of benefit.

And I personally hesitate to use the phrase or acronym HRT meaning hormone replacement therapy, because it's not being replaced, it's being administered.

Q. Do you have a different term that you use to describe that treatment?

A. Of course, hormone therapy.

Q. Are you aware that the South Carolina law allows hormone treatment for adolescents who do not have gender

dysphoria?
A. I'm sorry, allows for?
Q. Hormone treatment for adolescents who do not have gender dysphoria.
MR. RAMER: Objection to the form.
A. Which hormones is it are you referring to?
Q. Estrogen and testosterone.
MR. RAMER: Objection to the form.
A. For which conditions?
Q. I'm consulting. I don't want to give you the incorrect answer.
A. That's all right.
Q. Just wait one minute.
A. I can't help but quip that's a part of being a scientist. Is that when you want the right answer, it's always worth waiting for.
Q. So the law allows for medical services to a person for precocious puberty, prostate cancer, breast cancer, endometriosis or other procedure

unrelated to gender transition.

Are you aware of that?

MR. RAMER: Objection to the form.

A. That contradicts what you said before. The treatments for those would be the hormone blockers, not administration of the hormones themselves.

Q. Are you aware --

A. For --

Q. Sorry, I didn't mean to cut you off. Please finish.

A. For those conditions, yes, I'm aware of their use because, of course, the risks of -- their risks and their benefits to treat those disorders and the unknowns and the alternatives for those disorders are, of course, different from gender dysphoria.

Precocious puberty, for example, does not have psychotherapy as an alternative.

When cancer is involved,

psychotherapy is not going to help.

So again, the risk-to-benefit ratios differ. The level of unknowns is also extremely different.

When a five year old starts sprouting pubic hair, there is very specific, very detectible, you know, and we have blood tests to confirm, with extreme accuracy, who exactly does versus does not have those diagnoses.

We have no such capability and no such accuracy in diagnosis for gender dysphoria. So as I say, the entire reason that the FDA approves medications for condition by condition is because the risk-to-benefit ratios differ condition by condition.

We don't have a situation that -- have a situation in which the drug is just approved and then approved.

Doctors are sometimes given some flexibility, but not of the order, nearly of the order that pertains to diagnoses for which we have physical

evidence versus diagnoses which oppose all of the existing physical evidence.

Q. When you are mentioning various evidence, are you referring to specific studies?

A. For -- I can't think of anything I said which doesn't refer to specific studies if not systematic reviews of studies. FDA procedure, however, is FDA procedure. That's not subject to the study.

Q. Are the side effects different if a trans boy takes testosterone versus a cisgender boy takes testosterone?

MR. RAMER: Objection to the form.

A. I'm trying to think of a situation in which testosterone of that dose is given in the first place.

The doses that are given to -- when testosterone is administered to a biologically male body, the side effects are relatively low and completely unlike the side effects of when administered to

a biologically female body.

So I guess I'm not quite understanding the question.

Q. What's the basis for your understanding that the side effects are different?

A. The basic medical -- the basic medical literature and my knowledge of the development of the brain and body. I guess I'm surprised by the question because, again, it's, I don't think any of that is at all controversial.

Q. What's the basis for your understanding that the risks are different?

MR. RAMER: Objection to the form.

A. Biological boys don't get ovarian cancer but biological females on testosterone can. Biological males on testosterone don't develop uterine lining deficiencies and so on. These disorders are not possible in biological male bodies.

As I say, these are basic fundamental anatomical questions -- issues which is why I'm not quite understanding the, the question.

Biological female bodies can develop -- are more likely to develop breast cancer but not biological male bodies, and so on.

The whole purpose of administering testosterone to biological female bodies is because it has -- is because of the effects that it would have on their development that it -- for which biological boys don't require.

As I say, so I'm not sure I understand the question.

Q. Is this a field of medicine that you've personally studied?

MR. RAMER: Objection to the form.

A. To me this is a standard part of -- I would say yes, this is a standard part of understanding basic sexual development.

Q. Do you agree that permanent removal of healthy and functioning body parts is itself a form of harm?

MR. RAMER: Objection to the form.

A. Very often, perhaps even usually, such that but because, again, the risk-to-benefit ratio is four parts, one can't have a valid conclusion when missing any one of those four.

If one is going -- the basic application of the basic clinical question is that if one is going to be removing or interfering with the biological function of objectively healthy tissue, it requires very -- it requires the most substantial kinds of evidence to justify.

But I, again, can't say that there cannot ever exist an exception. But when the tissue -- when we are as certain as possible that the tissue is as healthy as possible, then we need the evidence to be as strong as possible in

order to intervene with it.

Q. Do you believe that the science shows that gender transition procedures are harmful?

MR. RAMER: Objection to the form.

A. I don't think we can have a meaningful answer when asked that generally. There's a wide range of possibilities and a wide range of unknowns.

So as I say, there can exist exceptions, so I can't sign on to anything extreme, but given the situation of relatively definitive harms, and only very ambiguous and uncertain possibilities of benefit, the overall weighting, the overall waiting is against despite the potential existence of exceptions because we can't identify who those exceptions are going to be or could be.

Q. In your report you discuss systematic reviews, correct?

A. Yes.
Q. What are systematic reviews?
A. Systematic reviews are the fundamental basis to evidence-based medicine which in turn was developed in, in response to problems that the clinical fields, medicine especially, was having with biased interpretations of research literature.

A systematic review is a process in order to ensure that the reviewers are considering all of the evidence rather than just cherry-picking the evidence which happens to favor whatever side it is that they want.

The systematic review process also ensures that the same criteria are being applied to all of the studies to rule out the other major kind of bias that humans are given to, that is, giving a relatively light hand to studies whose results they like while being highly critical of studies whose results they don't like.

So the systematic review process is to make as transparent and explicit as possible each step of the review to get -- in order to produce a conclusion or a summary as a -- which is as objective as possible.

Q. And is it fair to say that systematic reviews do not entail new research, they summarize existing studies?

A. It becomes kind of an esoteric question over what do you mean by "new"?

If the conclusion is, for example, 72 percent of studies show whatever their conclusion is, well, that in a very meaningful way is a new piece of knowledge that we didn't have before.

So, but does that count as new because the studies that went into that number already existed?

Again, to me that's not a meaningful -- that's not a meaningful distinction or at least it's not any more meaningful than if an individual

study looked at a hundred patient files and found 72 percent got better. Well, is that new information because it was already old, existing in the medical files, we just summed it up?

Again, these are not, whether you are summing individual people to come up with one study or summing a bunch of studies in order to come up with a cross-study conclusion, well, those are exactly the same, those are identical applications of the principle of generalizability.

So I've heard the statement circulating that the systematic reviews are not presenting anything new, but that's not -- that's sales jargon, not a scientific statement at all.

Q. I'll ask the question differently.

Scientific reviews -- sorry.

Systematic reviews do not entail conducting a new study; is that correct?

A. Not really. And as I say, it's a

twist or misrepresentation of what counts as new. The statement itself is a frankly bizarre claim. A more straightforward example would be if somebody conducted a, what's called a meta analysis which is a study of studies.

Well, it's the same thing. One can, you know, once given all of the studies of whatever, whatever treatment being given to a range of different possibilities, but once summed up one can then say ah, the studies that accounted for whatever confounding variable found one thing and the studies that didn't account for that confounding thing came to another conclusion.

Well, that's a new piece of information. But it's a study of studies rather than the study of individual people.

Well, but that still counts as a new piece of knowledge and something we didn't know before and it increases or

changes our conclusion, our conclusions and understanding of reality.

Well, if that's not a definition of new information, well then what is?

Again, it's, to describe a systematic review as not being new research is esoteric rather than scientific definition of what counts as research.

Q. The revised question wasn't as to research it was as to studies, but I'm going to move on to a different line of questions.

So going back to your report, do you still have that with you?

A. Yes.

Q. I'd like to take a look at Paragraph 273, that's on page 123.

A. It would also apply to studies which is why it's published, generally published as independent studies all around. 123 you said?

Q. Yes, Paragraph 273.

A. 273, yes.

Q. So the first sentence there says "It is well known that pubertal hormone levels drive important stages of neural development and resulting capabilities, although the mechanisms are not yet well understood."

Do you see that?

A. Yes.

Q. Is this an opinion that you're offering?

A. Yes.

Q. What is the basis for that opinion?

A. Oh, goodness. That it's been, you know, established in the anatomical and neurological and neuroscience literature for decades. There's no, there's never in my lifetime been debate over any of it. The debate, as I say, has been over exactly the mechanisms by which it occurs.

Q. Turning to page 126, Paragraph 280.

A. I'm there.

Q. There I'm looking at the last sentence which states "Undergoing puberty much later than one's peers is also associated with poorer psychosocial functioning and lesser educational achievement."

Do you see that?

A. Yes.

Q. Is that an opinion you're offering?

A. It's a summary of the content of the research literature, complete with a citation of the specific research study which found it.

Q. So is the basis for that proposition the Koerselman, apologies if I'm mispronouncing that study?

A. Yes.

Q. Are there any other bases for that opinion that you're relying on in making that conclusion here?

A. I hadn't attempted to conduct an exhaustive or systematic review of that specific question itself. But again,

it's never really been a controversial, controversial statement. In -- I'm generally well aware of the developmental literature of exactly this point. And again, I haven't seen any meaningful debate over the issue in writing this.

And in each of the claims that I made I double-checked and ensured that there's something that hasn't escaped my notice and I describe the ones that, over which there's uncertainty, as uncertain or ambiguous or unknown, and when something is definitive, well established and well replicated I'll typically just pick out a research study to exemplify it, especially because my report was gaining in length quite easily.

But I would have to go through and check again to count, you know, the number of studies with a similar thing.

I'm in the habit, I've long been in the habit when writing scientifically

to attribute either the best example of a particular research question or the first example of a study in order to credit the original discoverers.

So I can't say that it's -- I don't remember my own mindset for this specific sentence, but I certainly couldn't say without, you know, redouble-checking myself if it were limited to this. But again, this is not a particularly controversial statement.

There does exist a relatively substantial psychological literature on late bloomers.

MS. SINGER: Could we go off the record briefly.

MR. RAMER: Yes.

THE VIDEOGRAPHER: We're going off the record at 1:33 p.m., this marks the end of media 3.

(A recess was had.)

THE VIDEOGRAPHER: We are back on the record at 1:47 p.m., this marks the beginning of media 4.

BY MS. SINGER:

Q. Dr. Cantor, I'd like to turn back to your report and specifically take a look at Paragraph 282, and this is on page 126.

A. I'm there.

Q. You're welcome to take a look if that's helpful but my question is: Are you offering an opinion that pubertal suppression leads to diminished growth in bone density?

A. In fact, I think it's my duty to report the contents, the conclusions of the systematic reviews of the relevant research literature. I don't think it's possible to produce a competent, complete report without that information.

I guess my hesitation is over saying whether it's my opinion.

It's -- that's the content of the research literature.

Q. So is it fair to say that you're reporting content of research literature

here?
A. Yes, that's -- yes.
Q. I'd like to turn to Paragraph 289, this is on page 129.
A. I'm there.
Q. Are you offering an opinion that The Cass Review is correct as to the risks reported in this paragraph?
A. Yes. But she, they, including what her staff said is entirely consistent with my knowledge of those parts of the same research literature.
Q. What did you do to determine the conclusions were correct?
A. I've been reading and keeping up with that literature myself for decades.
Q. I'd like to jump back a few pages to paragraph 272. This is on page 123 of your report.
A. Yes, I'm there.
Q. Are you offering an opinion as to whether medical transition prevents orgasms?
A. I can't be and I didn't express

anything quite that, quite that definitive because it hasn't been subject to research that would allow a statement quite that definitive. But it is extremely valid to point out that it is a meaningful and substantial risk. It's been observed and it's what one would expect on the basis of the relevant anatomy.

And as I say, very much of the risk-to-benefit ratio of all four of its components puts the onus on proof to demonstrating lack of harm because we're talking about interfering with the biologically intact healthy tissue.

And so it's the reasonable, reasonably expected harms that need to be ruled out, not demonstrated to exist. If we have a reason to expect or reasonably hypothesize the issue, it needs to be investigated and ruled out before we engage in the procedure.

Q. In the last sentence of that paragraph, sticking with Paragraph 272,

your report says "In my opinion as a psychologist and sex and couple's therapist, this represents a large potential harm to future relationships and mental health to overlook, and must be taken into consideration in any serious risk:benefit analysis of safety."

Do you see that?

A. Yes, I do.

Q. Is this opinion based on your clinical experience?

A. At least in part, but certainly not limited to it.

Again, it's another branch of sex and couple's therapy and sexual functioning are people who are unable to achieve orgasm for entirely other reasons. Biological females especially. And it is well known and well researched and well reported in the sex and couple's therapy literature how it interferes with relationship satisfaction and so on.

Q. Turning to Paragraph 281, this is on page 126.
A. Yes, I am there.
Q. Great, thank you.
Are you offering an opinion as to whether chemically suppressing the ovaries of a person assigned female at birth via puberty blockers during adolescence followed by cross-sex hormones causes an increase in Parkinsonism?
MR. RAMER: Objection to the form.
A. My hesitation is with the word "cause" since in science that's a very specific mechanism that's being proposed -- that's being proposed.
The cause is possible, but it's also, at least theoretically possible, that it's an indirect association. But what is causing what is a more complicated network of what's going on.
But this is another example of what I say where the burden of proof

lies because we're talking about healthy tissue.

When we are talking about objectively healthy tissue, the burden of proof is on demonstrating the lack of these problems, where demonstrating their association is perfectly adequate to demonstrate that these are reasonable risks.

But even though we can't yet definitively claim that there's a causal relationship in the situation where we're interfering with objectively healthy tissue, it needs to be ruled out, not proven as a cause.

Q. You've referred to the burden of proof. Who sets the burden of proof?

A. Again, this is very standard clinical ethics for, at this point, centuries.

Q. Are you an expert in clinical ethics?

A. I don't know what a qualification for ethics would be. But it is a

relatively basic application for -- of clinical ethics, although people will debate a given application of it. But the principles themselves and how to apply it I don't think are controversial.

For example, it's, you know, a standard part of routine training to, to understand and meaningfully apply clinical ethics as a risk-to-benefit ratio.

Well, one can, you know, decide in different circumstances which way to, to do it, but in this particular situation because it's relatively extreme it's relatively straightforward.

By extreme, I mean we're not in a situation where we have some ambiguous status of whatever tissue where it's suboptimal and we're not exactly sure why or which way to go or what the cause was.

We're talking about entirely healthy tissue for which, despite

everybody looking, has zero physical evidence of there being an anatomical problem.

So with zero evidence of physical harm, with physical harm being as low as possible, that is zero, the evidence burden for the clinical science is as high as possible if we're going to interfere with it because we are necessarily going to end up with a less than biologically optimal outcome by all objective physical variables.

Q. In your clinical experience, have you come across conditions that might cause a decline in a person's mental and physical well being?

MR. RAMER: Objection to the form.

A. Again, there is some subtleties in the question which make it complex.

Especially in mental health it's very, very difficult to prove cause because we can't always easily exclude all the, all the possibilities. It's

more typical for us to be able to demonstrate, for example, correlations and associations which give us hypotheses and theories and we do our best to explain the observations and then predict future observations.

The other subtlety which makes things complex is that mental health diagnoses and psychiatric diagnoses are unlike medical diagnoses.

Medical diagnoses diagnose the cause of symptoms. If a person has a headache or a combination of sleeping, of sleeping problems, headaches and so on, we don't diagnose the person with a sleeping problem and a headache problem, we diagnose the blood disorder which is calling -- causing all of the symptoms even though we're not observing the blood problem, the kidney problem, whatever it is.

That's the opposite of how mental health diagnoses work where we diagnose the clusters of the symptoms themselves

because we don't know what the cause is.

If a person is unhappy, we diagnose them with depression. We don't diagnose them with pick your neurochemical pattern or whatever or an initial trauma or childhood difficulty was. We're not diagnosing cause.

So as I say, we can't as easily -- even though they're easily said, it's not, when we get down to the actual research on it and science on it, we're not, in mental health, we're not studying the causes in the same way that other -- that branches of traditional physical medicine is studying actual causes.

In that mini lecture I forgot what the actual question was. I'm sorry, could you repeat it?

Q. I think the answer gives me what I need to perhaps ask a better question.

Can health professionals make treatment decisions even if you can't know the cause?

MR. RAMER: Objection to the form.

A. Not only -- can we? Yes. In fact, in very many circumstances we have no alternative exactly because we can't know the cause. But that only brings us back to where we were before.

It is exactly because we can't know the cause, we need to be that much more certain that the treatment that we are giving will actually produce the result that they want.

But that's precisely what it is that we're missing.

We don't know, we have no evidence that says that the physical interventions are what is producing any differences.

So the lack of knowing the cause is another one of the many reasons why the evidentiary burden is higher than usual.

We can't depend on merely correlational, you know, ambiguous

confounded, there are several possible interpretations, because the risks of harm are physical, substantial and very often inescapable.

Q. If a patient had a condition that was leading to decline, for example, depression or anxiety, would you want to stabilize their state as part of their course of treatment?

A. I'm having trouble processing the premise. If they had a condition that was leading to.

Q. To decline?

A. It wasn't -- it wasn't my memory of the question, it was, again, the assumptions that are built into that question.

For this specific situation, we don't have a diagnosis -- a condition which is demonstrated to be causing the symptoms. What we have is a label for the symptoms.

The -- it's, of course, a tautology to say that gender dysphoria

is causing the gender dysphoria or the gender dysphoria is causing happiness with their gender. These are synonyms.

All we have is a label describing what the person believes is the result of their discontent, the what -- the underlying model of that question is that the person's depression, anxiety and so on is being caused by their discontent with their gender.

Well, we have no idea that that's what the causal pattern is. And we have very substantial, in fact, far superior evidence to suggest that these -- the causal connections between these symptoms is in a completely different direction and that alternative formulation doesn't entail the kinds of treatments that require interfering with objectively healthy tissue.

So again, it's the application of basic clinical ethics to attempt those first.

So, so I guess what I'm saying is

that we don't have a situation in, to which that question applies.

Q. If you knew that a condition was causing someone to decline, would you want to stabilize that person?

MR. RAMER: Objection to the form.

A. That's an individual instance, again, which requires the same four components that I was referring to before.

So in the very simple word, if they had a condition, well, so that means I need to have ruled out all of the unknowns which is not the situation here.

To say stabilize that person's condition, well, that means that we have an intervention that is reliably known to produce that stabilization. But that's not the situation that we have here.

It also requires that we know what the alternative possible ways to

intervene are. Well, said as a general rule, this isn't the same for mental health phenomena as for physical health phenomena.

Even the very phrase "stabilizing a person," that's usually a phrase that someone uses for somebody in, for example, cardiac arrest in an emergency room and the alternative is impending death.

So we can tolerate substantial side effects because the alternative is death, which is a very, very different, very, very different, in fact, about as different as possible of a risk-to-benefit ratio from the situation that we're discussing here which is not eliminating but postponing a potential either social sometimes or physical intervention.

So again, the sentence itself is easy to ask, but the implementation of it requires simultaneously considering all four components of the

risk-to-benefit ratio.

It's meaningless if any one of them is left out.

Q. Have you ever treated patients with suicidality?

A. Yes, I have.

Q. On how many occasions?

A. Oh, goodness. Let me divide where you say "with suicidality" from the currently versus part of their history.

So, of course, you know very many of the assessments I do, you know, any assessment is substantially history taking, so I have become aware of it in the dozens and -- well, hundreds of -- thousands that I've assessed over the years.

But because I'm always functioning in what we call a tertiary care facility, there's the front line, you know, the ERs, the general practitioners who are typically the first ones to see patients as they make

their own appointments or are brought in in some circumstances.

Those are referred to specialists, usually psychiatry and a subset of those then would, in turn, be referred on to, as I say, tertiary care which is a hyper specialist and, for example, with me the subspecialists in human sexuality.

So usually the suicidality will have been, the active suicidality will have been dealt with earlier. I'm rarely the one. I wouldn't be the logical person to refer such an active case for the actual crisis management.

I also need to, again, now habitually point out the distinction between suicidality and genuine suicide, if I can phrase it that way.

The terms, as part of people trying to be either provocative or alarming conflate the terms.

And for actual intent to die, try to kill themselves, is largely male,

largely impulsive, largely highly, highly violent.

So those cases have genuinely attempted, you know, again, with highly violent, very deadly means and through whatever I don't have a better word at the moment than accident, ended up surviving and when the motivation was because of whatever sex issue, then end up with me.

Currently, the great, great majority of people expressing gender dysphoria are instead expressing suicidal ideation or other expressions where they don't actually intend to die. They're using the suicide attempts and they're expressing the suicidal ideation as a way to demonstrate -- as a way to call for help, as a way to call for attention, as a way to express just how much distress they're feeling. But they don't have actually an intent to die.

Those situations are much, much more commonly female, much more common

in adolescent ages and they use less deadly, less violent means and are the more likely to be a repetitive type.

A person who doesn't have the emotional or verbal skills to articulate the distress they're in and they're using the sometimes string of suicidal attempts or gestures in some cases, again, to express the amount of distress that they feel.

So I just want to set aside those two different types of cases because they actually represent very, very different phenomena despite that most of the lay public just see them really as the same thing and that death by suicide is just a future outcome of suicidality when it's not.

These are actually distinct phenomena that we would intervene with in different ways. They need different kinds of help. And they both deserve that help, but they're different kinds of help.

So the great majority that I've been exposed to are people who have had it sometimes -- somewhere in the past and they, by the time they come to me they're now working on the issues that led to the amount of distress that led them to either the attempts or the gestures or ideations, so on.

Oh, your question was the number.

So for active expressions, somewhere in the order of a dozen. Somewhere in the history, several hundred.

Q. Are you offering an opinion on the rate of detransition?

A. Not other than to point out that it's unknown and understudied and we're now -- and it's becoming increasingly clear that attempts to study it are, are being somewhere between avoided or outright suppressed.

Q. But you're not offering an opinion as to the rate itself?

MR. RAMER: Objection to the

form, asked and answered.

A. It's a little bit esoteric of a question. I don't know if pointing out that it's unknown and getting avoided by the -- by clinics, that itself is an important piece of information even though it doesn't result in a number.

So that it's not known is itself, as I say, an important piece of information.

Q. Is there any therapeutic value to refusing to use someone's pronouns or preferred name?

MR. RAMER: Objection to the form.

A. I don't think such a -- I don't think such cases can all be painted with the same brush.

There are situations for which one can easily imagine yes. There are situations for one -- for which one can easily imagine no. As I say, I don't have an ideological principle in play and we have a substantial number of

unknowns.

We need, once again, to apply what we do know and what we can predict about the future.

What does -- what the patterns we do see suggest are with prepubescent children, for example, changing names and changing pronouns is done as part of social transition. The evidence very -- suggests a very strong association with undergoing social transition and the probability of subsequently wanting to go on to physical transition.

And then each step of physical transition appears to motivate a next step of physical transition.

So given the alternative, another, one of the components is helping a person feel comfortable in an existence that doesn't require physical interventions at all, so less, less risk of harm.

Well, it's the change in name and pronoun is not a direct harm, but it is

strongly associated with very substantial -- but it is very strongly associated with subsequently undergoing physical interventions which do have substantial amounts of harm.

So as I say, it's not -- one can't isolate, you know, one piece of a river in order to understand where the whole river is flowing. One needs to understand the entire trajectory in order to evaluate the value and impact of any one chunk of it.

Q. Thanks, Dr. Cantor.

MS. SINGER: Can we go off the record for just a minute.

MR. RAMER: Yes.

THE VIDEOGRAPHER: We'll go off the record at 2:18 p.m.

(A recess was had.)

THE VIDEOGRAPHER: We are back on the record at 2:26 p.m.

MS. SINGER: I'd like to introduce what I'll mark as Exhibit 2.

(Exhibit 2, Transcript of deposition testimony of Dr. Cantor in Voe v. Mansfield was marked for identification.)

Q. Dr. Cantor, do you see the document that's on the screen?

A. Yes.

Q. Did you provide testimony in Voe v. Mansfield?

A. Yes, I did.

Q. Is this the transcript from your deposition?

A. From the cover page it looks like so.

Q. Did you give truthful testimony in that deposition?

A. Yes, I did.

MS. SINGER: I'd like to introduce what I'll mark as Exhibit 3.

(Exhibit 3, Transcript of testimony of Dr. Cantor in Cano v. South Carolina Department of Corrections was marked for

identification.)

Q. Did you give testimony in Cano versus South Carolina Department of Corrections?

A. Yes, I did.

Q. Is this the transcript from your testimony?

A. It seems so from the cover page, yes.

Q. Did you give truthful testimony in this case?

A. Yes, I did.

MS. SINGER: I'd like to introduce what I'll mark as Exhibit 4.

(Exhibit 4, Transcript of deposition testimony of Dr. Cantor in Moe v. Yost was marked for identification.)

Q. Did you provide testimony in Moe v. Yost?

A. Yes, I did.

Q. Is this the transcript from your deposition?

A. The cover page seems to indicate so, yes.
Q. Did you give truthful testimony in that deposition?
A. Yes, I did.
MS. SINGER: I'd like to introduce what I'll mark as Exhibit 5.
(Exhibit 5, Transcript of testimony of Dr. Cantor in B.P.J. v. West Virginia State Board of Education was marked for identification.)
Q. Did you provide testimony in B.P.J. versus West Virginia State Board of Education?
A. Yes, I did.
Q. Is this the transcript from your testimony?
A. It seems so from the cover page, yes.
Q. Did you give truthful testimony in that case?
A. Yes, I did.

MS. SINGER: No further questions. Thanks very much for your time, Dr. Cantor.

THE WITNESS: My pleasure.

MR. RAMER: And defendants have no questions. We just ask that the witness review and sign.

THE WITNESS: Understood.

THE VIDEOGRAPHER: Can I just get orders before we go off the record.

Do you want a copy of the video?

MR. RAMER: Defendants do not need the video.

MS. SINGER: We do not need the video either.

THE WITNESS: Even with my rock collection.

(Continued on next page for jurat.)

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THE VIDEOGRAPHER: This concludes today's testimony of Dr. James Cantor.

We are going off the record at 2:29 p.m.

This also concludes media 4.

(Time noted: 2:30 p.m.)

_____

JAMES MICHAEL CANTOR

_____

Subscribed and sworn to
before me this _____
day of _____,2024.

_____

Notary Public

E X H I B I T S

PREVIOUSLY MARKED EXHIBITS

NONE

I N D E X

REQUESTS

Page

NONE

CERTIFICATION

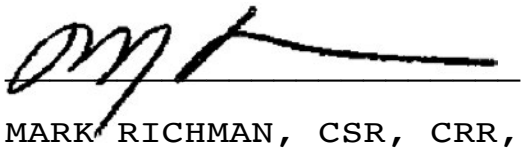
STATE OF NEW YORK)
: ss.
COUNTY OF NEW YORK)

I, MARK RICHMAN, Certified Shorthand Reporter, Certified Court Reporter, Registered Professional Reporter and Notary Public for and within the State of New York, do hereby certify:

That the witness whose testimony is herein set forth, was duly sworn by me; and that the within transcript is a true record of the testimony given by said witness.

I further certify that I am not related to any of the parties to this action by blood or marriage, and that I am in no way interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 7th day of November, 2024.



MARK RICHMAN, CSR, CRR, RPR, CM

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ERRATA SHEET

CASE NAME: STERLING MISANIN v. ALAN WILSON
DATE OF DEPOSITION: 11/7/2024
WITNESS' NAME: James Michael Cantor

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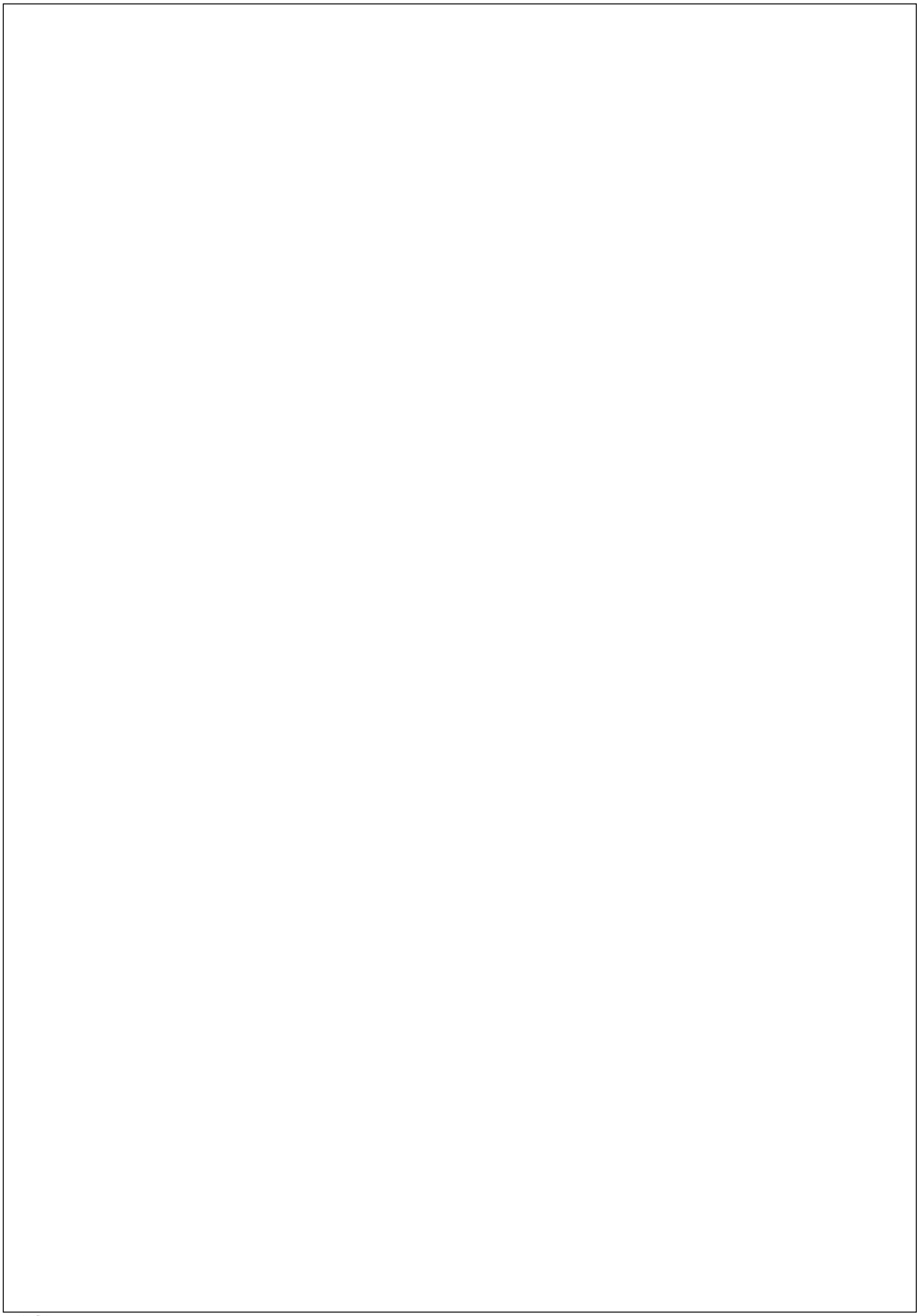

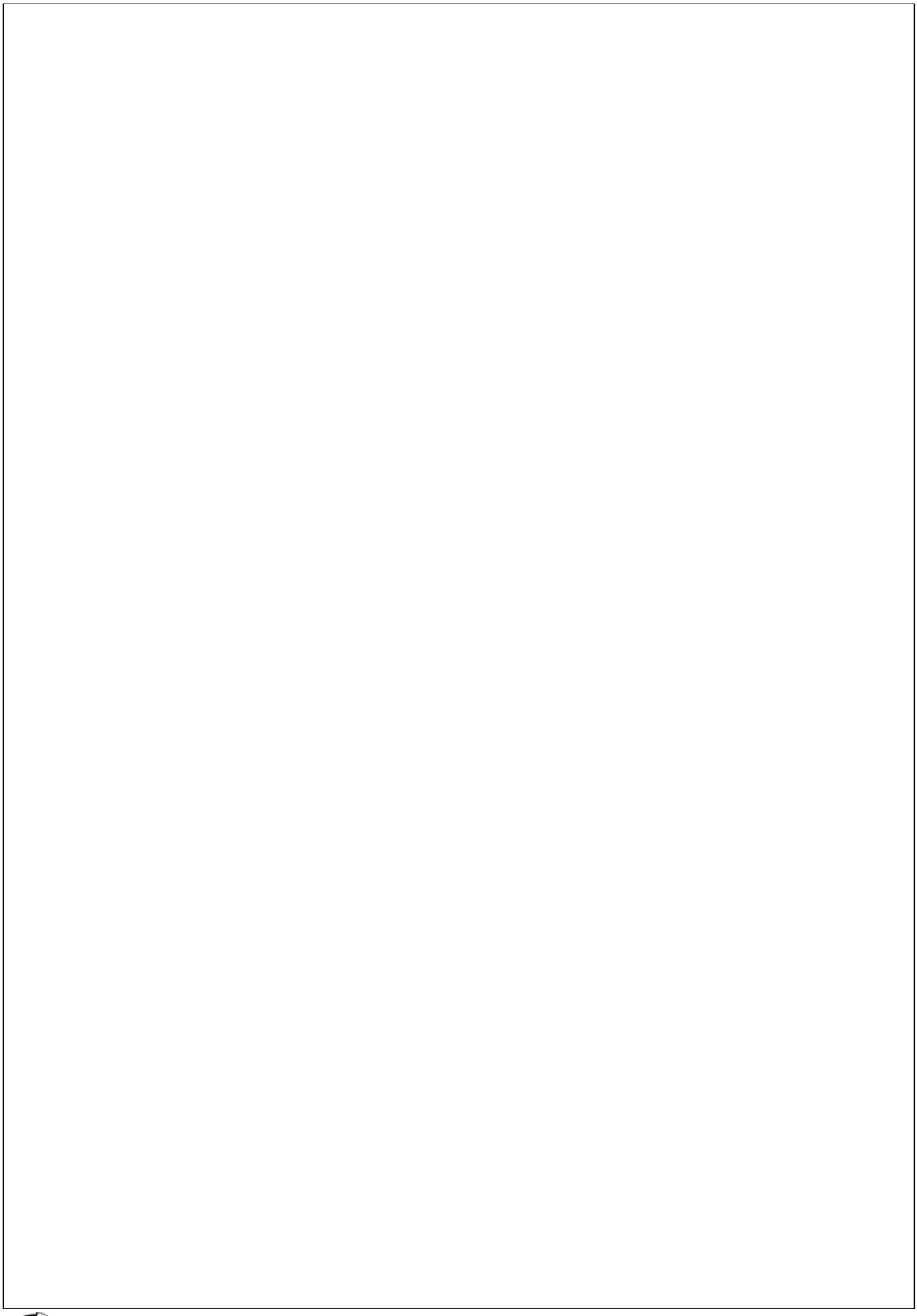

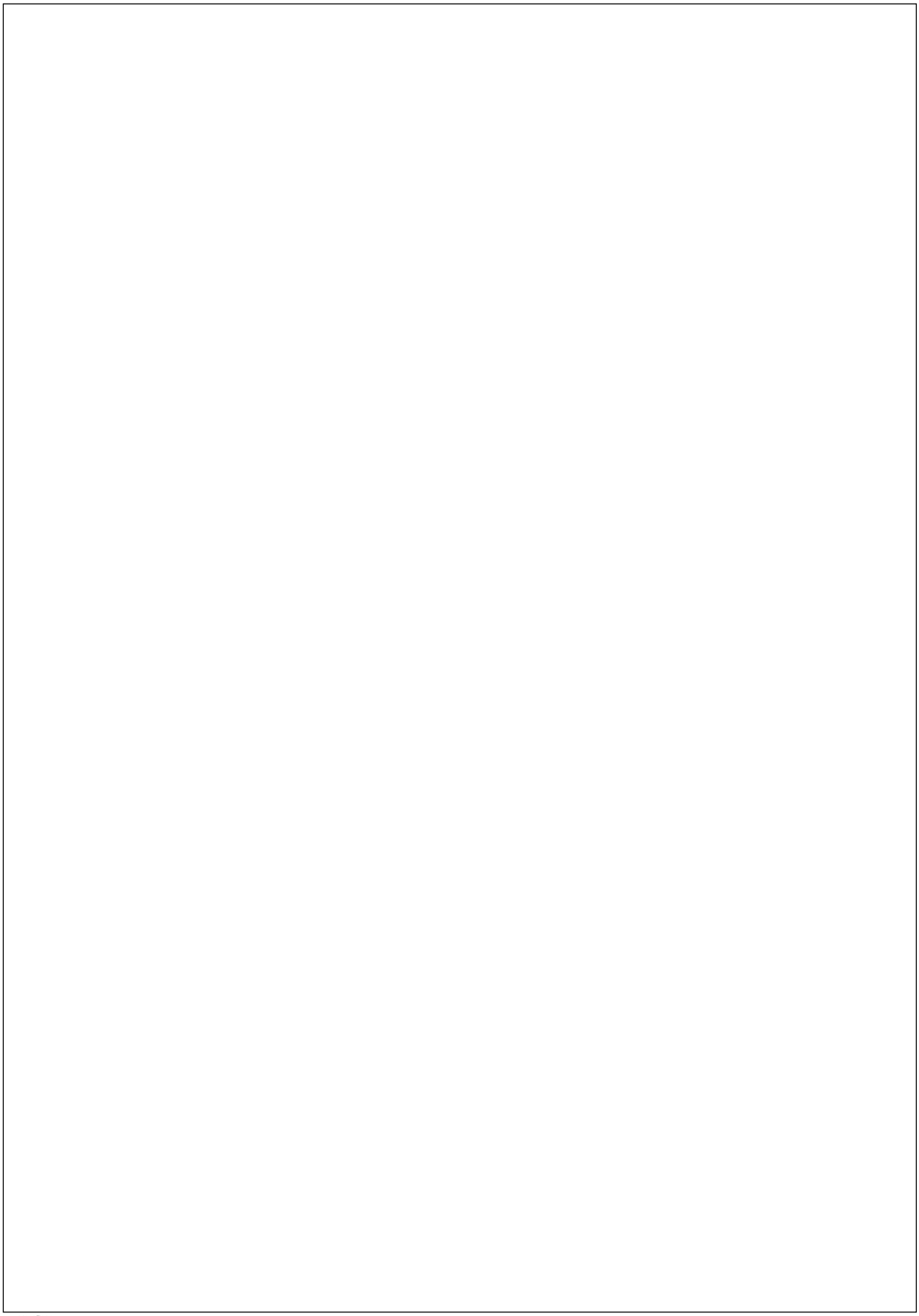

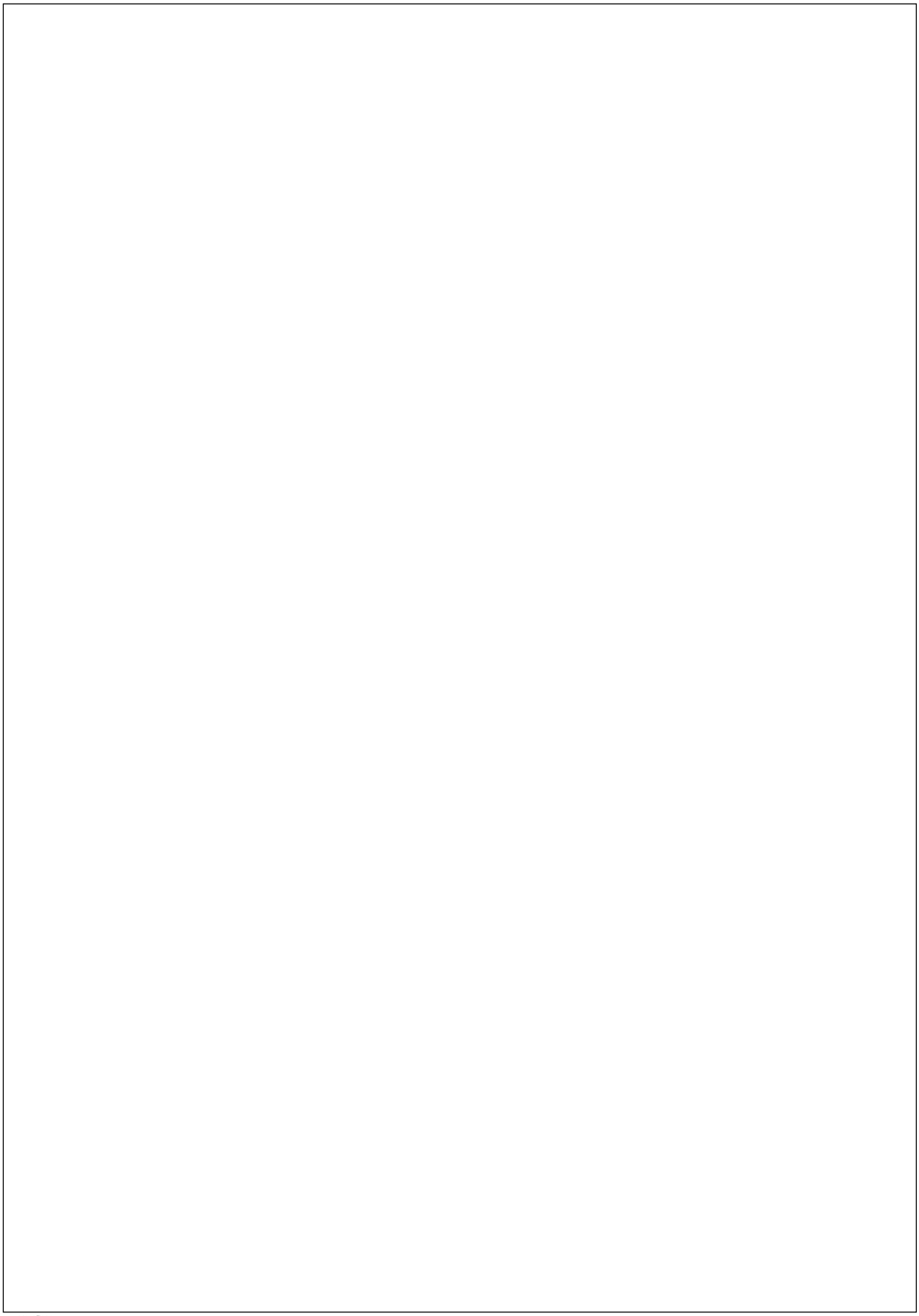

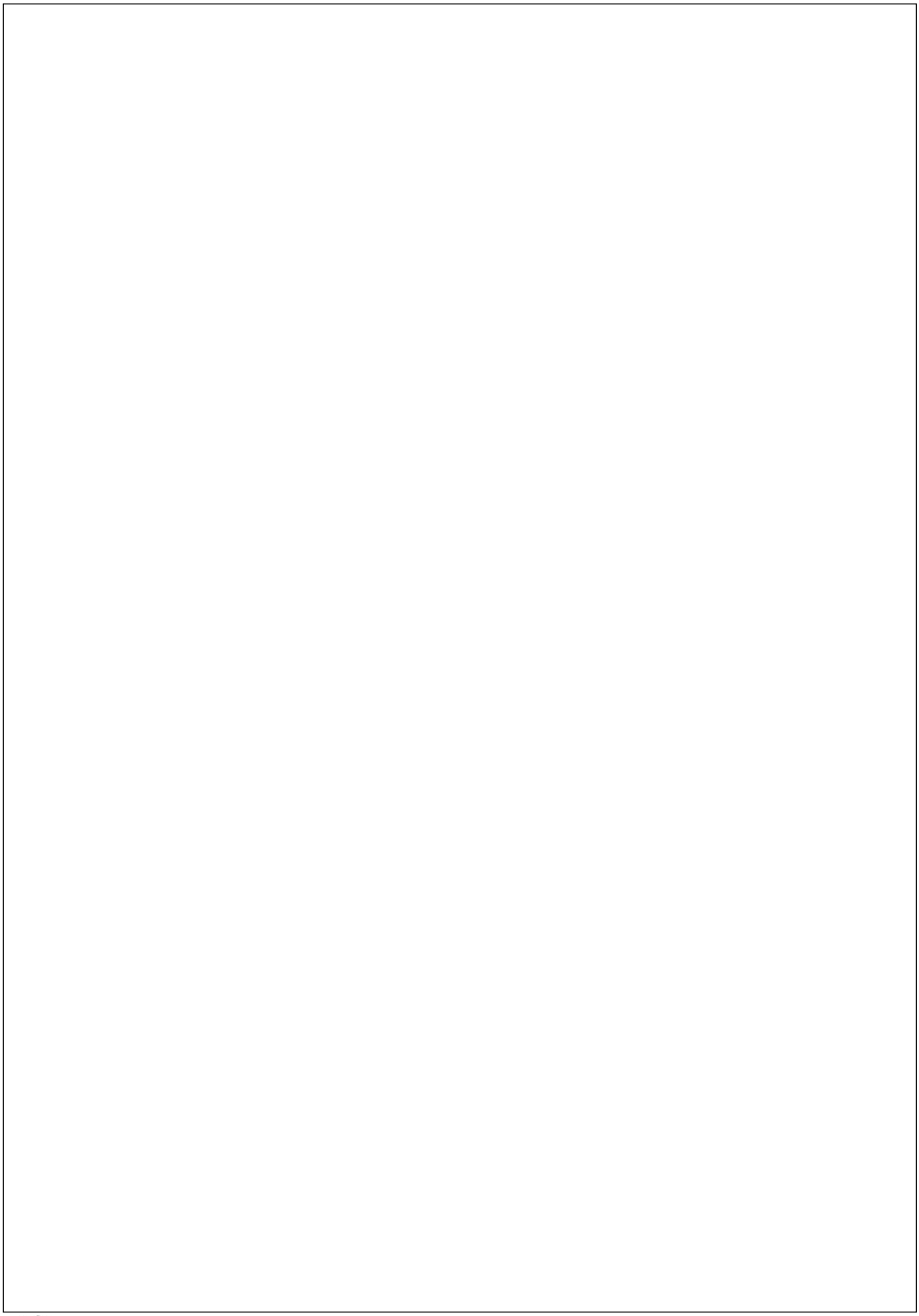

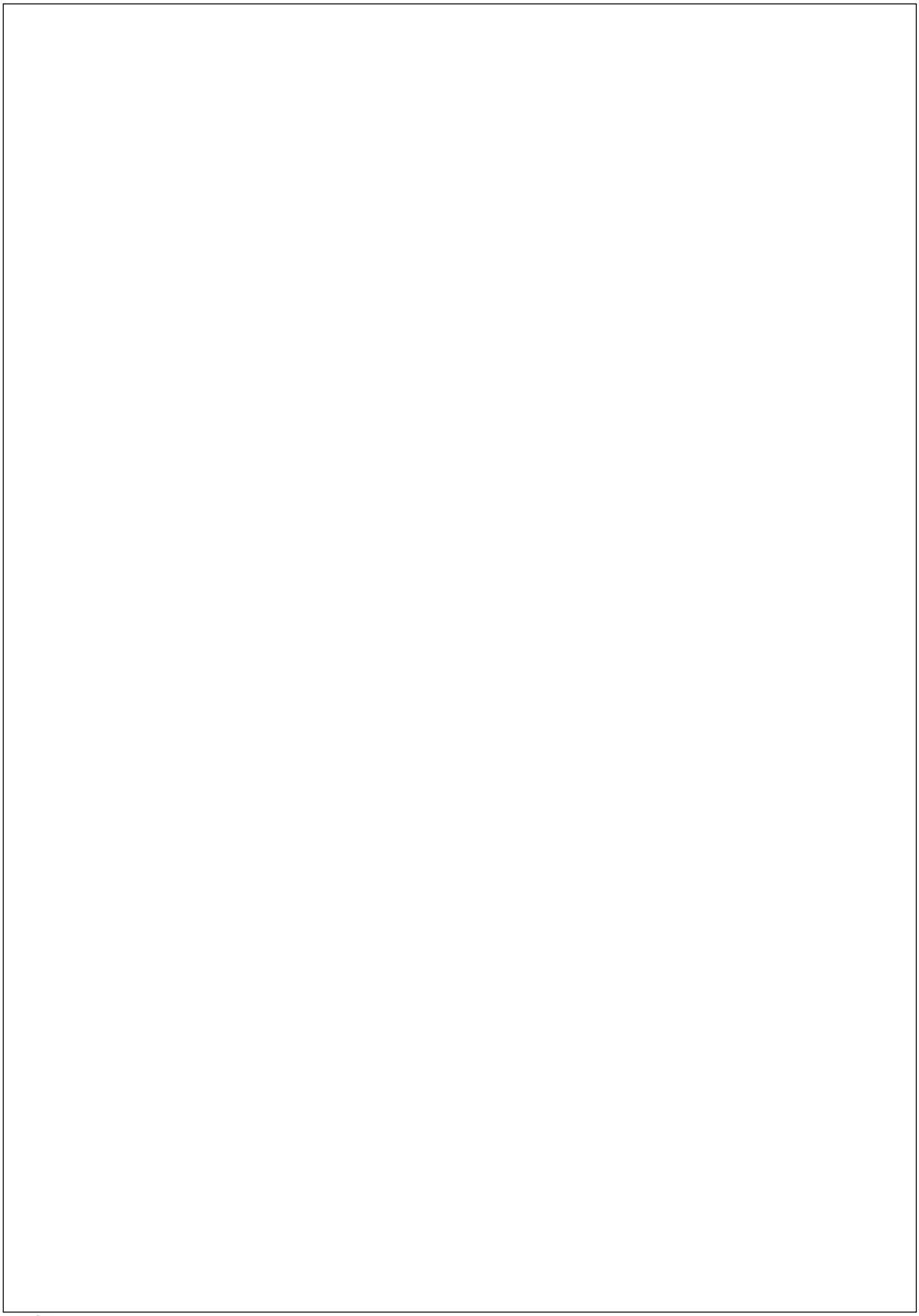

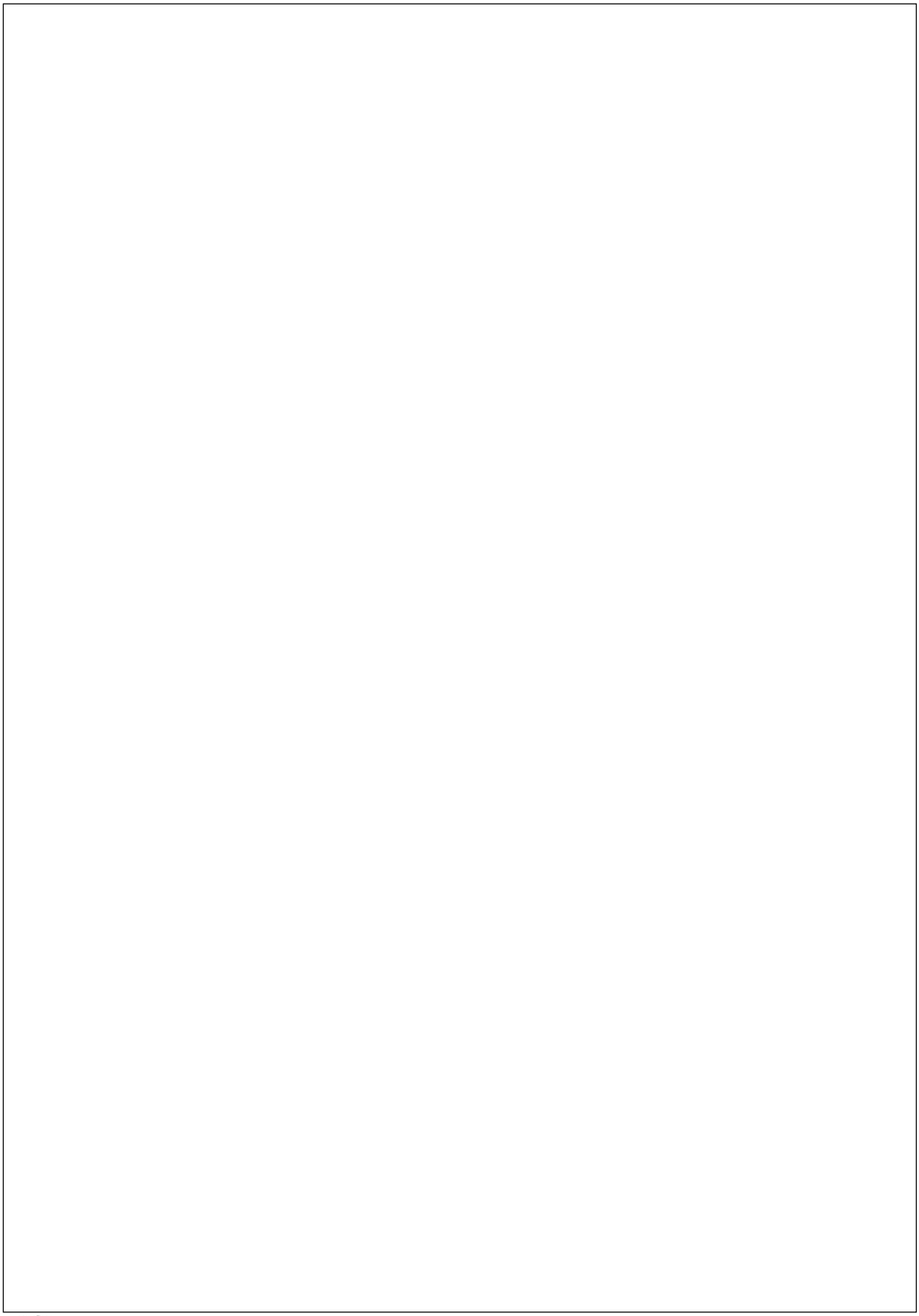

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
Charleston Division

STERLING MISANIN, et al., *Plaintiffs*, v. ALAN WILSON, in his official capacity as the Attorney General of South Carolina, et al., *Defendants*.	Case No. 2:24-cv-04734-RMG

EXPERT REBUTTAL DECLARATION OF DAN H. KARASIC, M.D.

I, Dan H. Karasic, M.D., hereby declare and state as follows:

1. I am over 18 years of age, of sound mind, and in all respects competent to testify.

2. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

3. I have actual knowledge of the matters stated herein. If called to testify in this matter, I would testify truthfully and based on my expert opinion.

4. I incorporate as part of this rebuttal declaration my opinions and qualifications as set forth in my initial expert declaration in this matter, which is dated August 21, 2024 and was filed on August 30, 2024.

5. I submit this rebuttal declaration to respond to the expert declaration of Dr. James Cantor, including attachments, as well as statements made in the Defendants' Response in Opposition to Plaintiffs' Motion for Preliminary Injunction (the "Response").[1]

6. In this rebuttal, I respond to some of the central points made in Dr. Cantor's declaration and the Response. I do not address each and every assertion made in those documents that I believe are baseless, misleading, or mischaracterizations of the evidence, as there are many. Instead, my aim is to provide an explanation of the erroneous premises upon which their conclusions are based.

7. In preparing this rebuttal declaration, I relied on my training and years of research and clinical experience, as set out in my curriculum vitae attached to my initial expert declaration, and on the materials listed therein; the materials referenced in my initial declaration and listed in the bibliography attached thereto; and on the materials referenced herein and the supplemental bibliography attached as **Exhibit C**. I reserve the right to revise and supplement the opinions expressed in this report or the bases for them if any new information becomes available in the future, including as a result of new scientific research or publications or in response to statements and issues that may arise in my area of expertise.

REBUTTAL OPINIONS

A. GENDER DYSPHORIA IS A MEDICAL CONDITION

8. Gender Dysphoria is a serious medical condition that warrants medical treatment when appropriate. It is characterized by the distress resulting from the misalignment between a person's gender identity, which has biological bases, and their

[1] Dr. Cantor is well known for his work with paraphilias, and in particular with pedophiles, but not for his work with transgender people. Paraphilias are persistent and recurrent sexual interests, urges, fantasies, or behaviors of marked intensity involving objects, activities, or even situations that are atypical in nature. Being transgender is not a paraphilic disorder

body (i.e., physical characteristics). Gender dysphoria is listed as a mental disorder in the Diagnostic and Statistical Manual of Mental Disorders, the DSM-5-TR, because the diagnosis focuses on the significant distress resulting between the incongruence between one's gender identity and body, Gender Incongruence is listed outside of the mental disorders section in the International Classification of Diseases, ICD-11, in recognition of its status as a medical condition that may require treatment with medication and surgery. Dr. Cantor's assertion that "Gender dysphoria is nowhere defined as a medical … diagnosis" (Cantor ¶ 123) is thus inaccurate.

9. In my over thirty years of clinical experience working with thousands of adolescents and young adults with gender dysphoria, psychotherapy has been a central part of treating minors with gender dysphoria, as it is with many conditions; and diagnosing and treating gender dysphoria involves careful assessment, differential diagnosis and management of comorbid conditions. Though psychotherapy can be a critical part of managing a patient's well-being, psychotherapy is not sufficient for those needing medical intervention to treat the patient's dysphoria which stems from the incongruence between a patient's physiological sex-based characteristic and gender identity.

B. Gender dysphoria is not a subjective diagnosis.

10. Dr. Cantor seems to imply that medical treatment should not be provided to transgender adolescents because, according to him, "Gender identity refers to subjective feelings that cannot be defined, measured, or verified by science." (Cantor ¶ 122). This is incorrect. A patient may self-report their gender identity, but Gender Dysphoria is a well-recognized medical diagnosis made by a clinician. Indeed, clinical interviews with patients are typically used to diagnose other DSM and non-DSM diagnoses and determine treatment. This widely used assessment tool is not unique to gender dysphoria.

11. As a psychologist, Dr. Cantor must know that most DSM-5 psychiatric diagnoses are made via an evaluation which may include, among other things, the psychiatric interview of the patient, a review of records, and an interview with parents in the case of a minor patient. The diagnosis of Gender Dysphoria under the DSM-5 is made the same way as other DSM diagnoses, through an evaluation in which the health professional determines if DSM-5 diagnostic criteria are met. Mental health professionals are well-trained to conduct such interviews. The validity and reliability of DSM-5 diagnoses were assessed and determined in the process of creating the DSM-5. Clinicians do not simply defer to the reported experiences of the patient, but instead rely on the application of professional experience and expertise to assess whether the patient meets the relevant diagnostic criteria. Similarly, the ICD-11 diagnosis of Gender Incongruence is made by an evaluation which includes an interview of the patient. The World Health Organization conducted field studies internationally on the reliability and validity of the Gender Incongruence diagnosis of ICD-11. (de Vries, et al 2021).

C. Dr. Cantor offers no alternative effective treatment for adolescents with gender dysphoria.

12. Dr. Cantor disapproves of existing protocols for treating gender dysphoria in adolescents, but he offers no alternative treatments for this condition, let alone ones supported by the evidentiary standards he holds the existing protocols to.

13. Psychotherapy generally is certainly appropriate and is an aspect of care for children and adolescents with gender dysphoria. But those types of interventions do not resolve the dysphoria when medical interventions are indicated and are not alternatives to medical interventions for adolescents who need them. My initial declaration discusses the harms that can result from the denial of medically indicated gender-affirming medical care.

14. Dr. Cantor discusses the "Dutch Protocol" as if it were an alternative treatment approach to the existing treatment paradigms outlined in the WPATH SOC 7, WPATH SOC 8, and the Endocrine Society Guideline. (See Cantor ¶¶ 305-313). The Dutch team defines "the Dutch Protocol [as] consisting of a gonadotropin-releasing hormone agonist (GnRHa) to halt puberty and subsequent gender-affirming hormones (GAHs) … implemented to treat adolescents with gender dysphoria." (van der Loos, 2023). The Dutch team states that for "prepubertal children [the team] adopted a "watchful waiting" approach. This approach meant that the child returned to the gender identity clinic only when puberty had begun. The child was not seen in the meanwhile because medical intervention is not provided to prepubertal children at our clinic." While there are studies finding that many prepubertal children diagnosed with Gender Identity Disorder (a precursor diagnosis to Gender Dysphoria in Children) identified with their sex assigned at birth at a later follow up, gender dysphoria that continues into adolescence is very unlikely to desist. (DeVries, et al., 2011, Wiepjies, et al. 2018, Brik, et al., 2020). Hence, the Dutch researchers who coined the term "watchful waiting" for prepubertal children also did the seminal research on medical interventions for those patients whose gender dysphoria persists until adolescence. (de Vries, 2011; Steensma, 2011; de Vries, 2014).

15. There is likewise no basis for suggesting that providing gender-affirming care will cause youth with gender dysphoria who would otherwise desist to, instead, persist. This claim erroneously relies on the assertion that social transition in prepubertal children can cause their gender dysphoria to persist into adolescence. First, the fact that there is a correlation between social transition prior to puberty and persistence does not establish that social transition causes persistence of gender dysphoria. The intensity of gender dysphoria prior to puberty predicted persistence, and children with more intense dysphoria were more likely to socially transition. (Steensma, 2013). Rae, et al. (2019) found that "stronger cross-sex identification and preferences expressed by gender- nonconforming children at initial

testing predicted whether they later socially transitioned." Regardless of what conclusions can be drawn from these desistance studies about the impact of gender affirmation on the persistence rates in prepubertal children, this research does not apply to adolescents with gender dysphoria, for whom desistance is rare, and the treatments banned by HB 808 are not indicated until adolescence.

16. The suggestion that adolescents can just wait until they are 18 years old to get care ignores the harm of not providing the care. Allowing endogenous puberty to advance is not a neutral decision. For many adolescents, the development of secondary sex characteristics that do not match their gender identity can have a severe negative impact on their mental health and can exacerbate lifelong dysphoria because some of those characteristics are impossible to change later through surgeries. In addition, youth may suffer needlessly from untreated gender dysphoria while waiting to turn 18.

D. Dr. Cantor's critique regarding systematic reviews.

17. Dr. Cantor refers to purported systematic reviews of the literature examining gender-affirming care for minors to argue that there is not sufficient evidence supporting the provision of this care.

18. But, with the exception of the Swedish review, which was commissioned by a government agency and later published (Ludvigsson, et al., 2023), the reviews upon which Dr. Cantor relies are reports authored or commissioned by government committees that have not been published in any medical or scientific journals and have not been subjected to the peer-review process. Moreover, some of these reports do not include the most recent research demonstrating the efficacy of the banned treatments and others do not address all the relevant literature.

19. Further, it is important to put GRADE scores of systematic reviews in context. Only a small percentage of systematic reviews of medical interventions have a

high GRADE score; for a majority of systematic reviews of medical interventions, GRADE scores are low or very low. (Fleming et al., 2016, Howick, et al., 2020). For complex interventions, for which gender affirming care certainly qualifies, no high GRADE scores were found for systematic reviews of any complex intervention. (Movsisyan, et al., 2016).

20. If only medical interventions with high GRADE scores were permitted by law, most medical interventions and all complex interventions would be banned. In a study of systematic reviews of interventions in anesthesiology, critical care medicine, and emergency medicine, only 10% had high GRADE scores, but banning the practice of anesthesiology, critical care medicine, and emergency medicine has not been contemplated (Conway, et al, 2017). Chong, et al., 2023 found that only 36% of national guidelines for care were based on strong or moderate GRADE scores. Recommendations are based on a comparison with alternatives; there is no evidence base to support conversion therapy or other psychotherapeutic interventions as an alternative for those who need gender-affirming medical treatment.

21. Many treatments for other conditions are widely accepted and in use without having been studied through randomized, controlled clinical trials. And many drugs for cancer and hematologic disorders have been FDA approved without a randomized controlled trial (Hatswell, et al., 2016). Other drugs have been FDA approved with randomized controlled trials for one indication but are commonly used for another condition or in a different population than the one for which it was approved (Wittich, et. al., 2012).

22. Dr. Cantor relies heavily on a so-called "systematic review of systematic reviews" authored by Romina Brignardello-Petersen and Wojtek Wiercioch. (Cantor ¶ 90). This "review" was commissioned by Florida Agency for Health Care Administration in

support of its since invalidated rule prohibiting Medicaid coverage for medical treatment of gender dysphoria.[2]

23. Brignardello-Petersen and Wiercioch performed a manual search of websites that includes only one non-governmental organization site: the Society for Evidence-Based Gender Medicine (SEGM). The fact that SEGM was chosen instead of much larger and more established organizations representing the mainstream of care, e.g., the American Psychological Association, the American Medical Association, or the American Psychiatric Association, raises a concern for bias, as SEGM is a small group founded recently specifically in opposition to gender-affirming care. Of note, Brignardello-Petersen disclosed at the 2023 SEGM conference that SEGM is funding her systematic reviews.

24. Even then the review by Brignardello-Petersen and Wiercioch still found that that "Low certainty evidence suggests that after treatment with puberty blockers, people with gender dysphoria experience a slight increase in gender dysphoria, and an improvement in depression, and anxiety." Similarly, it found that "Low certainty evidence suggests that after treatment with cross-sex hormones, people with gender dysphoria experience an improvement in gender dysphoria, depression, anxiety, and suicidality."

E. Dr. Cantor's critiques of specific studies are baseless.

25. Dr. Cantor cites a Finnish study as evidence for his conclusion that adolescents should not be prescribed gender-affirming hormones because they are supposedly not effective in the treatment of gender dysphoria. (Kaltiala, et al, 2020). However, in that study, the need for treatment for depression dropped from 54% of the

[2] Dr. Brignardello-Petersen is a dentist who is an assistant professor in the Department of Health Research Methods, Evidence, and Impact at McMaster University in Canada. Dr. Wiercioch is a post-doctoral research fellow in the same department as Dr. Brignardello-Petersen. Both authors report no academic interests in the care of people with gender dysphoria.

youth to 15%; the need for treatment for anxiety dropped from 48% of the youth to 15%; and the need for treatment for suicidality/self-harm dropped from 35% to 4%. All of these were statistically highly significant changes.

26. Dr. Cantor states that the study by Kuper, et al. 2020 did not show benefit from treatment. This statement is misleading at best. The article concludes, "Youth reported large improvements in body dissatisfaction ($P < .001$), small to moderate improvements in self-report of depressive symptoms ($P < .001$), and small improvements in total anxiety symptoms ($P < .01$)." (Kuper, et al., 2020). Dr. Cantor further states that the study by Achille et al. does not show that those studied benefitted from endocrine treatment. Again, Dr. Cantor's characterization of this study's conclusion is misleading. The results of the paper actually show that, "Mean depression scores and suicidal ideation decreased over time while mean quality of life scores improved over time. When controlling for psychiatric medications and engagement in counseling, regression analysis suggested improvement with endocrine intervention. This reached significance in male- to-female participants." (Achille, et al., 2020).

F. Dr. Cantor's claim that there is an international consensus against the provision of gender-affirming medical is not accurate.

27. Dr. Cantor claims that prohibiting gender-affirming medical treatment for transgender adolescents with gender dysphoria is consistent with a so-called international consensus. This is completely false. None of the countries to which Dr. Cantor refers has banned gender-affirming medical care for adolescents with gender dysphoria as South Carolina's ban does. To the contrary, all agree that medical treatment, including puberty blockers and hormone therapy, are appropriate in some circumstances. Dr. Cantor refers to the interim and final reviews on care of transgender youth in the United Kingdom's National Health System compiled by Dr. Hilary Cass. The interim report stated that the final report would synthesize published evidence with expert opinion and stakeholder

input. Notably, the interim report recommended increasing the number of health providers, shortening wait times, and increasing the number of centers across the country providing care to transgender youth. Dr. Cantor claims that the final Cass Review "unambiguously confirm[s] that the procedures fail to meet the standards of evidence-based medicine and their implementation [is] unjustified." (Cantor ¶ 96). That is not true. The Cass Review does not support banning gender-affirming medical care for minors the way that South Carolina has. Like the Endocrine Society Guidelines and WPATH Standards of Care, the Cass Review agrees that some youth with gender dysphoria will benefit from medical care, while that care may not be appropriate for other candidates. Dr. Cass herself has states that "there are young people who absolutely benefit from a medical pathway, and we need to make sure those young people have access—under a research protocol, because we need to improve the research—but not assume that's the right pathway for everyone."[3] WPATH SOC 8 similarly states, "For some youth, obtaining gender-affirming medical treatment is important while for others these steps may not be necessary."[4]

28. Dr. Cantor also glosses over some of the methodological weaknesses in the systematic reviews underlying the Cass Review. For example, while Dr. Cantor notes that the study authors pre-registered their protocols (Cantor ¶ 97), he fails to mention that the study authors inappropriately changed their methodology without commenting on the change in their manuscript. Pre-registration is a process by which researchers make public their study protocol prior to beginning their research, which prevents them from later changing the study protocol if they do not like the results. While the authors of the Cass

[3] New York Times interview with Dr. Hilary Cass. Available at: https://www nytimes.com/2024/05/13/health/hilary-cass-transgender-youth-puberty-blockers html. Accessed: Nov. 7, 2024.
[4] Coleman, E., (2022). at 23(sup1), S51.

Review's systematic reviews pre-registered their study[5] and stated they would assess the quality of the research using the Mixed Methods Appraisal Tool (MMAT), in their final manuscripts, they switched to a different scale: a modified version of the Newcastle-Ottawa Scale. They did not comment on this change and provided no reason for the change. This is a clear deviation from the standard academic publishing practices that minimize bias in the publishing of systematic reviews. (McNamara, et al 2024).

29. Swedish, Norwegian, and Finnish national health authorities, which Dr. Cantor also references, have recommended more research but have not banned care for transgender youth. In Sweden, one of the six gender centers caring for transgender adolescents stopped taking new patients in 2021 until new national guidelines were released in 2022, but continued to provide care to those already in treatment, and new patients were accepted at other gender centers. After the national guidelines were released, care to new patients resumed at that gender center, and continued to be provided at the other gender centers. In these countries, gender-affirming care for adults and for youth who qualify is fully paid for by the national health system of each country. Cantor states that Finland halted surgery for trans youth in 2020, but surgery was already restricted there to those 18 and over, while puberty blockers and hormones remain available when clinicians deem them necessary.

30. The provision of care for transgender youth has not been limited in France.

31. Gender-affirming care continues to be provided by teams of gender affirming care providers across Europe, as demonstrated by the sessions at the 2023 European Professional Association for Transgender Health conference and the 2024 WPATH

[5] Fraser, L. et al. The epidemiology, management, and outcomes of children with gender-related distress / gender dysphoria: a systematic review. PROSPERO. Available at: https://www.crd.york.ac.uk/prospero/display_record.php?RecordID=289659. Accessed: Nov. 7, 2024.

conference, held in Lisbon. Thomas Steensma of the Dutch research team has explicitly rejected the concepts of Rapid Onset Gender Dysphoria and social contagion that have been used by opponents of gender affirming care for minors (Broderick, 2023). Dr. Cantor does not provide care for gender dysphoric youth in his home country of Canada, but such care is widely available in Canada. Gender-affirming care for youth remains available in other parts of the world, including Australia, New Zealand, South Africa, Uruguay, Argentina, Brazil, Chile, and Israel. The outliers that ban gender-affirming medical care for minors are some American states, as well as Russia.

32. There remains strong international support for the continued provision of gender-affirming medical and surgical care. Experts from around the world collaborated on WPATH Standards of Care Version 8. I was chapter lead of the Mental Health chapter of this version, and the authors of that chapter include psychiatrists who are leaders of transgender health programs in Belgium, Sweden, and Turkey. There is broad agreement in philosophy of care, including support for gender-affirming care and opposition to conversion therapy.

G. Dr. Cantor draws inappropriate conclusions from the numbers and sex ratios of gender clinic referrals.

33. Dr. Cantor devotes many pages to the increase in the numbers of referrals to gender clinics, and changes in sex ratios of patients, to the extent that he considers it a distinct phenomenon called "adolescent-onset gender dysphoria." (See, e.g., Cantor ¶¶ 69, 94, 130-132, 156 et seq.). As an initial matter, in his caricature of doctors pushing medical transition (or what he calls "affirmation-on-demand," see Cantor ¶ 347), Dr. Cantor seems to imply the field is ignoring and avoiding exploration of these developments. That is not the case. Indeed, the chapter on adolescents in WPATH SOC 8 specifically discusses the increase in referrals to gender clinics and the sex ratios of these young patients. (See WPATH SOC 8 at Chapter 6).

34. In support for his proposition that "adolescent-onset gender dysphoria" is a distinct phenomenon, Dr. Cantor relies and cites to cites a survey by Lisa Littman of participants on discussion websites for parents who opposed their children's gender transition and derived a theory that adolescents develop gender dysphoria via social contagion. This survey has been denounced by the World Professional Association for Transgender Health. The survey was of parents' perception after learning of their children's transgender identity, rather than of the children themselves, and conflicts with the experience of those who work with the children themselves. Littman had no relevant experience regarding gender affirming medical care, gender dysphoria, or transgender people prior to publishing the article, which suffered from flawed methodology, among other issues, such as recruiting parent participants from websites targeted at those skeptical of transgender identity. (Brandelli Costa, 2019; Restar, 2019). No conclusions can be drawn from the Littman survey other than the fact that some anonymous people recruited from internet sites who opposed transition care for youth speculate that transgender identity is due to social contagion. Indeed, the journal that published the Littman study retracted it, ordered a post-publication review, and republished the article with a correction notice (Littman, 2019), along with an apology (Heber, 2019). Senior leader of the Dutch research team Thomas Steensma has stated that the Dutch studies do not support the concept of an "adolescent-onset" gender dysphoria differing from gender dysphoria in other Dutch youth. (Broderick, 2023)

35. No study to date has demonstrated that the determinant of gender identity is psychosocial. Since the Littman article, new studies demonstrate that social contagion does not contribute to the development of gender dysphoria and that ROGD is not a phenomenon. (Bauer, et al., 2022; Turban, et al., 2022).

36. Dr. Cantor seems to attribute increases in youth experiencing gender dysphoria to social media. (Cantor ¶ 72, 156-157). But the rise in numbers of referrals is

hardly surprising given the greater awareness on the part of youth and their parents of what gender dysphoria is and that care is available, as well as the significant increase in the number of clinics available to provide care. In addition, the stigma associated with being transgender, while still significant, has lessened in recent years. Coming out to parents and seeking care are options that did not exist for many youth until recently, so an increase in numbers of referrals to gender clinics is not surprising. While there is a documented increase in clinic referrals, Dr. Cantor exaggerates the increase by making inappropriate comparisons.

37. Until the past decade, little data on the number of people identifying as transgender was available. From 2007 to 2009, a question asking whether the respondent identified as transgender was added to a large population-based health survey conducted in Massachusetts, and 0.5% of study participants identified as transgender. (Conron, et al., 2012). Since then, this question was added to large health surveys in other states, and analyses of surveys done in 2014 found that, nationally, 0.5-0.6% of adults identified as transgender, and 0.7% of youth ages 13 to 17 identified as transgender. (Crissman, et al., 2017; Flores, et al., 2016; Herman, et al., 2017).

38. While increases in numbers and changes in sex ratios of patients referred to some gender clinics have been reported, since the number of patients referred to gender clinics reflect only a small fraction of the people identifying as transgender, these changes may reflect changes in referral patterns to clinics rather than changes in the number of people identifying as transgender.

39. Sex ratios of patients vary from clinic to clinic and over time. When I was the psychiatrist for the Dimensions Clinic for transgender youth in San Francisco from 2003 to 2020, a consistent majority of my patients were assigned female at birth. Other clinics have had more assigned male at birth patients. The rise in numbers and percentage of patients assigned female at birth observed at some clinics in recent years is not surprising

given the historical development of the study of gender dysphoria in youth. The first large American study of gender non-conforming youth was the Feminine Boy Study at UCLA. There was significant societal discomfort with and rejection of boys who departed from sex stereotypes—the director of the study referred to them as "sissy boys" in the book resulting from the study—and these boys often experienced bullying from peers. In this context, boys who were perceived to be effeminate were the population brought in to psychiatrists by their parents and were the population that was initially studied by researchers. (Green, 1987). Parents were not as concerned about gender non-conforming girls as they were more socially accepted. There was also less awareness among the general public of the existence of transgender males and that transitioning was an option for individuals assigned female at birth who were experiencing gender dysphoria. The increase in awareness in recent decades made it possible for individuals who ultimately came to identify as transgender men to come out and seek care.

40. Ultimately, the diagnostic criteria for gender dysphoria are rigorous: if there were individuals claiming a transgender identity to fit into a peer group, they would not meet the criteria for a gender dysphoria diagnosis, let alone be deemed to need medical interventions.

H. Dr. Cantor's assessment of risks is based on baseless speculation.

41. Dr. Cantor speculates at length on the safety and efficacy of puberty blockers and hormones in gender dysphoric youth. The Endocrine Society and the Pediatric Endocrine Society have replied to efforts to limit care for youth by re-asserting that these treatments are safe and effective, and that treating gender dysphoria in youth has substantial health benefits. (e.g., Endocrine Society, 2022).

42. Dr. Cantor makes misleading assertions about Kuper, et al, 2020's findings on gender-affirming care and suicidal ideation and attempts. Dr. Cantor says Kuper shows

increased suicidal ideation and attempts after treatment than before—but the suicidality listed was for the 1-3 months before starting treatment compared to a much longer period 11-18 months after treatment, so of course more suicidality was recorded over a much longer period. The participants in Kuper showed benefit from treatment: a great improvement in body congruence.

43. Dr. Cantor states that Dhejne et al., supports increased suicidality in those who had gender affirming surgery—but this comparison is with the general population. There were 10 suicides in the national morbidity and mortality database involving trans people over a 30-year period, compared to 5 suicides in from the general population. The paper itself cautions against using this study as evidence of the effect of surgery on suicide. And Cecilia Dhejne has specifically called out misrepresentations of her study, stating: "The findings have been used to argue that gender-affirming treatment should be stopped since it could be dangerous (Levine, 2016) … Despite the paper clearly stating that the study was not designed to evaluate whether or not gender-affirming treatment is beneficial, it has been interpreted as such." (Dhejne, 2017).

44. Dr. Cantor states "No methodologically sound studies have provided meaningful evidence that medical transition reduces suicidality in minors." However, Kaltiala, et al. (2020), which is cited several times in Cantor's declaration in support of his assertions, and therefore presumably considered by Cantor a methodologically sound study, found that dramatically fewer youth (35% vs 4%) needed treatment for suicidality after starting gender-affirming hormones.

I. Gender-affirming medical care has long term benefits.

45. I have treated people ranging from adolescents to elders. And many of my patients have remained with me for decades, e.g., where a patient is on medications that

need to be monitored, and their medical transition was a positive health care decision not just in the short term but for the course of their lives.

46. Dr. Cantor's assertions regarding the incidence of regret and "detransition" are inconsistent with the data and my clinical experience. (See Cantor ¶¶ 175, 267-268). A study of all individuals receiving gender-affirming surgery in Sweden over 50 years (1960 to 2010) found a regret rate of 2.2.%, a percentage that only declined over the years. There were ten cases of regret from 1960 to 1980, and only five cases of regret total in the last 30 years that were reviewed, from 1981-2010. (Dhejne, et al., 2014). A meta-analysis of 27 studies which reported regret after gender-affirming surgery found that of 7928 people having gender-affirming surgery, the regret rate was 1%. (Bustos, et al., 2021).

47. In my experience, I have had some patients who halted their transition due to challenging personal circumstances—e.g., fear of losing family support— but they still had gender dysphoria. And some came back years later to resume their transition. I have also had patients discontinue medical treatment for other reasons, including being happy with the existing changes and continuing to live and identify as transgender. But in 30 years, I have never seen a patient who had undergone hormone therapy and surgery and later came to identify with their sex assigned at birth and regret the treatment they had received.

J. Dr. Cantor falsely claims a lack of consensus or science

48. Cantor writes, "The World Health Organization (WHO) has removed children and adolescents from its upcoming guidelines on transgender health, making explicit this was because of the lack of evidence." (Cantor ¶ 349). In fact, the WHO guidelines were for care of adults from the start. The WHO states, "From the initial consultations, it was agreed that the scope should focus on adults and not on children/adolescents….WHO has not conducted its own reviews related to children and

adolescents and has not made any recommendations on this subject."[6] Of note, WHO also states in this document that "Some countries have laws, regulations, policies and practices that present barriers to equal access to health care for trans and gender diverse people….These legal barriers have measurable, detrimental effects on the health of trans and gender diverse people, as shown by research."

49. Cantor spins fiction in the section headed, "C. Endocrinologists who prescribe gender-affirming hormone treatment demonstrate split opinion when surveyed, not consensus." The survey was of practices of adult endocrinology clinics. In some clinics, the hormone prescriber themselves does the psychosocial evaluation; in others a mental health professional does this evaluation. This is consistent with WPATH Standards of Care 7 (in effect when the survey was done in March 2022), which provides for flexibility on who does the psychosocial evaluation before hormone treatment in adults. The paper states, "The WPATH SOC Version 7 recommends that before initiating GAHT, the patient undergoes a psychosocial evaluation to document that they have persistent gender dysphoria and relevant medical or mental concerns are stable. Documentation of the factors mentioned above should come in the form of a referral from the mental health professional (MHP) (eg, clinical psychologist, social worker) who conducted the evaluation, with the caveat that in some cases, a qualified prescribing clinician (termed informed consent model) may perform the assessment. In 2017, the Endocrine Society published updated clinical practice guidelines, removing the obligation for a MHP to conduct the psychosocial evaluation of TGD individuals requesting GAHT. Instead, they recommend that any

[6] Frequently Asked Questions (FAQ), WHO development of the guideline on the health of trans and gender diverse people. 20 June 2024." Retrieved at https://cdn.who.int/media/docs/default-source/documents/gender/200624---tgd_faqupdates-final-v2.pdf?sfvrsn=68d5ab94_8

knowledgeable clinician with appropriate expertise, regardless of specialty, can perform the assessment."

50. Cantor fictionalizes, "Bisno et al. noted that this lack of thorough evaluation is consistent with guidelines published by special interest groups with a financial interest in administrating that therapy." (Cantor ¶ 353). In fact, Bisno notes that both WPATH and the Endocrine Society guideline require a thorough evaluation, and makes no inferences of "special interest groups" with "a financial interest" in treatment. That editorializing is entirely Cantor's, though falsely attributed to the paper's author, who was merely documenting how adult endocrinology clinics were following WPATH SOC 7 and the Endocrine Society guidelines.

51. Cantor falsely states, "The fact that almost half of surveyed physicians reported using criteria tighter than WPATH and the Endocrine Society indicates their belief that those guidelines provide insufficient protection from harm." (Cantor ¶ 354). The paper only documents that some clinics have the mental health professional do the psychosocial assessment and others have the endocrinologist do it, each practice supported by clinical guidelines. Many factors can contribute to this staffing decision, and neither practice is "tighter" than the other. The editorializing about "insufficient protection from harm" is entirely Cantor's creation.

52. Cantor asserts, "D. The American Academy of Pediatrics (AAP) now acknowledges that its 2018 policy statement on gender dysphoric children was not based on a systematic review of the relevant research." The American Academy of Pediatrics 2018 statement made recommendations for care backed by current literature and an understanding of principles of good care, and includes recommendations like," The GACM [Gender-Affirmative Care Model] is best facilitated through the integration of medical, mental health, and social services, including specific resources and supports for parents and families. Providers work together to destigmatize gender variance, promote the child's

self-worth, facilitate access to care, educate families, and advocate for safer community spaces where children are free to develop and explore their gender."

53. Cantor attempts to draw contrast between the practices in Europe and those in the US. In fact, the draft practice guidelines of experts from German-speaking countries of Europe (representing a larger population than the UK or Scandinavia) support the use of puberty blockers at Tanner stage 2, in line with WPATH recommendations.[7] The outliers, in fact, are the US states that have banned and criminalized the provision of gender-affirming care.

54. The assertion of a "rush to medicalization" in the US also is not supported by evidence. A recent study showed that in the US, only 25% of adolescents age 14-16 with a diagnosis of Gender Dysphoria started medical treatment within 2 years. (Locke, et al., 2024).

55. As for Dr. Cantor's "psychotherapy first" recommendation, the reality is that blocking access to programs offering gender-affirming medical care makes it less likely that the adolescent will receive needed psychotherapy. An example is the England's National Health Service. From January 2023 to July 2024, the NHS's youth gender program that replaced Tavistock GIDS provided mental health assessments to only 8 adolescents. The waitlist for these mental health assessments included 6,003 youth, as of July 2024. According to the NHS, as of July 2024, an adolescent on the waitlist for a mental health assessment can expect to wait 308 weeks for a mental health assessment, or until they are 17 years, 9 months of age, at which point they are removed from the waitlist and

[7] German Society for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy(DGKJP). (2024). Draft version of the AWMF guideline: Gender incongruence and gender dysphoria in childhood and adolescence - diagnosis and treatment (S2k). AWMF Registry No. 028 – 014. English translation available at: https://www.amqg.ch/_files/ugd/e78aad_83e3b77cc9ad46cc81e9561b20ddd129.pdf.

referred back to their primary care provider. With a 6 year wait for a mental health assessment to initiate care, one would expect that adolescents are much more likely to come off the waitlist because they reach adulthood without a mental health assessment by the NHS, than to actually be assessed as adolescents by the NHS. The NHS has abdicated responsibility even for a mental health assessment. And as opposed to the assertions of some opponents of gender-affirming care, clearly the adolescents' gender dysphoria isn't resolving on its own during this 6 years on the waitlist for just a mental health assessment, as the waitlist grows longer month-by-month.[8] During the same 1 ½ years that the National Health Service of England's new youth gender program provided mental health assessments to only 8 young people, former NHS clinicians at a private clinic providing mental health assessment, psychotherapy, and hormones to adolescents evaluated 388 new patients.[9]

56. In fact, there is no evidence that psychotherapy alone or doing nothing will resolve gender dysphoria in those youth referred for medical care. Disruptions of systems of care for transgender youth by gender-affirming mental health providers are happening as the need for mental health care grows. In a recent study, American transgender youth who were being followed over time had sharp increases in suicidality after their state of residence passed anti-transgender laws. Enacting state-level anti-transgender laws increased incidents of past-year suicide attempts among transgender and non-binary young people aged 13-17 by 7–72%. (Lee, et al, 2024). There is no evidence to support the pretense that transgender care bans benefit transgender youth, only evidence of harm.

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[8] (Freedom of Information Request (Our Ref: FOI - 2409-2139204) NHSE:0141451 https://docs.google.com/document/d/1neOdLdAPHD6wTikLi9s7Y1AFxrOR9FZQjoMvxKIyJGk/mobilebasic?usp=gmail)

[9] https://www.genderplus.com/statement

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 15th day of November 2024.

Dan H. Karasic, M.D.

EXHIBIT C

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UNITED STATES DISTRICT COURT
DISTRICT OF SOUTH CAROLINA

STERLING MISANIN, et al.,

Plaintiffs,

v.

ALAN WILSON, in his official capacity as Attorney General of South Carolina, et al.,

Defendants.

Case No.: 2:24-cv-4734-RMG

EXPERT REBUTTAL DECLARATION OF DANIEL SHUMER, M.D.

I, Daniel Shumer, M.D., hereby declare and state as follows:

1. I am over 18 years of age, of sound mind, and in all respects competent to testify.

2. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

3. I have actual knowledge of the matters stated herein. If called to testify in this matter, I would testify truthfully and based on my expert opinion.

4. My background and qualifications, review of prior testimony, and compensation have been previously provided in my original expert report. A copy of my curriculum vitae is attached as **Exhibit A** to my original report.

1. As with my expert declaration, my opinions contained in this rebuttal declaration are based on, in part, my extensive experience working with and treating children and adolescents with endocrine conditions, my extensive experience working with and treating children and adolescents with gender dysphoria, which I have been treating since 2015, as well as my ongoing

review of the research in these areas of medicine and my collaboration with colleagues across the United States. I have personally evaluated and treated over 400 patients with gender dysphoria. C.S. Mott Children's Hospital's Children and Adolescent Gender Services Clinic, which I founded and where I serve as clinical director, has treated over 1000 patients since its founding. I actively conduct research related to transgender medicine, gender dysphoria treatment, and mental health concerns specific to transgender youth. The sources cited in each of these are the same types of materials that experts in my field of study regularly rely upon when forming opinions on the subject, which include authoritative, scientific peer-reviewed publications.

2. I submit this rebuttal declaration to respond to the expert declaration of Dr. James Cantor, as well as statements made in Defendants' Response in Opposition to Plaintiffs' Motion for Preliminary Injunction (the "Response").

3. In this rebuttal, I respond to some of the central points made in the report and briefing. I do not address each and every assertion made in those reports that I believe are baseless, misleading, or mischaracterizations of the evidence, as there are many. Instead, my aim is to provide an explanation of the erroneous premises upon which their conclusions are based.

4. I reserve the right to revise and supplement the opinions expressed in this report or the bases for them if any new information becomes available in the future, including as a result of new scientific research or publications or in response to statements and issues that may arise in my area of expertise. I may also further supplement these opinions in response to information produced in discovery and in response to additional information from Defendants' or Plaintiffs' designated experts.

SUMMARY OF OPINIONS

1. The treatment protocols for adolescents with gender dysphoria require rigorous informed consent processes and mental health assessments prior to the prescription of puberty blockers or hormone therapy.

2. "Puberty blockers," i.e. gonadotropin-releasing hormone agonists ("GnRHa") are safe and effective for treating adolescents with gender dysphoria. This treatment is based on robust research and clinical experience, which consistently demonstrate safety and efficacy.

3. Hormonal interventions, e.g. testosterone for transgender boys and young men or estrogen and testosterone suppression for transgender girls and young women, are safe and effective for treating adolescents with gender dysphoria. This treatment is also based on robust research and clinical experience, which also consistently demonstrate safety and efficacy.

4. Dr. Cantor's report is at times unbalanced or misleading when presenting potential risks and benefits of gender-affirming medical care.

5. Gender-affirming medical care for every transgender person is individualized.

6. The studies pertaining to desistance upon which Dr. Cantor relies pertain to *pre-pubertal* youth, not adolescents.

TREATMENT PROTOCOLS FOR ADOLESCENTS WITH GENDER DYSPHORIA

7. Dr. Cantor suggests that clinicians routinely provide medical interventions to adolescents without proper mental health assessments and without informing patients and their parents of the potential risks of treatment. I cannot speak to the practice of every clinician in the country, but both the Endocrine Society Clinical Practice Guideline (the "Endocrine Society Guideline") and the World Professional Association of Transgender Health Standards of Care (the "WPATH SOC") require rigorous mental health assessments and informed consent processes before any medical treatment is initiated. (Coleman, et al., 2022; Hembree, et al., 2017).

8. In my experience personally treating over 400 youth with gender dysphoria, and as the clinical director for the Child and Adolescent Gender Services Clinic, each patient undergoes an extensive psychological assessment and, if medical interventions are deemed medically appropriate, an extensive informed consent process before such interventions is provided.

9. In my practice, I regularly communicate with practitioners who treat adolescents with gender dysphoria. The assessment and informed consent process that we utilize at the Child and Adolescent Gender Services is comparable to the processes used at similar clinics across the country as I understand them. If providers are foregoing assessments and informed consent, such practice would be outside the recommended guidelines for care.

10. It is not the case that clinicians "encourage" any patient to initiate gender-affirming care as Dr. Cantor suggests. (*See* Cantor, ¶ 185). Consistent with the WPATH SOC and the Endocrine Society Guideline, each patient is met first by providers who explore the patient's medical and mental health history and identity. Under the standards of care, no patient is rushed into medical treatment, and no treatment is initiated without appropriate evaluation and an informed consent process. Consistent with SOC 8, gender clinics use a multidisciplinary approach and the decision to initiate gender affirming care is made by involving relevant disciplines, including mental health and medical professionals, to reach a decision with families about whether medical intervention is appropriate and remains indicated through the course of treatment. (Coleman, et al., 2022; Hembree, et al., 2017). As clinicians our jobs are not to "encourage" any particular identity or outcome but rather to assess and treat our patients.

11. It appears to be the position of the Dr. Cantor that "watchful waiting" or delay until a patient turns 18 years of age before initiating medical treatment for gender dysphoria would not cause harm to minor patients. (*See, e.g.*, Cantor, ¶ 311). This is inconsistent with a robust body of

research and my clinical experience. Many physiological changes that happen during endogenous puberty cause severe distress for patients with gender dysphoria and can be difficult, if not impossible, to reverse with subsequent treatment. Based on my clinical experience, patients with severe dysphoria who are able to receive treatment prior to age 18 experience substantial mental health improvements from gender-affirming medical interventions.

12. Dr. Cantor attempts to discredit WPATH as an advocacy organization. This critique is also misplaced. (*See* Cantor, ¶ 339). Like many medical associations, WPATH both advocates for patients and pursues rigorous scientific research. This is not a new phenomenon in medicine. The American Diabetes Association, for example, is a professional association that both advocates for patients with diabetes and is a scientific organization. Similarly, the American Heart Association has scientific meetings, community engagement and advocacy arms.

SAFETY AND EFFICACY OF GnRHa TO TEMPORARILY SUPPRESS PUBERTY

13. GnRHa have been used extensively in pediatrics for several decades. Prior to their use for gender dysphoria, they were used (and still are used) to treat precocious puberty. Extensive data supports their safety and efficacy. It is therefore not accurate to suggest that little is known about the effects of puberty blockers.

14. Though Dr. Cantor warns about delaying puberty, (*see* Cantor, ¶¶ 293, 296), the assertion that GnRHa is used to delay puberty in transgender youth beyond the typical age range of puberty is misleading and typically untrue. There is diversity in the age of pubertal onset and duration. Most adolescents begin puberty between ages 10 and 12 years, but puberty may begin as early as 8 or 9 years, or as late as 13 or 14 years (or later in the case of delayed puberty). Adolescents with gender dysphoria tend to start hormonal therapy toward the latter end, but still within this typical range of puberty. Partly in recognition of the natural diversity in pubertal onset,

WPATH SOC 8 removed strict age guidelines for hormone therapy was so that patients moving from GnRHa to testosterone or estrogen could have an individualized assessment about when initiating puberty is appropriate. There is no data to support the State's expert's assumption that delaying puberty within these normal age ranges will have negative short- or long-term social and developmental consequences.

15. In my clinical experience, GnRHa greatly reduce distress both at the time of treatment and later in life. At the time of treatment, GnRHa reduces the worsening gender dysphoria and mental health deterioration that accompany the development of secondary sex characteristics incongruent with an adolescent's gender identity. Later in life, patients treated with GnRHa benefit from a reduced need for surgical or other invasive interventions to overcome the effects of endogenous puberty. In my clinical experience, providing individualized care based on individual patient characteristics, using the WPATH Standards of Care as the foundation, provides significant benefit to patients, minimizes gender dysphoria, and can eliminate the need for surgical treatments in adulthood. The side effects of GnRHa are easily managed, and, for the majority of patients, the benefits outweigh the risks. In my practice, adolescent patients struggling with significant distress at the onset of puberty routinely have improvements in mood, school performance, and quality of life with the appropriate use of GnRHa. Allowing puberty to progress in such situations often results in worsening distress. This has been what I have observed personally in situations when a patient eligible to receive GnRHa is unable to obtain it for various reasons (lack of insurance, parental disagreement, etc.). Sometimes mood remains relatively stable on GnRHa without marked improvement or deterioration. This is not a sign of treatment failure, but rather a much preferrable outcome to the counterfactual of withholding treatment resulting in mental health deterioration.

16. Dr. Cantor claims that patients treated with GnRHa will experience a range of health consequences. (*See* Cantor, ¶¶ 280-288). For example, he says that patients treated with GnRHa will be at an elevated risk of lower bone mineral density. (*See* Cantor, ¶ 280). The risk of lower bone mineral density in prolonged use of GnRHa can be mitigated by screening for and (when present) treating vitamin D deficiency, and by limiting the number of years of treatment based on a patient's clinical course. (Rosenthal, 2014). As I explain to my patients, every year, a child's bone density gets a little stronger. When a patient is on GnRHa, their bone density increases every year, at a pre-pubertal speed. During puberty, whether from testosterone or estrogen, bone density increases at a faster rate—a bone density spurt, almost like a growth spurt. Once a patient stops using GnRHa and begins puberty, either endogenously or through exogenous testosterone or estrogen, they will undergo their bone density spurt.

17. Dr. Cantor raises the issue of risk of fracture later in life, (*see* Cantor, ¶ 284), but no such long-term effects have been observed in patients treated with GnRHa for either precocious puberty or gender dysphoria. As with all of the risks of GnRHa, the risks related to bone mineralization and the state of the evidence are discussed with patients and their parents during the informed consent process and are weighed against the risks of not providing treatment.

18. With respect to claims about weight gain, (*see* Cantor, ¶ 286), it is appropriate to counsel patients on the potential risk of weight gain while using GnRHa, along with the benefits of maintaining a healthy diet and promoting physical activity, and to provide nutritional support for those at risk of obesity. In my clinical experience, families and adolescents consider this potential side effect—common to other medications used to treat endocrine disorders and other conditions in adolescents—when weighing the risks and benefits of treatment. It is also true that

patients with untreated anxiety or depression are at higher risk for weight gain, and withholding GnRHa could serve as a risk factor for unhealthy weight.

19. Additionally, the Dr. Cantor suggests that patients on puberty blockers will have slower rates of growth in height. (*See* Cantor, ¶¶ 284, 364). Just as the bone density spurt associated with puberty will not occur while using GnRHa, so too will the growth spurt associated with puberty not occur while using GnRHa. Again, once puberty resumes, either endogenously or through exogenous hormone therapy, adolescents will begin to grow into their adult height. For transgender girls, use of GnRHa may reduce final adult height somewhat, but that is usually considered a benefit of treatment and consistent with gender-affirming goals. For transgender boys, treatment increases final adult height which is very often consistent with gender-affirming goals as well.

20. Dr. Cantor's claim that brain development occurring during puberty may be negatively affected by GnRHa is not accurate. (*See* Cantor, ¶ 276). Patients with gender dysphoria who are treated with GnRHa will later undergo hormonal puberty with all the same brain and other developments. I am unaware of any research suggesting that treatment has negative impact on brain development or executive functioning, and I have not seen this in my clinical practice. Such a claim would also be inconsistent with my clinical experience treating patients with delayed puberty. Those individuals still have normal brain development with respect to cognition and executive function despite starting puberty at a similar age as patients with gender dysphoria treated with GnRHa.

SAFETY AND EFFICACY OF HORMONE THERAPY

21. Hormone therapy is safe and effective to treat adolescents with gender dysphoria. As with the use of GnRHa, where medically indicated, testosterone or estrogen (along with a

testosterone suppressant) are provided after a discussion among the patient, their parents, and the patient's care team, as well as an extensive informed consent process. Hormone therapy treats gender dysphoria in adolescents by facilitating the development of physical changes congruent with a patient's gender identity.

22. The goal of hormone therapy is to maintain the patient's hormone levels within the normal range for their gender identity. This is true for all of my patients for whom I prescribe testosterone or estrogen, including non-transgender adolescents with conditions such as delayed puberty, hypogonadism, Turner Syndrome, Klinefelter Syndrome, agonism, premature ovarian failure, and disorders of sex development. Laboratory testing is recommended to ensure proper dosing and hormonal levels within the normal male or female range for the patient's age. We closely track dosing and circulating hormone levels to minimize any risk of adverse effects, in patients with gender dysphoria and any other conditions requiring hormonal treatment.

23. Treatment of gender dysphoria with testosterone or estrogen is highly beneficial for both short-term and long-term psychological functioning of adolescents with gender dysphoria. (*See* Achille, et al., 2020; Allen, et al., 2019; Chen, et al., 2023; de Lara, et al., 2020; de Vries, et al., 2014; Grannis, et al., 2021; Green, et al., 2022; Kaltiala, et al., 2020; Kuper, et al., 2020). I observe this in my clinical practice: my patients who receive medically appropriate hormone therapy and who are treated consistent with their gender identity in all aspects of life experience significant improvement in their health.

SIDE EFFECTS OF PUBERTY SUPRESSION AND HORMONE TREATMENT

24. Dr. Cantor's report is at times unbalanced or misleading when presenting potential risks and benefits of gender-affirming medical care, including puberty blockers and gender affirming hormones. What he fails to articulate is that every single medication has potential

negative side effects, in addition to the possibility of new side effects that have not been historically documented. This is one of the reasons that evidence-based medicine relies heavily on experienced clinicians to exercise their expertise and judgment.

25. The risks associated with the use of puberty blockers in minors are comparable when used for transgender and non-transgender patients alike. For example, many of the side effects and risks associated with puberty blockers have been well-studied with regards to the use of these medications for the treatment of central precocious puberty (Eugster, 2019), and such side effects are managed if they arise.

26. Dr. Cantor seems to suggest that hormone treatment is harmful because it leads to a "lifetime" of continuing to receive such therapy. (*See* Cantor, ¶ 293 ("lifetime dependence on cross-sex hormones")). In every encounter with my care team, there is a re-evaluation of treatment, including the benefits, side effects, and trajectory of the treatment for the individual patient. For some patients, they may undergo hormone treatment for a period of time and then discontinue the treatment if dysphoria is well-managed and the changes from the hormone therapy have adequately addressed the underlying dysphoria. For my patients who do remain on maintenance doses of hormone therapy, the risks of ongoing hormone therapy can be well-managed and are not unlike risks associated with those present for other patients who undergo long-term sex hormone therapy for different conditions like Kleinfelter's Syndrome, Turner Syndrome, patients who have to have their ovaries or testicles removed due to cancer, torsion or other causes as well as those with hypopituitarism. Many endocrine conditions are lifelong and require lifelong use of hormone replacement including Type 1 diabetes and hypothyroidism, which require insulin or thyroid hormone treatment for life, respectively. Ultimately, many endocrine conditions are treated with lifelong medical management – including hormone therapy

– and that does not pose an inherent risk to patient health but rather is critical to patient health. Additionally, side effects are considered, discussed, and managed if they arise in all individuals needing hormone therapy regardless of the diagnosis necessitating these medications.

27. Dr. Cantor also discusses the fertility implications of gender-affirming care. (*See* Cantor, ¶¶ 255, 266-270). The sweeping suggestion that hormone therapy affects fertility for all patients is simply incorrect. As set forth below, there are options for preserving the fertility of adolescents with gender dysphoria who first begin treatment with GnRHa and then proceed to hormone therapy, and adolescents who undergo their endogenous puberty prior to commencing hormone therapy often achieve fertility upon cessation of exogenous hormone therapy.

28. For minors who are first treated with GnRHa, there are decades of research showing that GnRHa alone has no long-terms implications for fertility. (Guaraldi, et al., 2016; Martinerie, et al., 2021). Progression through natal puberty is required for maturation of egg or sperm. If a patient who first received GnRHa and then hormone therapy wishes to be fertile, they would be advised to withdraw from exogenous hormones and allow pubertal progression.

29. Patients who initiate hormones after completing puberty are offered gamete preservation prior to hormonal initiation. (Coleman, et al., 2022). But even when patients do not undertake gamete preservation, withdrawal of hormones in adulthood often is successful in achieving fertility when it is desired. (Light, et al., 2014; Knudson, et al., 2017). For transgender men and women, pregnancies have occurred even when on testosterone or estrogen treatment, and transgender patients are regularly advised that testosterone and estrogen are not effective forms of birth control.

30. For all medications with potential impacts on fertility, the potential risks and benefits of both treatment and non-treatment should be reviewed and data regarding risk for

infertility clearly articulated prior to the consent or assent of the patient. Risk for fertility changes must be balanced with the risk of withholding treatment. All of these risks—which the State's expert, in my opinion, overstate—are disclosed to parents and youth during the informed consent process, during which families can weigh the risks and benefits before making a decision. This decision-making process is not unique to the treatment of gender dysphoria in the pediatric patient populations. Medications used for other conditions, such as chemotherapy, can affect fertility, and the risks for fertility changes must be balanced against the risk of withholding treatment. Finally, the value that each individual assigns to their fertility is variable and often impacted by their gender identity and sexual orientation. For many patients, the prospect of pregnancy, or using sperm or eggs to participate in a pregnancy, is at odds with their deeply personal understanding of their gender identity, attractionality, and family planning goals. What may be assigned a potential (albeit overstated) risk by Dr. Cantor, may not be described that way by patients and their families.

31. Dr. Cantor also critiques an update to the WPATH SOC, which no longer sets more rigid age limitations around the initiation of hormone therapy. (*See* Cantor, ¶ 315). This allows for flexibility in caring for patients who have a need to access hormones earlier due to early puberty or earlier onset and severity of dysphoria. This is consistent with the practice of individualized medicine, using WPATH SOC as a foundation.

TREATMENT FOR GENDER DYSPHORIA IS INDIVIDUALIZED

32. Dr. Cantor has no clinical experience in treating gender dysphoria in minors and no experience monitoring patients receiving drug treatments for gender dysphoria. In his report, he states that "hormones-on-demand" or "affirmation-on-demand" increases the probability of unnecessary transition and unnecessary medical risks. (Cantor ¶¶ 185, 347).

33. This claim has no basis. Gender-affirming medical care for every transgender person is individualized. There is no one specific route for all patients for whom care is medically indicated.I have observed that providing individualized care based on individual patient characteristics provides significant benefit to patients, minimizes gender dysphoria, and can eliminate the need for surgical treatments in adulthood.

34. Dr. Cantor's "affirmation-on-demand" theory does not reflect the reality of how gender-affirming medical care is provided to adolescents in the United States. Instead, it reflects a lack of understanding of transgender identity, the clinically significant distress of gender dysphoria, and how medical care is provided to adolescents with gender dysphoria. Under the Endocrine Society Clinical Guidelines and SOC 8, medical treatment is appropriate for transgender adolescents with gender dysphoria when the experience of dysphoria is marked and sustained over time, the adolescent demonstrates emotional and cognitive maturity required to provide and informed consent/assent for treatment, other mental health concerns (if any) that may interfere with diagnostic clarity and capacity to consent have been addressed, and the adolescent has discussed reproductive options with their provider. SOC 8 also highlights the importance of involving parent(s)/guardian(s) in the assessment and treatment process for minors (Coleman, et al., 2022; Hembree, et al., 2017). Regardless of the timeline on which an adolescent with gender dysphoria is able to access gender-affirming medical care, such access requires that a qualified practitioner determine that the care is clinically indicated and a parent or guardian provide consent.

MISUNDERSTANDINGS AND MISREPRESENTATIONS OF DESISTANCE

35. Dr. Cantor discusses the notion of desistance at great length as a reason why gender-affirming medical treatment should not be provided to adolescents with gender dysphoria. But the

studies he cites do not support the proposition for which he cites them, and this fallacy, repeated by many opponents of gender-affirming medical care, misrepresents the data completely.

36. It is true that the majority of prepubertal gender diverse children exploring their gender do not develop gender dysphoria and are not expected to become transgender adolescents or adults, but that is because they are not transgender and/or do not meet the current definition of gender dysphoria in the first place. Karrington reviews that much of the literature pertaining to desistance is discussing purported changes in gender identity but not specific to a diagnosis of gender dysphoria (Karrington, 2022).

37. The studies pertaining to desistance upon which Dr. Cantor relies pertain to *pre-pubertal* youth, not adolescents. Some individuals in this field misinterpret older studies showing that a large percentage of children diagnosed with gender identity disorder did not grow up to be transgender. Those studies include children who would not fulfill the current diagnostic criteria for gender dysphoria and, in any case, have no relevance to this case because no medications are prescribed to prepubertal children. In contrast, data and clinical experience shows that children whose gender dysphoria persists into adolescence are highly likely to be transgender (van der Loos, et al., 2022, DeVries, et al., 2011).

38. Karrington (2022) performed a systematically guided review of the topic and concluded that the word "desistance" does not lend itself to the nuance of gender identity and gender exploration in childhood. The author writes: "[t]he idea of desistance creates a false dichotomy (persistence or desistence) that only hinders provision of care by suggesting a possibility to predict future gender identity. In addition, desistance does not take into consideration the myriad of societal influences that can prevent a person from expressing their gender. Clinicians can move beyond attempting to predict gender outcomes to focusing on ways

to support [transgender and gender expansive] youth as they discover themselves" (internal footnote omitted).

39. Research to date shows that if transgender identification persists into adolescence, then desistance is incredibly rare, and no medical or surgical treatments are recommended for pre-pubertal children.

40. Based on the desistance studies pertaining to pre-pubertal youth, Dr. Cantor suggests "gender dysphoria so often desists on its own" (Cantor ¶ 138)." Here Dr. Cantor is making a causal theory error – making a claim of causation based on correlational evidence. Children with persisting gender dysphoria into puberty (1) are very likely to have persisting gender dysphoria into adulthood, and (2) are eligible for treatment with GnRHa. Patients prescribed pubertal suppression are very likely to later be prescribed gender-affirming hormones simply because gender dysphoria tends to persist if present at the onset of puberty.

41. Ultimately, in my clinical experience, gender-affirming medical care improves the health and well-being of adolescents with gender dysphoria for whom the care is medically indicated.

42. For patients for whom these medical interventions are indicated, withdrawing GnRHa or hormone therapy is harmful. Discontinuation of GnRHa would cause the onset of a puberty discordant from gender identity, a significant source of distress for patients with gender dysphoria. Similarly, discontinuation of gender-affirming hormone therapy for adolescents with gender dysphoria will cause adolescents receiving treatment to experience physiological changes inconsistent with their gender identity. An increase in gender dysphoria can increase depression, anxiety, self-harm, hospitalizations, and suicidality in transgender adolescents. These permanent

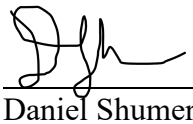
changes can lead to the need for future surgical interventions that could have been prevented by maintaining earlier treatment.

43. As the clinical director of the Children and Adolescent Gender Services Clinic, I see patients who typically live in Michigan or Ohio. Even with our clinic and clinics like ours, families often have difficulty in accessing gender-affirming care, including long wait times and barriers associated with insurance and travel. The longer the patient is unable to access their medically necessary care, the worse their suffering will be. In addition, transgender youth are often wary of medical providers and can take longer to develop a therapeutic and trusting relationship with their provider. This change in providers can set them back in their care and can have lasting physical and mental health effects.

44. In my clinical experience, providing individualized care based on individual patient characteristics, using the WPATH Standards of Care as the foundation, provides significant benefit to patients, minimizes gender dysphoria, and improves patient outcomes. In the Children and Adolescent Gender Services Clinic, we encounter patients with other medical conditions. As part of our holistic treatment of the entire patient, we carefully consider what other support our patients with gender dysphoria need in addition to treatments directly addressing their gender dysphoria.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 18th day of November, 2024.



Daniel Shumer, M.D.

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IN THE UNITED STATES DISTRICT COURT FOR THE MIDDLE DISTRICT OF SOUTH CAROLINA
Charleston Division

STERLING MISANIN, *et al.*, *Plaintiffs*, v. ALAN WILSON, *et al.*, *Defendants*.	Civil No. 2:24-CV-4734-RMG

REBUTTAL REPORT OF
ARMAND H. MATHENY ANTOMMARIA, MD, PhD, FAAP, HEC-C

I, Armand H. Matheny Antommaria, hereby state as follows:

1. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

2. I have actual knowledge of the matters stated herein.

3. My background and qualifications, prior testimony, and compensation were previously provided in my initial expert report dated August 8, 2024. Since the submission of my initial report, I have updated my curriculum vitae (CV). The updated version is true, correct, and up to date. It is attached to this rebuttal report as Exhibit A.

4. In preparing this report, I reviewed the expert report of James M. Cantor, PhD, submitted by Defendants in this case.

5. In addition to the underlying legislation, Dr. Cantor's report, and the materials cited herein, I have also relied on my years of research and other experience, as set out in my CV (Exhibit A), in forming my opinions. The materials I have relied upon in preparing this report are the same

types of materials that experts in my fields of study regularly rely upon when forming opinions. I may wish to revise and supplement the opinions expressed in this report or the bases for them if any new information becomes available in the future, including new scientific research or publications, or in response to statements or issues that may arise in my areas of expertise. I may also further supplement these opinions in response to information produced in discovery or in response to additional information from Dr. Cantor.

OVERVIEW

6. In this rebuttal report, I identify some of the key ways in which Dr. Cantor falsely characterizes gender-affirming medical care of minors as atypical and warranting anomalous state prohibition. Contrary to Dr. Cantor's claims, other sound diagnoses do not rely on laboratory or radiographic studies, gender-affirming medical care is not experimental, many widely-used medical treatments are based on "low" or "very-low" quality evidence, the clinical practice guidelines for gender-affirming medical care are based on widely accepted methods, no European country has banned gender-affirming medical care as South Carolina has, the risks of gender-affirming medical care are comparable to the risks of other medical treatments to which parents of minors are permitted to consent, and parents are capable of consenting to gender-affirming medical care of their minor children. Further, my review of Dr. Cantor's report has not provided me reason to change my opinion that there is no sound medical or ethical basis to prohibit providing gender-affirming medical care to minors.

ROLE OF SYMPTOMS IN MEDICAL DIAGNOSIS

7. Contrary to Dr. Cantor's claims (63, 119-126),[1] the fact that the diagnosis of gender dysphoria relies on patients' reports of their symptoms and is not confirmed by "objective" testing, like laboratory or radiographic testing, does not undermine its validity as a medical condition. Symptoms themselves are often sufficient to make a diagnosis and clinical practice guidelines frequently recommend against unnecessary diagnostic testing.[2] In addition to the fact that the diagnosis of most mental health conditions relies on patients' self-reports, the diagnosis of some non-mental health conditions also relies exclusively on patients' reports of their symptoms and cannot be confirmed by laboratory or radiographic testing. The diagnosis of migraine headaches, for example, depends on individuals' report of the number, duration, and characteristics of their headaches. These characteristics include the headaches' location, quality, intensity, and aggravating factors as well as the presence of nausea and/or vomiting, and light and sound sensitivity.[3] Like gender dysphoria, there are no confirmatory laboratory or radiographic studies for the diagnosis of migraine headaches. Health care providers routinely diagnose migraine headaches and prescribe treatment for them based on patients' reports of their symptoms. Radiographic studies and electroencephalograms (EEG) are only used if the history and physical

[1] All parathentical references in this report are to paragraphs in Dr. Cantor's report.

[2] See, for example, Tabbers MM, DiLorenzo C, Berger MY, et al. Evaluation and treatment of functional constipation in infants and children: Evidence-based recommendations from ESPGHAN and NASPGHAN. *J Pediatr Gastroenterol Nutr*. 2014;58(2):258-274 which states "The routine use of an abdominal radiograph to diagnose functional constipation is not indicated (265)"; Ralston SL, Lieberthal AS, Meissner HC, et al. Clinical practice guideline: The diagnosis, management, and prevention of bronchiolitis. *Pediatrics*. 2014;134(5):e1474-e1502 which states "When clinicians diagnose bronchiolitis on the basis of history and physical examination, radiographic or laboratory studies should not be obtained routinely (e1474)."

[3] Headache Classification Committee of the International Headache Society (IHS). The international classification of headache disorders, 3rd edition. *Cephalalgia*. 2018;38(1):1-211.

examination suggest that the headache is caused by another condition, e.g., meningitis or subarachnoid hemorrhage.[4] Clinical trials of migraine treatments, including randomized, controlled trials, rely on participants' daily headache diaries.[5]

EXPERIMENTAL

8. Dr. Cantor characterizes gender-affirming medical care as experimental (212-220). To the extent that he defines this term, his definitions are erroneous. Dr. Cantor, for example, contends, "A treatment would continue to be experimental until the demonstration of (1) reliable, clinically meaningful improvement and (2) the reliable estimation of safety risks in randomized, controlled trials (RCTs) or research of equivalent evidence (213)." Dr. Cantor does not provide any references to support his claim. This definition is correct because it establishes a threshold of evidence that is too stringent and classifies many widely accepted medical treatments as experimental. *See* Quality of Evidence for Gender-Affirming Medical Care, paragraphs 9-12, below. This includes treatments that Dr. Cantor accepts are not experimental. For example, he accepts the use of gonadotropin-releasing hormone (GnRH) analogs to treat central precocious puberty (68-74), which was both approved by the United States (U.S.) Food and Drug Administration (FDA) and accepted as the standard of care based on observational studies and not RCTs.[6]

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[4] Steiner TJ, Jensen R, Katsarava Z, et al. Aids to management of headache disorders in primary care, 2nd edition. *J Headache Pain*. 2019;20(1):57.

[5] Powers SW, Coffey CS, Chamberlin LA, et al. Trial of amitriptyline, topiramate, and placebo for pediatric migraine. *N Engl J Med*. 2017;376(2):115-124; Ailani J, Lipton RB, Goadsby PJ, et al. Atogepant for the preventive treatment of migraine. *N Engl J Med*. 2021;385(8):695-706.

[6] HIGHLIGHTS OF PRESCRIBING INFORMATION [LUPRON DEPOT-PED]. May 2017. Accessed November 5, 2024. Available at https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/020263s042lbl.pdf; Mul D, Hughes IA. The use of GnRH agonists in precocious

QUALITY OF EVIDENCE FOR GENDER-AFFIRMING MEDICAL CARE

9. Contrary to Dr. Cantor's claims (213), RCTs do not constitute the exclusive standard of proof in medicine. As I discuss in paragraphs 20-41 of my report executed on August 8, 2024, many medical treatments are based on other types of studies.

10. Dr. Cantor calls for "active comparator" studies (50-51), but it is unclear what he considers an ethically acceptable comparator. If these studies randomized participants to different dosages or formulations of GnRH analogs or gender-affirming hormones, I agree that they may be ethical. This type of RCT of gender-affirming medical care has been conducted in adults.[7] It is, however, important to note that participants in both the intervention and the control arm of such trials receive gender-affirming medical care. And again, RCTs are not required to conclude that a medication is safe and effective.

11. Dr. Cantor emphasizes that systematic reviews of the literature report that the level of evidence for gender-affirming medical care is low or very-low (76-101). As I explain in paragraphs 20-25 of my August 8, 2024 expert report, the terms used by the Grading of Recommendations Assessment, Development and Evaluation (GRADE) system to characterize the strength of the evidence are terms of art, the levels are relative to one another, and "low" does not necessarily mean poor or inadequate. Clinical practice guidelines for gender-affirming medical care recognize that much of the evidence supporting their recommendations is low or very-low

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puberty. *Eur J Endocrinol*. 2008;159(Suppl 1):S3-S8; Carel JC, Eugster EA, Rogol A, et al. Consensus statement on the use of gonadotropin-releasing hormone analogs in children. *Pediatrics*. 2009;123(4):e752-e762.

[7] See, for example, Burinkul S, Panyakhamlerd K, Suwan A, Tuntiviriyapun P, Wainipitapong S. Anti-androgenic effects comparison between cyproterone acetate and spironolactone in transgender women: A randomized controlled trial. *J Sex Med*. 2021;18(7):1299-1307.

quality. This level of evidence is not unique to this type of medical care. Studies of systematic reviews of the evidence for medical interventions generally have found that the majority of the evidence that they identify is low or very-low quality. Padhraig S. Fleming and colleagues, for example, conducted a review of systematic reviews for medical and health-related interventions published on the Cochrane Database of Systematic Reviews between January 1, 2013 and June 30, 2014. They focused on those that incorporated the GRADE approach and examined the quality of evidence for the first listed primary outcome. Of the 608 reviews, 82 (13.5%) reported high, 197 (30.8%) moderate, 193 (31.7%) low, and 126 (24%) very low-quality evidence.[8] In a subsequent study, a related group of authors found that updated reviews did not consistently demonstrate an improvement in the quality of the evidence.[9] The level of evidence supporting gender-affirming medical care is therefore similar to the level of evidence supporting other types of medical treatment.

12. Though Dr. Cantor focuses extensively on systematic reviews, systematic reviews do not make treatment recommendations. The Cochrane Collaboration defines systematic reviews as follows: "A systematic review attempts to collate all empirical evidence that fits pre-specified eligibility criteria in order to answer a specific research question. It uses explicit, systematic methods that are selected with a view to minimizing bias, thus providing more reliable findings

[8] Fleming PS, Koletsi D, Ioannidis JP, Pandis N. High quality of the evidence for medical and other health-related interventions was uncommon in Cochrane systematic reviews. *J Clin Epidemiol*. 2016;78:34-42. See also Howick J, Koletsi D, Ioannidis JPA, et al. Most healthcare interventions tested in Cochrane Reviews are not effective according to high quality evidence: A systematic review and meta-analysis. *J Clin Epidemiol*. 2022;148:160-169 that found only 10.1% of interventions (158 of 1,567) had high quality evidence supporting their benefits.

[9] Howick J, Koletsi D, Pandis N, et al. The quality of evidence for medical interventions does not improve or worsen: A metaepidemiological study of Cochrane reviews. *J Clin Epidemiol*. 2020;126:154-159.

from which conclusion can be drawn and decisions made."[10] While systematic reviews may provide findings upon which recommendations can be made, they, unlike clinical practice guidelines, do not make treatment recommendations.[11] Citing their conclusions about the quality of the evidence is therefore not sufficient to demonstrate that recommendations for gender-affirming medical care are inappropriate.

CLINICAL PRACTICE GUIDELINES ON THE TREATMENT OF GENDER DYSPHORIA

Conflicts of Interest

13. In the same way that Dr. Cantor holds gender-affirming medical care to unreasonably high evidentiary standards, he criticizes clinical practice guidelines for gender-affirming medical care for failing to meet certain ideal standards for managing conflicts of interest. His criticism applies to nearly all clinical practice guidelines in the U.S. If we were to disregard any guideline that failed to meet his standard, we would expunge critical clinical guidance for our country's clinicians and patients.

14. Citing reports by the World Health Organization (WHO) and the Institute of Medicine (IOM), Dr. Cantor criticizes the authors, both individuals and organizations, of clinical practice guidelines for gender dysphoria for having conflicts of interest (316-340, see also 11-15). Financial conflicts of interest include income from clinical services and intellectual conflicts of

[10] Cochrane Collaboration. "What is a systematic review?" in *Cochrane Handbook for Systematic Reviews of Interventions*. Version 5.1.0. ed. Higgins JPT, Green S. March 2011. Accessed November 5, 2024. Available at https://handbook-5-1.cochrane.org/chapter_1/1_2_2_what_is_a_systematic_review.htm.

[11] National Heart, Lung, and Blood Institute. About systematic evidence reviews and clinical practice guidelines. Accessed November 5, 2024. Available at https://www.nhlbi.nih.gov/node/80397.

interest include prior publication of a study or a systematic review that is part of the evidence base.[12] According to Dr. Cantor, clinical practice guidelines cannot be developed by professional medical organizations because the guidelines might affect members' incomes and individuals who author guidelines should have neither financial nor intellectual conflicts of interest.

15. Contrary to Dr. Cantor's assertions, clinical expertise is necessary for the development of clinical practice guidelines. As described above, it is important to evaluate the generalizability of the evidence to the patients seen in clinic and to weigh a treatment's potential benefits and risks. The IOM recommends, "The [guideline development group] should be multidisciplinary and balanced, comprising a variety of methodological experts *and clinicians*, and populations expected to be affected by the [clinical practice guideline] (italics added)."[13] The report states that the clinicians should include both generalists and subspecialists involved in clinical practice guideline-related care processes. The exclusions to the management of conflicts of interest acknowledge, "In some circumstances, a [guideline development group] may not be able to perform its work without members who have [conflicts of interests], such as relevant clinical specialists who receive a substantial portion of their incomes from services pertinent to the [clinical practice guideline]."[14] In the U.S., it is unclear who would produce clinical practice guidelines if not medical professional organizations.

16. Dr. Cantor characterizes the WHO's and IOM's standards as bare minimums when

[12] Institute of Medicine. *Clinical Practice Guidelines We Can Trust.* The National Academies Press; 2011. See page 79.

[13] Institute of Medicine. *Clinical Practice Guidelines We Can Trust.* The National Academies Press; 2011: 93.

[14] Institute of Medicine. *Clinical Practice Guidelines We Can Trust.* The National Academies Press; 2011: 83.

they are instead ideal standards that individuals and organizations can seek to achieve but that individuals and organizations in all medical specialties infrequently meet in actual practice. The only organization in the U.S. of which I am aware that potentially meets Dr. Cantor's expectations is the U.S. Preventive Services Task Force (USPSTF). The USPSTF is convened and supported by the U.S. Department of Health and Human Services' Agency for Healthcare Research and Quality.[15] It is important to note that the USPSTF does not exclude all potential conflicts of interest but has policies and procedures to manage them.[16] For example, general membership in a professional society need not be disclosed. And while providing public comments, giving expert testimony, and participating in a professional society as an officer must be disclosed, this does not limit the Task Force member's participation in the topic process. The USPSTF is thus able to both recruit members who are highly regarded research, clinicians, and academicians necessary to produce high quality, evidence-based recommendations and maintain public confidence in the integrity of the process.[17] USPSTF's scope is limited to making recommendations about clinical preventive services, like screenings and preventative medications,[18] and recommendations for medical treatments, such as gender-affirming medical care, are outside of its scope. I am unaware

[15] U.S. Preventive Services Task Force. About the USPSTF. Accessed November 5, 2024. Available at https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf.

[16] U.S. Preventive Services Task Force. Conflict of interest disclosures. July 2024. Accessed November 5, 2024. Available at https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/conflict-interest-disclosures.

[17] U.S. Preventive Services Task Force. Procedure Manual Section 1. Overview of U.S. Preventive Services Task Force Structure and Processes. Accessed November 5, 2024. Available at https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf/methods-and-processes/procedure-manual/procedure-manual-section-1#7.

[18] U.S. Preventive Services Task Force. About the USPSTF. Accessed November 5, 2024. Available at https://www.uspreventiveservicestaskforce.org/uspstf/about-uspstf.

of a comparable U.S. organization that develops clinical practice guidelines for medical treatments. The IOM, renamed the elAcademy of Medicine, which Dr. Cantor cites, for example, does not produce clinical practice guidelines.

17. While it would be desirable for the federal government to establish an agency to develop clinical practice guidelines on medical and surgical treatments, perfect should not be the enemy of good. Professional medical organizations provide a valuable service to their members and the patients they treat by using their own resources to develop clinical practice guidelines in the absence of a better alternative. These organizations generally have policies and procedures to manage conflicts of interest and acknowledge remaining potential conflicts of interest in the published guidelines. The Endocrine Society, for example, requires potential authors to disclose potential conflicts of interest including relationships with non-commercial organizations and paid or unpaid expert testimony.[19] Its clinical practice guideline for the endocrine treatment of gender-dysphoric/gender-incongruent persons includes disclosures of its authors.[20]

18. There is no basis for Dr. Cantor's suggestion that health care authorities in European national health care systems are immune from conflicts of interest (325), as they are

[19] Endocrine Society. Conflict of interest policy and procedures for Endocrine Society clinical practice guidelines. June 2019. Accessed November 5, 2024. Available at https://www.endocrine.org/-/media/endocrine/files/cpg/methodology-page-refresh/conflict_of_interest_cpg_final.pdf. The policy at the time the guideline on the endocrine treatment of gender-dysphoric/gender-incongruent persons was published, as best as I can discern, was as follows: Endocrine Society. Clinical practice guideline methodology. 2017. Accessed November 5, 2024. Available at https://web.archive.org/web/20170627174844/http://www.endocrine.org/education-and-practice-management/clinical-practice-guidelines/methodology.

[20] Hembree WC, Cohen-Kettenis PT, Gooren L, et al. Endocrine treatment of gender-dysphoric/gender-incongruent persons: An Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab*. 2017;102(11):3895.

subject to political pressures.[21] Furthermore, none of the European health authorities to which he points, see below, have produced a clinical practice guideline for gender dysphoria that consistently grades the quality of the evidence and the strength of the recommendations.

Strength of Recommendations

19. None of Dr. Cantor various arguments regarding the recommendations for gender-affirming medical care justify prohibiting it. He draws a distinction between scientific and clinical expertise (9-16) and emphasizes the relevance of his putative scientific expertise. Scientific expertise is not, however, sufficient for making treatment recommendations. The quality of the evidence, which is assessed by individuals with scientific expertise, is only one factor considered in clinical practice guidelines when making recommendations and rating their strength. The other factors are the balance between the desirable and undesirable outcomes, the confidence in values and preferences and variability, and resource use.[22] Clinical expertise is necessary to understand the potential benefits, risks, and patients' values and preferences; to balance the potential benefits and risks from the patients' perspective; and to develop and rate treatment recommendations.

20. Dr. Cantor criticizes clinical practice guidelines for making strong recommendations based on low- or very low- quality evidence, as those terms are understood within the GRADE system (56-62). Making strong recommendations based on low- or very low-quality evidence is not unique to guidelines about gender-affirming medical care or guidelines produced by the Endocrine Society. For example, 33.9% (121 of 357) of the strong

[21] McPherson SJ, Speed E. NICE rapid guidelines: Exploring political influence on guidelines. *BMJ Evid Based Med*. 2022;27(3):137-140.

[22] Andrews JC, Schunemann HJ, Oxman AD, et al. GRADE guidelines: 15. Going from evidence to recommendation-determinants of a recommendation's direction and strength. *J Clin Epidemiol*. 2013;66(7):726-735.

recommendations in all of the Endocrine Society clinical practice guidelines published between 2005 and 2011 and 55.4% (160 of 289) in WHO guidelines on a wide variety of topics published between 2007 and 2012 were based on low- or very low-quality evidence.[23] The GRADE approach does not preclude this from being done and identifies 5 situations in which it is appropriate.[24] In Gordon H. Guyatt and his colleagues' study of the Endocrine Society's guidelines, they found that 3 of the 8 strong recommendations based on low- or very low-quality evidence in the first version of the gender-affirming medical care guideline fulfilled these conditions, including "we recommend that suppression of pubertal hormones start when girls and boys first exhibit physical changes of puberty …, but no earlier than Tanner stages 2-3" and "we recommend that GnRH

[23] Brito JP, Domecq JP, Murad MH, Guyatt GH, Montori VM. The Endocrine Society guidelines: When the confidence cart goes before the evidence horse. *J Clin Endocrinol Metab*. 2013;98(8):3246-3252; Alexander PE, Bero L, Montori VM, et al. World Health Organization recommendations are often strong based on low confidence in effect estimates. *J Clin Epidemiol*. 2014;67(6):629-634. Dr. Guyatt and his colleagues also conducted a study of guidelines developed by the American College of Cardiology and the American Heart Association, and the American Society of Clinical Oncology. Although these organizations use alternative methods to characterize the quality of the evidence and the strength of the recommendations, Guyatt et al. found that 32.4% (232 of 715) and 21.7% (122 of 561) of their recommendations respectively were discordant—strong recommendations based on low-quality evidence. Yao L, Ahmed MM, Guyatt GH, et al. Discordant and inappropriate discordant recommendations in consensus and evidence based guidelines: Empirical analysis. *BMJ*. 2021;375:e066045.

[24] Andrews JC, Schunemann HJ, Oxman AD, et al. GRADE guidelines: 15. Going from evidence to recommendation-determinants of a recommendation's direction and strength. *J Clin Epidemiol*. 2013;66(7):726-735. One of these five situations is, for example, when there are two alternatives and, although there is low-quality evidence regarding the relative benefit of the first alternative, there is high-quality evidence of the relative harm of the second alternative.

It is unclear to me why Dr. Cantor references Chong et al. 2023 and WHO 2014 (56-62) rather than the GRADE guidelines themselves. His analysis of the direction of the recommendation in these situations mischaracterizes the GRADE approach. He identifies a recommendation against an intervention in 4 out of 5 scenarios (61) when GRADE articulates a recommendation for an intervention in 2 scenarios, against an intervention in 2 scenarios, and for an intervention and against another intervention in 1 scenario.

analogues be used to achieve suppression of pubertal hormones."[25] Even if one believed that a strong recommendation for an intervention was not justified by the best available evidence, the requisite correction according to the GRADE guidelines [26] would be to make a weak recommendation for the intervention and not a strong recommendation against it.

Disclaimers

21. Dr. Cantor cites disclaimers that appear in the Endocrine Society's clinical practice guideline (106, 345). He, for example, notes "The 2017 update of the Endocrine Society's guidelines added a disclaimer not previously appearing (345)." One should not draw a negative inference from the disclaimers. The disclaimers' purpose is to emphasize that clinicians must use their judgment in applying the guideline's recommendations to individual patients. Such disclaimers are also not unique to guidelines regarding gender-affirming medical care or by the Endocrine Society. The Endocrine Society's clinical practice guideline for congenital adrenal hyperplasia, for example, also contains a disclaimer,[27] as does the North American Society for Pediatric Gastroenterology, Hepatology & Nutrition's guideline on eosinophilic gastrointestinal

[25] Brito JP, Domecq JP, Murad MH, Guyatt GH, Montori VM. The Endocrine Society guidelines: When the confidence cart goes before the evidence horse. *J Clin Endocrinol Metab*. 2013;98(8):3246-3252. See Supplemental Table 4.

[26] Andrews J, Guyatt G, Oxman AD, et al. GRADE guidelines: 14. Going from evidence to recommendations: The significance and presentation of recommendations. *J Clin Epidemiol*. 2013;66(7):719-725.

[27] Speiser PW, Arlt W, Auchus RJ, et al. Congenital adrenal hyperplasia due to steroid 21-hydroxylase deficiency: An Endocrine Society clinical practice guideline. *J Clin Endocrinol Metab*. 2018;103(11):4043-4088. See also Endocrine Society guideline methodology. Accessed November 5, 2024. Available at https://www.endocrine.org/-/media/endocrine/files/cpg/methodology-page-refresh/endocrine_society_guideline_methodology_links.pdf.

disorders.[28]

Generalizability

22. Dr. Cantor criticizes clinical practice guidelines for applying studies' results in ways that deviate from the studies' protocols, e.g., to individuals at different ages or that putatively have different conditions (130-132). Applying the results of studies to patients who do not meet those studies' inclusion and exclusion criteria is common in medicine. Investigators frequently use restrictive inclusion and exclusion criteria to improve their studies' quality or internal validity. Clinicians must subsequently determine how to apply the studies' results to patients who would not have qualified for the studies, for example, patients whose body mass index is too high. The term for this is generalizability or external validity.[29] This is a matter of clinical judgment. It is not uncommon in pediatrics. For example, pediatricians must frequently decide whether it is safe and effective to use a medication in children that has only been studied in and approved by the FDA for adults. Ideally, more research will be conducted. In the interim, authors of guidelines must use their judgement to make recommendations based on the available research.

The Cass Review's Criticisms of the Clinical Practice Guidelines

23. Dr. Cantor cites the Cass Review's criticisms of the Endocrine Society's and WPATH's clinical practice guidelines (99-101). These criticisms of the guidelines are undermined both by the limitations of the instrument on which the Cass Review relies and its failure to follow the instrument's instructions, for example, to establish quality thresholds before beginning

[28] Papadopoulou A, Amil-Dias J, Auth MK, et al. Joint ESPGHAN/NASPGHAN Guidelines on childhood eosinophilic gastrointestinal disorders beyond eosinophilic esophagitis. *J Pediatr Gastroenterol Nutr*. 2024;78(1):122-152.

[29] Kamper SJ. Generalizability: Linking evidence to practice. *J Orthop Sports Phys Ther*. 2020;50(1):45-46.

appraisals.

24. The Cass Review commissioned the University of York to undertake an evidence review and research program. One of its reviews is a systematic review of guideline quality[30] using an assessment tool called the Appraisal of Guidelines for REsearch & Evaluation (AGREE) II instrument.[31] The instrument consists of 23 items organized in 6 domains (scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, and editorial independence) and 3 outcome measures (guideline endorsement, intention to use, and overall quality) used to assess the quality of guidelines. The domains are scored from 0 to 100 with higher scores being better. The Quality Review, and subsequently the Cass Review, recommended only the Swedish National Board of Health & Welfare 2022 and Council for Choices in Healthcare Finland 2020 guidelines for practice.[32]

25. The Quality Review did not, however, follow AGREE II's instructions, making the Review's recommendations appear to be ad hoc rather than based on the underlying methodology that it claimed to adopt. The Review, contrary to the instructions, did not establish quality

[30] Taylor J, Hall R, Heathcote C, Hewitt CE, Langton T, Fraser L. Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: A systematic review of guideline quality (part 1). *Arch Dis Child*. 2024;archdischild-2023-326499. I will refer to this systematic review as the Quality Review hereafter.

[31] AGREE Collaboration. Development and validation of an international appraisal instrument for assessing the quality of clinical practice guidelines: The AGREE project. *Qual Saf Health Care*. 2003;12(1):18-23; Brouwers MC, Kho ME, Browman GP, et al. AGREE II: Advancing guideline development, reporting and evaluation in health care. *CMAJ*. 2010;182(18):E839-E842.

[32] Taylor J, Hall R, Heathcote C, Hewitt CE, Langton T, Fraser L. Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: A systematic review of guideline quality (part 1). *Arch Dis Child*. 2024;archdischild-2023-326499.

thresholds for recommending (or not) particular guidelines before beginning their appraisals.[33] The Review appears to have later used the following thresholds: recommendation for practice by all 3 appraisers, scoring > 50 for rigor of development, and inclusion of a formal ethics review.[34] The Review does not justify these thresholds; it does not explain why other guidelines that scored high on these individual criteria were not also recommended or why limitations in other domains were not sufficient to not recommend certain guidelines. For example, both the Endocrine Society 2017 and Norwegian Directorate of Health 2020 guidelines were recommended by 2 of the 3 reviewers but not recommended by the Review. And while only Swedish National Board of Health & Welfare 2022's rigor of development is coded "green," both Endocrine Society 2017 and WPATH 2022 guidelines' rigor of development are coded "yellow" along with Council for Choices in Healthcare Finland 2020 guideline, which the Review recommended.[35] AGREE II's

[33] Taylor J, Hall R, Heathcote C, Hewitt CE, Langton T, Fraser L. Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: A systematic review of guideline quality (part 1). *Arch Dis Child*. 2024;archdischild-2023-326499. Furthermore, the Quality Review used 3 and not 4 appraisers or reviewers, as recommended by AGREE II.

[34] The first two criteria have methodological limitations: AGREE II's developers did not assess inter-rater reliability of the outcome measures and did not demonstrate statistically significant differences in 3 of the 7 items in the rigor of development domain. Brouwers MC, Kho ME, Browman GP, et al. Development of the AGREE II, part 1: Performance, usefulness and areas for improvement. *CMAJ*. 2010;182(10):1045-1052; Brouwers MC, Kho ME, Browman GP, et al. Development of the AGREE II, part 2: Assessment of validity of items and tools to support application. *CMAJ*. 2010;182(10):E472-E478. Ethics review is also not one of AGREE II's quality domains. The AGREE Next Steps Consortium. **A**ppraisal of **G**uidelines for **Re**search & **E**valuation **II** Instrument. September 2013. Accessed November 5, 2023. Available at https://www.agreetrust.org/wp-content/uploads/2013/10/AGREE-II-Users-Manual-and-23-item-Instrument_2009_UPDATE_2013.pdf.

[35] The color coding system used by the Quality Review was developed by Dahlen S, Connolly D, Arif I, Junejo MH, Bewley S, Meads C. International clinical practice guidelines for gender minority/trans people: Systematic review and quality assessment. *BMJ Open*. 2021;11(4):e048943 and is not part of the AGREE II instrument.

validation studies do not establish or support this level of discrimination[36] and the Review does not justify why a yellow rigor of development is not sufficient to recommend a guideline. In addition, the Review's authors also fail to describe why they considered other factors irrelevant. Compare, for example, the differences in scores on editorial independence. The Council for Choices in Healthcare Finland 2020 (which was recommended) scored 0 and Endocrine Society 2017 (which was not) scored 92. In conclusion, though Dr. Cantor holds up the Cass Review's assessment of clinical practice guidelines, it has significant methodological limitations that substantially undermine the credibility of its recommendations.

EUROPEAN STATEMENTS

26. Dr. Cantor references the reports and decisions of several European organizations and agencies (17-37, 69-71, 79-101, 215-221). Most importantly, no European country has banned gender-affirming medical care as has South Carolina. Dr. Cantor's appeal to this material does not undermine the Endocrine Society's and WPATH's clinical practice guidelines for several reasons including (i) he selectively cites the material, (ii) some of the material he cites is not available in official English translation, (iii) he misrepresents this material, and (iv) he holds this material to different standards than he holds the Endocrine Society's and WPATH's clinical practice guidelines.

27. No European country has banned gender affirming medical care as South Carolina has. The only categorical prohibition of a form of gender-affirming medical care appears to be the Finnish Council for Choices in Health Care's statement, "[s]urgical treatments are not part of the

[36] Brouwers MC, Kho ME, Browman GP, et al. Development of the AGREE II, part 1: Performance, usefulness and areas for improvement. *CMAJ*. 2010;182(10):1045-1052; Brouwers MC, Kho ME, Browman GP, et al. Development of the AGREE II, part 2: Assessment of validity of items and tools to support application. *CMAJ*. 2010;182(10):E472-E478.

treatment methods for dysphoria caused by gender-related conflicts in minors."[37] (It is not clear whether surgical treatments as used in this statement includes masculinizing chest surgery.) Pubertal suppression and gender affirming hormone treatment are nonetheless permitted for minors in Finland.[38]

28. The United Kingdom's (U.K.'s) regulation of gender-affirming medical care has evolved in several stages. On March 11, 2024, NHS England made GnRH analogs no longer available as "a routine commissioning treatment option" for treating gender dysphoria.[39] GnRH analogs are, however, anticipated to be available through a clinical study that is currently being designed and was initially anticipated to begin enrollment in late 2024.[40] On March 21, 2024, NHS England announced that gender-affirming hormones are available as "a routine commissioning

[37] Palveluvalikoima. Summary: Medical treatment methods for dysphoria associated with variations in gender identity in minors – recommendations. June 16, 2020. Accessed November 5, 2024. Available at https://palveluvalikoima.fi/documents/1237350/22895008/Summary_minors_en+(1).pdf/fa2054c5-8c35-8492-59d6-b3de1c00de49/Summary_minors_en+(1).pdf?t=1631773838474.

[38] Palveluvalikoima. Summary: Medical treatment methods for dysphoria associated with variations in gender identity in minors – recommendations. June 16, 2020. Accessed November 5, 2024. Available at https://palveluvalikoima.fi/documents/1237350/22895008/Summary_minors_en+(1).pdf/fa2054c5-8c35-8492-59d6-b3de1c00de49/Summary_minors_en+(1).pdf?t=1631773838474.

[39] NHS England. Clinical Policy: Puberty suppressing hormones (PSH) for children and young people who have gender incongruence / gender dysphoria [1927]. March 12, 2024. Accessed November 5, 2024. Available at https://www.england.nhs.uk/wp-content/uploads/2024/03/clinical-commissioning-policy-gender-affirming-hormones-v2.pdf.

[40] NHS England. Consultation report for the clinical policy on puberty suppressing hormones for children and adolescents who have gender incongruence / gender dysphoria. March 11, 2024. Accessed November 5, 2024. Available at https://www.england.nhs.uk/publication/clinical-policy-puberty-suppressing-hormones/ under "Puberty suppressing hormones consultation report 11 March 2024."

treatment option" around individuals' 16th birthday.[41] The recommendations contained in Dr. Hilary Cass's final report, issued on April 10, 2024,[42] are largely consistent with the NHS clinical policies pertaining to GnRH analogs and gender-affirming hormone treatment. On May 29, 2024, the Secretary of State for Health and Social Care and the Minister for Health made a temporary prohibition on the private prescription of GnRH analogs to minors for the treatment of gender dysphoria to provide consistency between the public and private healthcare systems in the U.K.[43] None of these policies constitute a ban on gender-affirming medical care comparable to South Carolina's.

29. Furthermore, South Carolina's law would not only ban gender-affirming medical care, but also the research on gender-affirming medical care for which Dr. Cantor and these

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[41] NHS England. Clinical Commissioning Policy: Prescribing of gender affirming hormones (masculinising and feminising hormones) as part of the Children and Young People's Gender Service. March 21, 2024. Accessed November 5, 2024. Available at https://www.england.nhs.uk/wp-content/uploads/2024/03/clinical-commissioning-policy-prescribing-of-gender-affirming-hormones.pdf.

[42] Cass H. The Cass Review: Independent review of gender identity services for children and young people. April 2024. Accessed November 5, 2024. Available at https://cass.independent-review.uk/home/publications/final-report/.

Following the release of the Cass Review's Final Report, NHS Scotland announced a "pause" in new prescriptions for GnRH analogs and a minimum age of 18 years for new prescriptions of gender affirming hormones. See Sandyford. Gender Service for Young People at Sandyford: Important service update – Young Person's Gender Service. Accessed November 5, 2024. Available at https://www.sandyford.scot/sexual-health-services/gender-service-at-sandyford/gender-young-people-service/. NHS Scotland's Chief Medical Officer Professor Sir Gregor Smith subsequently submitted recommendations to make the services provided by NHS Scotland consistent with those of NHS England and the Cass Review. Scottish Government. Cass Review – implications for Scotland: letter from Chief Medical Officer. July 4, 2024. Accessed November 5, 2024. Available at https://www.gov.scot/publications/cass-review-implications-for-scotland-letter-from-chief-medical-officer-professor-sir-gregor-smith/.

[43] Legislation.gov.uk. The Medicines (Gonadotrophin-Releasing Hormone Analogues) (Emergency Prohibition) (England, Wales, and Scotland) Order 2024. May 29, 2024. Accessed November 5, 2024. Available at https://www.legislation.gov.uk/uksi/2024/727/made.

European countries call.

30. Dr. Cantor does not provide a systematic review of all European policies. In contrast, investigators from the University of York conducted a survey of gender services for children and adolescents in the EU-15+ countries as part of the Cass Review. The EU-15+ contains 18 countries, the investigators identified and contacted services in 16 countries, and services in 8 countries (Australia, Belgium, Denmark, Norway, Northern Ireland, The Netherlands, Spain, and Finland) responded. The survey's results include:

> All services routinely offer interventions to suppress puberty and masculinising/feminising hormone interventions except for one regional service (The Netherlands), which referred to a national gender service. Northern Ireland reported halting hormone interventions for new referrals in 2020 due to the length of the corresponding adult service waiting list but continued care for existing patients.[44]

In contrast, Dr. Cantor selectively references policies that he characterizes as supporting his position.

31. Some of the material on which Dr. Cantor relies is not available in official English translations. He, for example, references two Finnish documents, Pasternack 2019 (13, 23, 89) and COHERE [Council for Choices in Health Care] Recommendation 2020 (25, 89), quoting from the latter. These documents are in Finnish and official English translations are not available.[45] Dr.

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[44] Hall R, Taylor J, Heathcote C, Langton T, Hewitt CE, Fraser L. Gender services for children and adolescents across the EU-15+ countries: An online survey. *Arch Dis Child*. 2024;archdischild-2023-326348.

[45] Pasternack I, Söderström I, Saijonkari M, Mäkelä M. Lääketieteelliset menetelmät sukupuolivariaatioihin liittyvän dysforian hoidossa. Systemaattinen katsaus. May 15, 2019. Accessed November 5, 2024. Available at https://palveluvalikoima.fi/documents/1237350/22895008/Valmistelumuistion+Liite+1.+Kirjallisuuskatsaus.pdf/5ad0f362-8735-35cd-3e53-3d17a010f2b6/Valmistelumuistion+Liite+1.+Kirjallisuuskatsaus.pdf?t=1592317703000; Palveluvalikoima. Palveluvalikoimaneuvoston suositis: Alaikäisten sukupuoli-identiteetin variaatioihin liittyvän dysforian lääketieteelliset hoitomenetelmät. Accessed November 5, 2024.

Cantor's CV (Appendix 1) does not indicate that he has reading competency in Finnish. If Dr. Cantor were to have used translation software, there is evidence that such software is unreliable to translate medical documents.[46] Other documents have broken links[47] or their original sources are not specified.[48] It, therefore, is difficult to evaluate Dr. Cantor's claims and it is unclear how he is able to make them in the first place.

32. With respect to Dr. Cantor's characterizations of these materials, they are frequently inaccurate or incomplete. He, for example, asserts "These [policy changes by European health care ministries] range from medical advisories to outright bans on the medical transition of minors (17)." As described above, no European county has banned the medical transition of minors as South Carolina has.

Available at https://palveluvalikoima.fi/documents/1237350/22895008/Alaik%C3%A4iset_suositus.pdf/c987a74c-dfac-d82f-2142-684f8ddead64/Alaik%C3%A4iset_suositus.pdf?t=1592317701000.

Another limitation of the Quality Review is its use of DeepL software to translate guidelines from Swedish and Finish to English. Taylor J, Hall R, Heathcote C, Hewitt CE, Langton T, Fraser L. Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: A systematic review of guideline quality (part 1). *Arch Dis Child*. 2024;archdischild-2023-326499. DeepL does not provide data of the reliability of its software. It simply asserts that it outperforms other translation systems for translating between English and German, Chinese, Japanese, French, and Spanish. DeepL. Why DeepL. Accessed July 5, 2024. Available at https://www.deepl.com/whydeepl.

[46] Cornelison BR, Al-Mohaish S, Sun Y, Edwards CJ. Accuracy of Google Translate in translating the directions and counseling points for top-selling drugs from English to Arabic, Chinese, and Spanish. *Am J Health Syst Pharm*. 2021;78(22):2053-2058.

[47] The link to Swedish Socialstyrelsen Support 2022 (Cantor 26, 29, 71), https://www.socialstyrelsen.se/globalassets/sharepointdokument/artikelkatalog/kunskapsstod/2022-2-7774.pdf, resulted in a "The page could not be found (404)" error when I attempted to access the page on November 5, 2024.

[48] Cantor (28) quotes from "a new policy statement" from the Karolinska Instiute, Karolisnka 2021, but does not provide a source for this policy statement in his references or identify who translated it.

33. None of the documents cited by Dr. Cantor meet the standards to which he holds the Endocrine Society's and WPATH's clinical practice guidelines. The Swedish National Board of Health and Welfare's summary of its December 2022 National Guidelines for the care of children and adolescents with gender dysphoria cited by Dr. Cantor, for example, does not clearly enumerate its recommendations. Some, but not all, of its recommendations are bulleted and bullets are also used to denote reasons for the recommendations. This makes it difficult to identify the recommendations. The quality of the evidence supporting each recommendation and the strength of the recommendation are also not consistently specified. Finally, it does not appear from the summary that a systematic review of the literature was conducted in the formulation of every recommendation.[49] The statement by the French National Academy of Medicine cited by Dr. Cantor (30) is a press release. Dr. Cantor appear to hold materials which he believes support his position to a lower standard.

"RESPECTED INTERNATIONAL EXPERTS"

34. Dr. Cantor also cites statements from individuals whom he characterizes as respected international experts (360-368). Dr. Cantor's use of this material shares similar limitations to his treatment of European statements: (i) he selectively cites the material, (ii) he misrepresents this material, and (iii) he holds this material to different standards. This is not a comprehensive survey of international experts but a highly curated selection. Even among the individuals he discusses, Dr. Cantor selectively cites their views. For example, in the same editorial from which Dr. Cantor quotes, Kamran Abbasi, the Editor in Chief of *The BMJ*, states, "an

[49] Socialstyrelsen. Care of children and adolescents with gender dysphoria: Summary of national guidelines. December 2022. Accessed November 5, 2024. Available at https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/kunskapsstod/2023-1-8330.pdf.

evidence void not only exposes people to overtreatment but can also be used to deny people the care that they seek, such as through the draconian laws now being introduced in some US states."[50] Finally, the materials that he cites are not peer reviewed articles in medical journals. Riitekerttu Kaltiala's publications include a letter to the editor in the *Wall Street Journal* and a news article and Susan Bradley, who retired around 2012, is quoted in a news article.

INFORMED CONSENT

Risks

35. While gender-affirming medical care, like all medical care, has risks, Dr. Cantor exaggerates them; he treats potential risks as more frequent or permanent than the available evidence supports and as supported by a higher level of evidence than exists (262-303). He, for example, states, "The decision to undergo medicalized transition also represents the decision never to have biological children of one's own (266)." Contrary to Dr. Cantor's assertion, transgender men and women are capable of producing eggs and sperm respectively, both during and after the discontinuation of gender-affirming hormone treatment.[51]

36. Dr. Cantor also emphasizes what he claims are the potential negative effects of GnRH analogs on adolescents' neurodevelopment (273-279). Sallie Baxendale's systematic review of the effect of GnRH analogs on neuropsychological function identified 16 peer-reviewed studies, 11 on animals and 5 on humans. The human studies include 2 on individuals with central

[50] Abbasi K. Caring for young people with gender dysphoria. *BMJ,* 2023;380:553.

[51] Leung A, Sakkas D, Pang S, Thornton K, Resetkova N. Assisted reproductive technology outcomes in female-to-male transgender patients compared with cisgender patients: A new frontier in reproductive medicine. *Fertil Steril.* 2019;112(5):858-865; de Nie I, van Mello NM, Vlahakis E, et al. Successful restoration of spermatogenesis following gender-affirming hormone therapy in transgender women. *Cell Rep Med*. 2023;4(1):100858.

precocious puberty. There are significant limitations in extrapolating from animal data to humans.[52] Of the 3 studies on humans with gender dysphoria, 1 is a case report, 1 a cross sectional study, and 1 an observational study. With respect to the observational study, Dr. Baxendale states, "No conclusions can be drawn from this study with respect to cognitive function."[53] While neurodevelopmental outcomes should be evaluated in future studies of any of the uses of GnRH analogs, there is currently not significant evidence that they cause substantial harm warranting a ban.

Capacity

37. Dr. Cantor inappropriately focuses on adolescents', rather than their parents', consent (19, 270, 278, 301). Parents or legal guardians generally provide informed consent for their minor children. Parents possess the relevant life experiences to make such decisions. The potential risks of gender-affirming medical care are comparable to the risks parents are permitted to assume in numerous other treatment decisions, including decisions explicitly authorized by this legislation. Parents can choose treatments that may damage their children's gonads, impairing their fertility.[54] Parents of children with some types of differences or disorders of sex development (DSDs) may even choose to have their children's gonads removed due to the possible elevated risk

[52] Bracken MB. Why animal studies are often poor predictors of human reactions to exposure. *J R Soc Med*. 2009;102(3):120-122.

[53] Baxendale S. The impact of suppressing puberty on neuropsychological function: A review. *Acta Paediatr*. 2024;113(6):1156-1167.

[54] Delessard M, Saulnier J, Rives A, Dumont L, Rondanino C, Rives N. Exposure to chemotherapy during childhood or adulthood and consequences on spermatogenesis and male fertility. *Int J Mol Sci*. 2020;21(4):1454; Blumenfeld Z. Chemotherapy and fertility. *Best Pract Res Clin Obstet Gynaecol*. 2012;26(3):379-390; Hirshfeld-Cytron J, Gracia C, Woodruff TK. Nonmalignant diseases and treatments associated with primary ovarian failure: An expanded role for fertility preservation. *J Womens Health (Larchmt)*. 2011;20(10):1467-1477.

of malignancy, which causes sterility.[55] It is also my understanding that South Carolina permits gender-affirming medical treatment of individuals with DSDs, which has similar risks to the use of this treatment in individuals who do not have DSDs. The potential benefits of gender-affirming medical care, including improved psychological outcomes, frequently outweigh the potential risks. And again, the weighing of such benefits and risks is routinely done by parents in consultation with their children's health care providers in comparable contexts.

38. Uncertainty, including the lack of "long-term" studies (79), does not preclude the capacity to consent. Clinical research by its very nature entails uncertainty, but this does not vitiate potential participants' ability to consent. Uncertainty frequently persists into clinical care. Although the FDA has a rigorous process for reviewing new drugs, it does not eliminate all uncertainty at the time of their approval. The review process generally involves preclinical (animal) testing as well as 3 phases of human clinical trials. Because Phase 3 studies are conducted for a finite period and typically involve several hundred to several thousand people,[56] they cannot identify all possible rare or future risks. The FDA therefore conducts postmarketing surveillance programs. Information from these programs can result in updates to the medication's labeling or, rarely, withdrawal of its approval.[57] The FDA, for example, required a Boxed Warning about mental health side effects, including the risk of suicidal thoughts or actions, be added to the

[55] Abacı A, Çatlı G, Berberoğlu M. Gonadal malignancy risk and prophylactic gonadectomy in disorders of sexual development. *J Pediatr Endocrinol Metab*. 2015;28(9-10):1019-1027.

[56] U.S. Food & Drug Administration. The FDA's drug review process: Ensuring drugs are safe and effective. November 11, 2017. Accessed November 5, 2024. Available at https://www.fda.gov/drugs/information-consumers-and-patients-drugs/fdas-drug-review-process-ensuring-drugs-are-safe-and-effective.

[57] U.S. Food & Drug Administration. Postmarketing surveillance programs. April 2, 2020. Accessed November 5, 2024. Available at https://www.fda.gov/drugs/surveillance/postmarketing-surveillance-programs.

labeling for the asthma and allergy drug montelukast (Singulair®) based on a review of information available in the postmarket setting.[58] It is not always possible to know rare or long-term side-effects of medical interventions, but this neither precludes their use nor does it prevent individuals from providing adequate informed consent.

39. Even if there were cause for concern regarding the informed consent process in one or more medical practices in South Carolina, and Dr. Cantor has provided no support for such a contention, there are other widely used and less restrictive means to address inadequate informed consent. Such means include credentialing,[59] licensing,[60] and malpractice litigation.[61] Dr. Cantor's concerns, therefore, do not justify banning gender-affirming medical care.

40. Dr. Cantor asserts that adolescents with gender dysphoria are incapable of providing informed consent to gender-affirming medical care (301). But, again, it is parents who consent. In any case, adolescents are capable of understanding and assenting to care. While adolescents engage in greater risk taking than adults, this is context dependent. Adolescents, for example, are more likely to be involved in motor vehicle accidents when driving with other

[58] U.S. Food & Drug Administration. FDA requires Boxed Warning about serious mental health side effects for asthma and allergy drug montelukast (Singulair); advises restricting use for allergic rhinitis. March 13, 2020. Accessed November 5, 2024. Available at https://www.fda.gov/drugs/drug-safety-and-availability/fda-requires-boxed-warning-about-serious-mental-health-side-effects-asthma-and-allergy-drug.

[59] Patel R, Sharma S. Credentialing. *StatPearls*. October 24, 2022. Accessed November 5, 2024. Available at https://www.ncbi.nlm.nih.gov/books/NBK519504/.

[60] Federation of State Medical Boards. About Physician Discipline. Accessed November 5, 2024. Available at https://www.fsmb.org/u.s.-medical-regulatory-trends-and-actions/guide-to-medical-regulation-in-the-united-states/about-physician-discipline/.

[61] Dobbs D, Hayden P, Bublick E. Liability of health care providers. *Hornbook on Torts*. 2nd ed. West Academic Publishing; 2016.

teenagers which is part of the justification for graduated driving licenses.[62] In other contexts, adolescent decision-making capacity is comparable to adults.[63] It should be emphasized that health care providers promote calm discussions with parents and sufficient time to consider decisions, which enhance adolescents' decision-making capacity.

41. Dr. Cantor states, "No evidence or methodology exists for validating whether any consent or assent obtained from such a child could be meaningfully informed (270)." Again, this ignores the role of parents in providing informed consent. In any case, the MacArthur Competence Assessment Tool is an instrument for assessing medical decision-making capacity that has been validated in minors. Lieke J.J.J. Vrouenraets and colleagues used it to assess the capacity of transgender adolescents, who were about to start puberty suppression, to consent. (Individuals who were not yet Tanner Stage 2 or had serious psychiatric conditions or psychopathology that would interfere with treatment were appropriately not included in this study.) Seventy-three adolescents participated. Their mean age was 14.71 years old, and their ages ranged from 10.63 to 18.34. Sixty-six (89.2%) of the participants were judged to have medical decision-making capacity using this tool.[64]

CONCLUSIONS

42. Treating adolescents and adults with gender dysphoria with gender-affirming medical care under clinical practice guidelines, like the Endocrine Society's, is evidence-based;

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[62] Williams AF, Ferguson SA, McCartt AT. Passenger effects on teenage driving and opportunities for reducing the risks of such travel. *J Safety Res*. 2007;38(4):381-390.

[63] Weithorn LA, Campbell SB. The competency of children and adolescents to make informed treatment decisions. *Child Dev*. 1982;53(6):1589-1598.

[64] Vrouenraets L, de Vries ALC, de Vries MC, van der Miesen AIR, Hein IM. Assessing medical decision-making competence in transgender youth. *Pediatrics*. 2021;148(6): e2020049643.

its potential benefits outweigh its potential risks for many patients; and, in the case of adolescents, these risks are well within the range of other medical decisions that adolescents and their parents or guardians have the discretion to make in consultation with their healthcare professionals.

43. Based on my research and experience as a pediatrician and bioethicist, there is no sound medical or ethical basis to prohibit healthcare professionals from providing gender-affirming medical care to minors. Doing so puts clinicians in the untenable position of having to harm their patients and violate their integrity and ethical obligations due to the threat of administrative and civil penalties.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on 11/16/2024

ARMAND H. MATHENY ANTOMMARIA, MD, PhD

EXHIBIT A

Curriculum Vitae Last Updated: November 5, 2024

PERSONAL DATA

Armand H. Matheny Antommaria, MD, PhD, FAAP, HEC-C
Birth Place: Pittsburgh, Pennsylvania
Citizenship: United States of America

CONTACT INFORMATION

Address: 3333 Burnet Ave, ML 15006, Cincinnati, OH 45229
Telephone Number: (513) 636-4939
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EDUCATION

1983-1987	BSEE	Valparaiso University, with High Distinction Valparaiso, IN
1983-1987	BS	Valparaiso University (Chemistry), with High Distinction Valparaiso, IN
1987-1989	MD	Washington University School of Medicine
1998-2000		Saint Louis, MO
1989-2000	PhD	The University of Chicago Divinity School (Religious Ethics) Chicago, IL
2000-2003	Resident	University of Utah (Pediatrics) Salt Lake City, UT
2005-2006	Certificate	Conflict Resolution Certificate Program, University of Utah Salt Lake City, UT

BOARD CERTIFICATION

2019 Pediatric Hospital Medicine, American Board of Pediatrics
2019 Healthcare Ethics Consultant-Certified, Healthcare Ethics Consultation Certification Commission
2004 General Pediatrics, American Board of Pediatrics

PROFESSIONAL LICENSES

2012-Present	Doctor of Medicine, Ohio
2006-2010	Alternative Dispute Resolution Provider—Mediator, Utah
2001-2014	Physician and Surgeon, Utah
2001-2014	Physician and Surgeon Controlled Substance, Utah

PROFESSIONAL EXPERIENCE

Full Time Positions

2019-Present	*Professor* Cincinnati Children's Hospital Medical Center, Cincinnati, OH Department of Surgery
2019-Present	*Professor of Clinical-Affiliated* University of Cincinnati, Cincinnati, OH Department of Surgery
2017-Present	*Professor* Cincinnati Children's Hospital Medical Center, Cincinnati, OH Division of Pediatric Hospital Medicine

2017-Present *Professor of Clinical-Affiliated*
University of Cincinnati, Cincinnati, OH
Department of Pediatrics

2016-2017 *Associate Professor of Clinical-Affiliated*
University of Cincinnati, Cincinnati, OH
Department of Pediatrics

2012-2017 *Associate Professor*
Cincinnati Children's Hospital Medical Center, Cincinnati, OH
Division of Pediatric Hospital Medicine

2012-Present *Lee Ault Carter Chair in Pediatric Ethics*
Cincinnati Children's Hospital Medical Center

2012-2016 *Associate Professor-Affiliated*
University of Cincinnati, Cincinnati, OH
Department of Pediatrics

2010-2012 *Associate Professor of Pediatrics* (with Tenure)
University of Utah School of Medicine, Salt Lake City, UT
Divisions of Inpatient Medicine and Medical Ethics

2010-2012 *Adjunct Associate Professor of Medicine*
University of Utah School of Medicine, Salt Lake City, UT
Division of Medical Ethics and Humanities

2004-2010 *Assistant Professor of Pediatrics* (Tenure Track)
University of Utah School of Medicine, Salt Lake City, UT
Divisions of Inpatient Medicine and Medical Ethics

2004-2010 *Adjunct Assistant Professor of Medicine*
University of Utah School of Medicine, Salt Lake City, UT
Division of Medical Ethics and Humanities

2003-2004 *Instructor of Pediatrics* (Clinical Track)
University of Utah School of Medicine, Salt Lake City, UT
Divisions of Inpatient Medicine and Medical Ethics

2003-2004 *Adjunct Instructor of Medicine*
University of Utah School of Medicine, Salt Lake City, UT
Division of Medical Ethics

Part Time Positions

2024-Present *Expert Witness*, Report and Deposition
Misanin, et al., v. Wilson, et al., United States District Court for the Middle District of South Carolina. Case No. 2:24-CV-5734-RMG

2024-Present *Expert Witness,* Report and Deposition
Van Garderen, et al., v. Montana, et al., Montana Fourth Judicial District Court, Missoula County. Cause No. DV 2023-541.

2024-Present *Expert Witness*, Report, Deposition, and Testimony
Moe, et al., v. Yost, et al., Court of Common Pleas, Franklin County, Ohio. Case No. 24-CV-002481.

2024-Present *Expert Witness,* Report, Deposition, and Testimony
Noe, et al., v. Parson, et al., Circuit Court of Cole County State of Missouri. Case No. 23AC-CC04530.

2023-Present *Expert Witness,* Report and Deposition
Voe, et al., v. Mansfiled, et al., United States District Court, Middle District of North Carolina. Case No. 1:23-CV-864-LCB-LPA

2023-Present	*Expert Witness,* Report and Deposition Zayre-Brown v. The North Carolina Department of Public Safety, et al., United States District Court, Western District of North Carolina, Case No. 3:22-CV-01910-MOC-DCK
2023-Present	*Expert Witness,* Report Poe, et al., v. Drummond, et al., United States District Court, Northern District of Oklahoma, Case No. 23-cv-00177-JFH-SH
2023-Present	*Expert Witness*, Report L.W., et al., v. Skrmetti, et al., United States District Court, Middle District of Tennessee, Case No. 3:23-cv-00376.
2022-2023	*Expert Witness,* Report, Deposition, and Testimony Dekker, et al., v. Marstiller, et al., United States District Court, Northern District of Florida, Case No. 4:22-cv-oo325-RH-MAF
2022- Present	*Expert Witness,* Report, Deposition, and Testimony Boe, et al., and United States, v. Marshall, et al., United States District Court, Middle District of Alabama Northern Division, Case No. 2:22-cv0-184-LCB.
2022	*Expert Witness,* Report Jeffrey Walker, et al., v. Steven Marshall, et al., United States District Court, Middle District of Alabama Northern Division
2022-Present	*Expert Witness,* Report and Testimony Jane Doe, et al., v. Greg Abbott, et al., District Court of Travis County, Texas 353rd Judicial District, Case No. D-1-GN-22-000977
2021-2022	*Expert Witness*, Reports, Deposition, and Testimony Dylan Brandt, et al., v. Leslie Rutledge, et al., United States District Court, Eastern District of Arkansas, Case No.: 5:21-CV-00450-JM-1
2021	*Consultant* Proctor & Gamble, Cincinnati, OH
2019	*Consultant* Sanofi Genzyme, Cambridge, MA
2018-2023	*Consultant* Center for Conflict Resolution in Healthcare, Memphis, TN
2017-2020	*Consultant* Amicus Therapeutics, Cranbury, NJ
2017	*Expert Witness,* Report Robert J. Klickovich, MD, PLLC v. Tristate Arthritis & Rheumatology, PSC, *et al.,* Commonwealth of Kentucky, Boone Circuit Court, Division III, Civil Action No. 16-CI-01690
2017	*Consultant* Sarepta Therapeutics, Cambridge, MA
2014	*Consultant* Genzyme, A Sanofi Company, Cambridge, MA

Editorial Experience

Editorial Board

2020-Present	*Pediatrics,* Associate Editor for Ethics Rounds and Member of the Executive Editorial Board
2015-2020	*Journal of Clinical Ethics*
2009-2020	*Journal of Medical Humanities*

Guest Academic Editor
2017 *PLOS|ONE*

Ad Hoc Reviewer: *Academic Medicine, Academic Pediatrics, Accountability in Research: Ethics, Integrity and Policy, AJOB Primary Research, American Journal of Bioethics, American Journal of Law & Medicine, American Journal of Medical Genetics, American Journal of Transplantation, Archives of Disease in Childhood, BMC Medical Ethics, BMJ Open, Canadian Journal of Bioethics, CHEST, Clinical Transplantation, European Journal of Human Genetics, European Journal of Pediatrics, Frontiers in Genetics, Hospital Medicine, International Journal of Health Policy and Management, International Journal of Nursing Studies, Journal of Adolescent and Young Adult Oncology, Journal of Clinical Ethics, Journal of Empirical Research on Human Research Ethics, Journal of General Internal Medicine, Journal of Healthcare Leadership, Journal of Hospital Medicine, Journal of the Kennedy Institute of Ethics, Journal of Law, Medicine & Ethics, Journal of Medical Ethics, Journal of Medical Humanities, Journal of Medicine and Life, Journal of Palliative Care, Journal of Pediatrics, Journal of Pediatric Surgery, Mayo Clinic Proceedings, Medicine, Healthcare and Philosophy, Molecular Diagnosis & Therapy, New England Journal of Medicine, Patient Preference and Adherence, Pediatrics, Pediatrics in Review, Personalized Medicine, PLOS|ONE, Risk Management and Healthcare Policy, Saudi Medical Journal, SSM - Qualitative Research in Health,* and *Theoretical Medicine and Bioethics*

SCHOLASTIC AND PROFESSIONAL HONORS

2024 *Member*, Sigma Xi: The Scientific Research Honor Society, Research Triangle Park, NC
2023 *Digital Health Award,* Bronze Medal in the Digital Health Media/Publications category for *Pediatric Collections: Ethics Rounds: A Casebook in Pediatric Bioethics Part II*, Health Information Resource Center, Libertyville, IL
2021 *Hidden Gem Award,* Cincinnati Children's Hospital Medical Center, Cincinnati, OH
2019-2023 *Presidential Citation,* American Society for Bioethics and Humanities, Chicago, IL
2016 *Laura Mirkinson, MD, FAAP Lecturer,* Section on Hospital Medicine, American Academy of Pediatrics, Elk Grove Village, IL
2016, 2018 *Certificate of Excellence*, American Society for Bioethics and Humanities, Glenview, IL
2013, 2016 *Senior Resident Division Teaching Award,* Cincinnati Children's Hospital Medical Center, Cincinnati, OH
2012 *Role Model*, Quality Review Committee, Primary Children's Medical Center, Salt Lake City, UT
2011 *Member*, Society for Pediatric Research, The Woodlands, TX
2011 *Presidential Citation*, American Society for Bioethics and Humanities, Glenview, IL
2009 *Role Model*, Quality Review Committee, Primary Children's Medical Center, Salt Lake City, UT
2008 *Nominee,* Physician of the Year, Primary Children's Medical Center, Salt Lake City, UT
2005-2006 *Fellow,* Medical Scholars Program, University of Utah School of Medicine, Salt Lake City, UT
1995-1997 *Doctoral Scholar*, Crossroads, A Program of Evangelicals for Social Action, Philadelphia PA
1989-1992 *Fellow*, The Pew Program in Medicine, Arts, and the Social Sciences, University of Chicago, Chicago, IL

ADMINISTRATIVE EXPERIENCE

Administrative Duties

2023-2024 *Chair,* Literature Selection Technical Review Committee, National Library of Medicine, Bethesda, MD

2019-Present	*Chair,* Oversight Committee, Cincinnati Fetal Center, Cincinnati, OH
2014-Present	*Chair*, Ethics Committee, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
2012-Present	*Director*, Ethics Center, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
2012-Present	*Chair,* Ethics Consultation Subcommittee, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
2010	*Co-Chair,* Ethics Subcommittee, Work Group for Emergency Mass Critical Care in Pediatrics, Centers for Disease Control and Prevention, Atlanta, GA
2009	*Chair*, Ethics Working Group, H1N1 and Winter Surge, Primary Children's Medical Center, Salt Lake City, UT
2005-2012	*Chair*, Ethics Committee, Primary Children's Medical Center, Salt Lake City, UT
2005-2012	*Chair*, Ethics Consultation Subcommittee, Primary Children's Medical Center, Salt Lake City, UT
2003-4	*Chair*, Clinical Pertinence Committee, Primary Children's Medical Center, Salt Lake City, UT

Professional & Scientific Committees

Committees

2024-Present	*Member,* Program Committee, American Society for Bioethics and Humanities, Schaumburg, IL
2023-Present	*Member,* Expert Committee, Humanitarian Access Program, Alnylam Pharmaceuticals, Cambridge, MA
2021	*Member*, EMCO Capacity Collaboration, Ohio Hospital Association, Columbus, OH
2020-2021	*Member*, Allocation of Scarce Resources Work Group, Ohio Hospital Association, Columbus, OH
2020-2024	*Member,* Literature Selection Technical Review Committee, National Library of Medicine, Bethesda, MD
2020	*Member*, Crisis Standards of Care Workgroup, The Health Collaborative, Cincinnati, OH
2019-2023	*Member,* Healthcare Ethics Consultant Certification Commission, Schaumburg, IL
2019	*Member,* Expert Panel, Pediatric Oncology End-of-Life Care Quality Markers, Institute for Cancer Outcomes & Survivorship, University of Alabama at Birmingham, Birmingham, AL
2018	*Member,* Resource Planning and Allocation Team Implementation Task Force, Ohio Department of Health, Columbus, OH
2012-2022	*Member*, Gaucher Initiative Medical Expert Committee, Project HOPE, Millwood, VA
2009-2014	*Member,* Clinical Ethics Consultation Affairs Committee, American Society for Bioethics and Humanities, Glenview, IL
2005-2011	*Member,* Committee on Bioethics, American Academy of Pediatrics, Oak Park, IL

Data Safety and Monitoring Boards

2019-Present	*Member,* Data and Safety Monitoring Board, Sickle Cell Domestic Trials, National Heart, Lung, and Blood Institute, Bethesda, MD
2018-2019	*Member,* Standing Safety Committee for P-188-NF (Carmeseal-MD™) in Duchenne Muscular Dystrophy, Phrixus Pharmaceuticals, Inc., Ann Arbor, MI
2017-Present	*Member*, Observational Study Monitoring Board, Sickle Cell Disease Observational Monitoring Board, National Heart, Lung, and Blood Institute, Bethesda, MD
2016-2018	*Member,* Observational Study Monitoring Board, Long Term Effects of Hydroxyurea in Children with Sickle Cell Anemia, National Heart, Lung, and Blood Institute, Bethesda, MD

Reviewer

2020-Present	*Abstract Reviewer*, American Society for Bioethics and Humanities Annual Meeting
2020	*Grant Reviewer,* The Croatian Science Foundation, Hvatska zaklada za znanost (HRZZ)
2018	*Book Proposal Reviewer*, Elsevier
2018-2019	*Category Leader,* Religion, Culture, and Social Sciences, American Society for Bioethics and Humanities Annual Meeting
2017	*Timekeeper,* American Society for Bioethics and Humanities Annual Meeting
2017-Present	*Abstract Reviewer,* Pediatric Academic Societies Annual Meeting
2016-2021	*Workshop Reviewer*, Pediatric Academic Societies Annual Meeting
2016	*Grant Reviewer*, Innovation Research Incentives Scheme, The Netherlands Organisation for Health Research and Development
2016-2017	*Abstract Reviewer*, American Society for Bioethics and Humanities Annual Meeting
2014, 2016	*External Peer Reviewer*, PSI Foundation, Toronto, Ontario, Canada
2014	*Member,* Scientific Committee, International Conference on Clinical Ethics and Consultation
2013	*Abstract Reviewer*, American Society for Bioethics and Humanities Annual Meeting
2013	*Reviewer*, Open Research Area Plus, Agence Nationale de la Research, Deutsche Forschungsgemeinschaft, Economic and Social Research Council, National Science Foundation, and Organization for Scientific Research
2011-2012	*Abstract Reviewer,* Pediatric Academic Societies Annual Meeting
2011-2013	*Workshop Reviewer*, Pediatric Academic Societies Annual Meeting
2011-2014	*Abstract Reviewer*, Pediatric Hospital Medicine Annual Meeting
2011-2012	*Religious Studies Subcommittee Leader,* Program Committee, American Society for Bioethics and Humanities Annual Meeting
2010	*Abstract Reviewer*, American Society for Bioethics and Humanities Annual Meeting

Other

2023	*Member,* Student Paper Committee, American Society for Bioethics and Humanities
2021	*Timekeeper,* American Society for Bioethics and Humanities Annual Meeting
2021	*Mentor,* Early Career Advisor Professional Development Track, American Society for Bioethics and Humanities.
2021	*Mentor,* Early Career Advisor Paper or Project Track, American Society for Bioethics and Humanities.
2109	*Mentor*, Early Career Advising Program, American Society for Bioethics and Humanities
2018	*Passing Point Determination*, Healthcare Ethics Consultant-Certified Examination, Healthcare Ethics Consultant Certification Commission
2018	*Member*, Examination Committee, Healthcare Ethics Consultant-Certified Examination, Healthcare Ethics Consultant Certification Commission
2018	*Item Writer*, Healthcare Ethics Consultant-Certified Examination, Healthcare Ethics Consultant Certification Commission

UNIVERSITY COMMUNITY ACTIVITIES

Cincinnati Children's Hospital Medical Center

2023-Present	*Member*, Artificial Intelligence Governance Council
2023-Present	*Member,* Executive Committee, Discover Together Biobank
2020-Present	*Member*, Faculty Diversity and Inclusion Steering Committee
2020-2022	*Member*, Medical Management of COVID-19 Committee
2020-2021	*Member,* Caregiver Refusal Team
2020-2021	*Member,* COVID-19 Vaccine Allocation Committee

2020 *Member*, Personal Protective Equipment Subcommittee of the COVID-19 Steering. Committee
2018-2019 *Member,* Planning Committee, Center for Clinical & Translational Science & Training Research Ethics Conference
2017-Present *Member*, Donor Selection Committee
2017-2020 *Member,* Employee Emergency Fund Review Committee
2017 *Member,* Root Cause Analysis Team
2016-2017 *Member,* Planning Committee, Center for Clinical & Translational Science & Training Research Ethics Conference
2015-2019 *Member,* Destination Excellence Medical Advisory Committee
2015-Present *Member,* Disorders of Sexual Development Case Review Committee
2015-2019 *Member,* Destination Excellence Case Review Committee
2014-2018 *Member,* Genomics Review Group, Institutional Review Board
2014-2017 *Member,* Center for Pediatric Genomics Leadership Committee
2013-2017 *Member,* Genetic Testing Subcommittee, Health Network
2013-2016 *Member,* Schwartz Center Rounds Planning Committee
2013-2014 *Member*, Genomics Ad Hoc Subcommittee, Board of Directors
2012-Present *Member,* Cincinnati Fetal Center Oversight Committee
2012-Present *Member,* Ethics Committee
2012-Present *Member,* G-23
2012-2016 *Member,* Integrated Solid Organ Transplant Steering Committee

University of Utah
2009-2012 *Member,* Consolidated Hearing Committee

University of Utah School of Medicine
2010-2012 *Member,* Medical Ethics, Humanities, and Cultural Competence Thread Committee
2008-2010 *Member,* Fourth Year Curriculum Committee

University of Utah Department of Pediatrics
2010-2011 *Member,* Planning Committee, 25th Annual Biological Basis of Children's Health Conference, "Sex, Gender, and Sexuality"
2009-2012 *Member,* Medical Executive Committee
2005-2012 *Member,* Retention, Promotion, and Tenure Committee
2004-2012 *Interviewer,* Residency Program
2003-2012 *Member,* Education Committee

Intermountain Healthcare
2009-2012 *Member,* System-Wide Bioethics Resource Service
2009-2012 *Member,* Pediatric Guidance Council

Primary Children's Medical Center
2012-2012 *Member,* Shared Accountability Organization Steering Committee
2009 *Member*, H1N1 and Winter Surge Executive Planning Team
2005-2010 *Member,* Continuing Medical Education Committee
2005-2010 *Member*, Grand Rounds Planning Committee
2003-2012 *Member*, Ethics Committee

ACTIVE MEMBERSHIPS IN PROFESSIONAL SOCIETIES

2012-Present Association of Bioethics Program Directors
2011-Present Society for Pediatric Research
2000-Present American Academy of Pediatrics
1999-Present American Society of Bioethics and Humanities

FUNDING

Past Grants

2015-2019 "Better Outcomes for Children: Promoting Excellence in Healthcare Genomics to Inform Policy."
Percent Effort: 9%
National Human Genome Research Institute
Grant Number: 1U01 HG008666-01
Role: Investigator

2015-2016 "Ethics of Informed Consent for Youth in Foster Care"
Direct Costs: $10,000
Ethics Grant, Center for Clinical and Translational Science and Training
University of Cincinnati Academic Health Center
Role: Co-Investigator

2014-2015 "Extreme Personal Exposure Biomarker Levels: Engaging Community Physicians and Ethicists for Guidance"
Direct Costs: $11,640
Center for Environmental Genetics
University of Cincinnati College of Medicine
Role: Investigator

2014-2015 "Child, Adolescent, and Parent Opinions on Disclosure Policies for Incidental Findings in Clinical Whole Exome Sequencing"
Direct Costs: $4,434
Ethics Grant, Center for Clinical and Translational Science and Training, University of Cincinnati Academic Health Center
Role: Principal Investigator

2013-2014 "Better Outcomes for Children: GWAS & PheWAS in eMERGEII
Percent Effort: 5%
National Human Genome Research Institute
Grant Number: 3U01HG006828-0251
Role: Investigator

2004-2005 "Potential Patients' Knowledge, Attitudes, and Beliefs Regarding Participating in Medical Education: Can They be Interpreted in Terms of Presumed Consent?"
Direct Costs: $8,000
Interdisciplinary Research in Applied Ethics and Human Values, University Research Committee, University of Utah
Role: Principal Investigator

TEACHING RESPONSIBILITIES/ASSIGNMENTS

Course and Curriculum Development

2003-2012 Medical Ethics, Internal Medicine 7560, University of Utah School of Medicine, Taught 1 time per year, Taken by medical students, Enrollment 100

Course Lectures

2018, 2021-Present Introduction to Biotechnology, "Ethics and Biotechnology" and "Clinical Ethics," BIOL 3027, University of Cincinnati, Taught 1 time per year, Taken by undergraduate students, Enrollment 25.

2018-Present Biomedical Ethics, "Conscientious Objection in Healthcare" and "Ethical Issues in the Care of Transgender Adolescents," MEDS 4035 & MEDS 4036, University of Cincinnati College of Medicine, Taught 1 time per year, Taken by senior undergraduate students, Enrollment 52.

2016 Foundations of Healthcare Ethics and Law, "Clinical Ethics," HESA 390, Xavier University.

2014-2020 Physicians and Society, "Transfusion and the Jehovah's Witness Faith," "Obesity Management: Ethics, Policy, and Physician Implicit Bias," "Embryos and Ethics: The Ethics of Designer Babies," "Ethics and Genetic Testing," and "Ethics and Direct to Consumer Genetic Testing," 26950112 and 26950116, University of Cincinnati School of Medicine, Taken by first and second year medical students, Enrollment 100.

2014-Present Ethical Issues in Health Care, "Ethical Issues in Managing Drug Shortages: The Macro, Meso, and Micro Levels," HESA 583, College of Social Sciences, Health, and Education Health Services Administration, Xavier University, Taken by health services administration students, Enrollment 25.

2009 Physical Diagnosis II, Internal Medicine 7160, University of Utah School of Medicine, Taught 1 time per year, Taken by medical students, Enrollment 100

2003-2012 Medical Ethics, Internal Medicine 7560, University of Utah School of Medicine, Taught 1 time per year, Taken by fourth year medical students, Enrollment 100

Small Group Teaching

2024 Clinical Ethics Consortium Tutorial B, BETH 731B, Harvard Medical School, Taught 1 time, Taken by Master of Science in Bioethics students.

2018-Present Ethics in Research, GNTD 7003-001, University of Cincinnati School of Medicine, Taught 1 time per year, Taken by fellows, MS, and PhD students, Enrollment 110.

2007 Physical Diagnosis I, Internal Medicine 7150, University of Utah School of Medicine, Taught 1 time per year, Taken by medical students, Enrollment 100

2003-2012 Medical Ethics, Internal Medicine 7560, University of Utah School of Medicine, Taught 1 time per year, Taken by fourth medical students, Enrollment 100

2003 Pediatric Organ System, Pediatrics 7020, University of Utah School of Medicine, Taught 1 time per year, Taken by medical students, Enrollment 100

Graduate Student Committees

2018-2022 *Chair,* Scholarship Oversight Committee, William Sveen, Pediatric Critical Care Fellowship, Cincinnati Children's Hospital Medical Center, Cincinnati, OH

2018-2020 *Member*, Scholarship Oversight Committee, Anne Heuerman, Genetic Counseling, University of Cincinnati, Cincinnati, OH

2017-2019 *Chair*, Scholarship Oversight Committee, Bryana Rivers, Genetic Counseling, University of Cincinnati, Cincinnati, OH

2013-2015 *Mentor*, Sophia Hufnagel, Combined Pediatrics/Genetics Residency, Cincinnati Children's Hospital Medical Center, Cincinnati, OH
2013-2015 *Co-Chair,* Scholarship Oversight Committee, Andrea Murad, Genetic Counseling, University of Cincinnati, Cincinnati, OH
2013-2014 *Member*, Scholarship Oversight Committee, Grace Tran, Genetic Counseling, University of Cincinnati, Cincinnati, OH
2011-2012 *Chair,* Scholarship Oversight Committee, Kevin E. Nelson, MD, PhD, Pediatric Inpatient Medicine Fellowship, University of Utah, Salt Lake City, UT

Continuing Education Lectures

2008 Choosing Healthplans All Together (CHAT) Exercise Facilitator, 18th Annual Intermountain Medical Ethics Conference, "Setting Priorities for Healthcare in Utah: What Choices are We Ready to Make?," Salt Lake City, Utah, October 3.
2007 *Speaker*, Infant Medical Surgical Unit, Primary Children's Medical Center, "Withholding and Withdrawing Artificial Nutrition and Hydration: Can It Be Consistent With Care?," Salt Lake City, Utah, September 6.
2007 *Faculty Scholar-in Residence,* Summer Seminar, "The Role of Religion in Bioethics," Utah Valley State College, Orem, Utah, May 1.
2006 *Workshop Leader,* Faculty Education Retreat, "Publications and Publishing in Medical Education," University of Utah School of Medicine, Salt Lake City, Utah, September 15.
2006 *Breakout Session,* 16th Annual Intermountain Medical Ethics Conference, "Donation after Cardiac Death: Evolution of a Policy," Salt Lake City, Utah, March 28.

Other Educational Activities

2008 *Instructor*, Contemporary Ethical Issues in Medicine and Medical Research, Osher Lifelong Learning Institute, University of Utah, "Religion and Bioethics: Religiously Based Demands for and Refusals of Treatment," Salt Lake City, Utah, February 7.
2007 *Speaker*, Biology Seminar, Utah Valley State College, "Is He Dead?: Criteria of the Determination of Death and Their Implications for Withdrawing Treatment and Recovering Organs for Transplant," Orem, Utah, September 21.

PEER-REVIEWED JOURNAL ARTICLES

1. Armand H. Matheny Antommaria. (2024) "Decision Making for Adolescents with Gender Dysphoria." *Perspectives in Biology and Medicine*. 67: 244-60. PMID: 38828602.
2. Erica K. Salter, D. Micah Hester, Lou Vinarcsik, Armand H. Matheny Antommaria, Johan Bester, Jeffrey Blustein, Ellen Wright Clayton, Douglas S. Diekema, Ana S. Iltis, Loretta M. Kopelman, Jay R. Malone, Mark R. Mercurio, Mark C. Navin, Erin Talati Paquette, Thaddeus Mason Pope, Rosamond Rhodes, and Lainie F. Ross, (2023) "Pediatric Decision Making: Consensus Recommendations," *Pediatrics.* 152: e2023061832. PMID: 37555276.
3. William N. Sveen, Armand H. Matheny Antommaria, Stephen Gilene, and Erika L. Stalets. (2023) "Adverse Events During Apnea Testing for the Determination of Death by Neurologic Criteria: A Single Center, Retrospective Pediatric Cohort." *Pediatric Critical Care Medicine.* 24: 399-405. PMID: 36815829.
4. Erica K. Salter, Jay R. Malone, Amanda Berg, Annie B. Friedrich, Alexandra Hucker, Hillary King, and Armand H. Matheny Antommaria. (2023) "Triage Policies at U.S. Hospitals with Pediatric Intensive Care Units." *AJOB Empirical Bioethics*. 14: 84-90. PMID: 36576201.
5. Armand H. Matheny Antommaria, Elizabeth Lanphier, Anne Housholder, and Michelle McGowan. (2023). "A Mixed Methods Analysis of Requests for Religious Exemptions to a COVID-19 Vaccine Requirement." *AJOB Empirical Bioethics.* 14: 15-22. PMID: 36161802.

6. Anne C Heuerman, Danielle Bessett, Armand H. Matheny Antommaria, Leandra. K. Tolusso, Nicki Smith, Alison H. Norris and Michelle L. McGowan (2022). "Experiences of Reproductive Genetic Counselors with Abortion Regulations in Ohio." *Journal of Genetic Counseling*. 31: 641-652. PMID: 34755409.
7. Armand H. Matheny Antommaria and Ndidi I. Unaka. (2021) "Counterpoint: Prioritizing Health Care Workers for Scarce Critical Care Resources is Impractical and Unjust. *Journal of Hospital Medicine.* 16: 182-3. PMID 33617445.
8. Gregory A. Grabowski, Armand H. Matheny Antommaria, Edwin H. Kolodny, and Pramod K. Mistry. (2021) "Gaucher Disease: Basic and Translational Science Needs for More Complete Therapy and Management." *Molecular Genetics and Metabolism*. 132: 59-75. PMID: 33419694.
9. Armand H. Matheny Antommaria, Laura Monhollen, and Joshua K. Schaffzin. (2021) "An Ethical Analysis of Hospital Visitor Restrictions and Masking Requirements During the COVID-19." *Journal of Clinical Ethics.* 32(1): 35-44. PMID 33416516.
10. Armand H. Matheny Antommaria (2020) "The Pediatric Hospital Medicine Core Competencies: 4.05 Ethics." *Journal of Hospital Medicine.* 15(S1): 120-121.
11. Armand H. Matheny Antommaria, Tyler S. Gibb, Amy L. McGuire, Paul Root Wolpe, Matthew K. Wynia, Megan K. Applewhite, Arthur Caplan, Douglas S. Diekema, D. Micah Hester, Lisa Soleymani Lehmann, Renee McLeod-Sordjan, Tamar Schiff, Holly K. Tabor, Sarah E. Wieten, and Jason T. Eberl for a Task Force of the Association of Bioethics Program Directors (2020) "Ventilator Triage Policies During the COVID-19 Pandemic at U.S. Hospitals Associated With Members of the Association of Bioethics Program Directors." *Annals of Internal Medicine.* 173(3): 188-194. PMID: 32330224.
12. Armand H. Matheny Antommaria (2020) "Conflicting Duties and Reciprocal Obligations During a Pandemic." *Journal of Hospital Medicine.* 5:284-286. PMID: 32379030.
13. Mary V. Greiner, Sarah J. Beal, and Armand H. Matheny Antommaria (2020) "Perspectives on Informed Consent Practices for Minimal-Risk Research Involving Foster Youth." *Pediatrics*. 45:e20192845. PMID: 32156772.
14. Jennifer deSante-Bertkau, Michelle McGowan, and Armand H. Matheny Antommaria (2018) "Systematic Review of Typologies Used to Characterize Clinical Ethics Consultations." *Journal of Clinical Ethics.* 29:291-304. PMID: 30605439.
15. Andrew J. Redmann, Melissa Schopper, Armand H. Matheny Antommaria, Judith Ragsdale, Alessandro de Alarcon, Michael J. Jutter, Catherine K. Hart, and Charles M. Myer. (2018) "To Transfuse or Not to Transfuse? Jehovah's Witnesses and PostOperative Hemorrhage in Pediatric Otolaryngology." *International Journal of Pediatric Otorhinolaryngology*. 115:188-192. PMID: 30368384.
16. Armand H. Matheny Antommaria, Kyle B. Brothers, John A. Myers, Yana B Feygin, Sharon A. Aufox, Murray H. Brilliant, Pat Conway, Stephanie M. Fullerton, Nanibaa' A. Garrison, Carol R. Horowitz, Gail P. Jarvik, Rongling Li, Evette J. Ludman, Catherine A. McCarty, Jennifer B. McCormick, Nathaniel D. Mercaldo, Melanie F. Myers, Saskia C. Sanderson, Martha J. Shrubsole, Jonathan S. Schildcrout, Janet L. Williams, Maureen E. Smith, Ellen Wright Clayton, Ingrid A. Holm. (2018) "Parents' Attitudes toward Consent and Data Sharing in Biobanks: A Multi-Site Experimental Survey." *AJOB Empirical Research.* 21:1-15. PMID: 30240342.
17. Armand H. Matheny Antommaria and Cynthia A. Prows. (2018) "Content Analysis of Requests for Religious Exemptions from a Mandatory Influenza Vaccination Program for Healthcare Personnel" *Journal of Medical Ethics.* 44: 389-391. PMID: 29463693.
18. Armand H. Matheny Antommaria (2017) "May Medical Centers Give Nonresident Patients Priority in Scheduling Outpatient Follow-Up Appointments?" *Journal of Clinical Ethics.* 28: 217-221. PMID: 28930708.

19. Andrea M. Murad, Melanie F. Myers, Susan D. Thompson, Rachel Fisher, and Armand H. Matheny Antommaria (2017) "A Qualitative Study of Adolescents' Understanding of Biobanks and Their Attitudes Toward Participation, Re-contact, and Data Sharing." *American Journal of Medical Genetics: Part A.* 173: 930-937. PMID: 28328120.
20. Saskia Sanderson, Kyle Borthers, Nathaniel Mercaldo, Ellen Wright Clayton, Armand Antommaria, Sharon Aufox, Murray Brillant, Diego Campos, David Carrell, John Connolly, Pat Conway, Stephanie Fullerton, Nanibaa Garrison, Carol Horowitz, Gail Jarvik, David Kaufman, Terrie Kitchner, Rongling Li, Evette Ludman, Cahterine McCarty, Jennifer McCormick, Valerie McManus, Melanie Myers, Aaron Scrol, Janet Williams, Martha Shrubsole, Jonathan Schildcrout, Maureen Smith, and Ingrid Holm (2017) "Public Attitudes Towards Consent and Data Sharing in Biobank Research: A Large Multisite Experimental Survey in the US." *The American Journal of Human Genetics*. 100: 414-427. PMID: 28190457.
21. Maureen E. Smith, Saskia C Sanderson, Kyle B Brothers, Melanie F Myers, Jennifer McCormick, Sharon A Aufox, Martha J Shrubsole, Nanibaa' A Garrison, Nathaniel D Mercaldo, Jonathan S Schildcrout, Ellen Wright Clayton, Armand H. Matheny Antommaria, Melissa Basford, Murray Brilliant, John J Connolly, Stephanie M Fullerton, Carol R Horowitz, Gail P Jarvik, Dave Kaufman, Terrie Kitchner, Rongling Li, Evette J Ludman, Catherine McCarty, Valerie McManus, Sarah C Stallings, Janet L Williams, and Ingrid A Holm (2016) "Conducting a Large, Multi-Site Survey about Patients' Views on Broad Consent: Challenges and Solutions." *BMC Medical Research Methodology.* 16: 162. PMID: 27881091.
22. Angela Lorts, Thomas D. Ryan, Armand H. Matheny Antommaria, Michael Lake, and John Bucuvalas (2016) "Obtaining Consensus Regarding International Transplantation Continues to be Difficult for Pediatric Centers in the United States." *Pediatric Transplant.* 20: 774-777. PMID: 27477950.
23. Sophia B. Hufnagel, Lisa J. Martin, Amy Cassedy, Robert J. Hopkin, and Armand H. Matheny Antommaria (2016) "Adolescents' Preferences Regarding Disclosure of Incidental Findings in Genomic Sequencing That Are Not Medically Actionable in Childhood." *American Journal of Medical Genetics Part A*. 170: 2083-2088. PMID: 27149544.
24. Nanibaa' A. Garrison, Nila A. Sathe, Armand H. Matheny Antommaria, Ingrid A. Holm, Saskia Sanderson, Maureen E. Smith, Melissa McPheeters, and Ellen Wright Clayton (2016) "A Systematic Literature Review of Individuals' Perspectives on Broad Consent and Data Sharing in the United States." *Genetics in Medicine.* 18: 663-71. PMID: 26583683.
25. Kyle B. Brothers, Ingrid A. Holm Janet E. Childerhose, Armand H. Matheny Antommaria, Barbara A. Bernhardt, Ellen Wright Clayton, Bruce D. Gelb, Steven Joffe, John A. Lynch, Jennifer B. McCormick, Laurence B. McCullough, D. William Parsons, Agnes S. Sundaresan, Wendy A. Wolf, Joon-Ho Yu, and Benjamin S. Wilfond (2016) "When Genomic Research Participants Grow Up: Contact and Consent at the Age of Majority." *The Journal of Pediatrics* 168: 226-31. PMID: 26477867.
26. Erin E. Bennett, Jill Sweney, Cecile Aguayo, Criag Myrick, Armand H. Matheny Antommaria, and Susan L. Bratton (2015) "Pediatric Organ Donation Potential at a Children's Hospital." *Pediatric Critical Care Medicine.* 16: 814-820. PMID: 26237656.
27. Anita J. Tarzian, Lucia D. Wocial, and the ASBH Clinical Ethics Consultation Affairs Committee (2015) "A Code of Ethics for Health Care Ethics Consultants: Journey to the Present and Implications for the Field." *American Journal of Bioethics*. 15: 38-51. PMID: 25970392.
28. Armand H. Matheny Antommaria, Christopher A. Collura, Ryan M. Antiel, and John D. Lantos (2015) "Two Infants, Same Prognosis, Different Parental Preferences." *Pediatrics*, 135: 918-923. PMID: 25847802.

29. Stefanie Benoit, Armand H. Matheny Antommaria, Norbert Weidner, and Angela Lorts (2015) "Difficult Decision: What should we do when a VAD supported child experiences a severe stroke?" *Pediatric Transplantation* 19: 139-43. PMID: 25557132.
30. Kyle B. Brothers, John A. Lynch, Sharon A. Aufox, John J. Connolly, Bruce D. Gelb, Ingrid A. Holm, Saskia C. Sanderson, Jennifer B. McCormick, Janet L. Williams, Wendy A. Wolf, Armand H. Matheny Antommaria, and Ellen W. Clayton (2014) "Practical Guidance on Informed Consent for Pediatric Participants in a Biorepository." *Mayo Clinic Proceedings,* 89: 1471-80. PMID: 25264176.
31. Sophia M. Bous Hufnagel and Armand H. Matheny Antommaria (2014) "Laboratory Policies on Reporting Secondary Findings in Clinical Whole Exome Sequencing: Initial Uptake of the ACMG's Recommendations." *American Journal of Medical Genetics Part A*, 164: 1328-31. PMID: 24458369.
32. Wylie Burke, Armand H. Matheny Antommaria, Robin Bennett, Jeffrey Botkin, Ellen Wright Clayton, Gail E. Henderson, Ingrid A. Holm, Gail P. Jarvik, Muin J. Khoury, Bartha Maria Knoppers, Nancy A. Press, Lainie Friedman Ross, Mark A. Rothstein, Howard Saal, Wendy R. Uhlmann, Benjamin Wilfond, Susan M. Wold, and Ron Zimmern (2013) "Recommendations for Returning Genomic Incidental Findings? We Need to Talk!" *Genetics in Medicine*, 15: 854-859. PMID: 23907645.
33. Armand H. Matheny Antommaria (2013) "An Ethical Analysis of Mandatory Influenza Vaccination of Health Care Personnel: Implementing Fairly and Balancing Benefits and Burdens," *American Journal of Bioethics*, 13: 30-37. PMID: 23952830.
34. Joseph A. Carrese and the Members of the American Society for Bioethics and Humanities Clinical Ethics Consultation Affairs Standing Committee (2012) "HCEC Pearls and Pitfalls: Suggested Do's and Don't's for Healthcare Ethics Consultants," *Journal of Clinical Ethics*, 23: 234-240. PMID: 23256404.
35. Christopher G Maloney, Armand H Matheny Antommaria, James F Bale Jr., Jian Ying, Tom Greene and Rajendu Srivastiva (2012) "Factors Associated with Intern Noncompliance with the 2003 Accreditation Council for Graduate Medical Education's 30-hour Duty Period Requirement," *BMC Medical Education* 12: 33. PMID: 22621439.
36. Armand H. Matheny Antommaria, Jill Sweney, and W. Bradley Poss (2010) "Critical Appraisal of: Triaging Pediatric Critical Care Resources During a Pandemic: Ethical and Medical Considerations," *Pediatric Critical Care Medicine,* 11:396-400. PMID: 20453611.
37. Armand H. Matheny Antommaria, Karen Trotochaud, Kathy Kinlaw, Paul N. Hopkins, and Joel Frader (2009) "Policies on Donation After Cardiac Death at Children's Hospitals: A Mixed-Methods Analysis of Variation," *Journal of the American Medical Association,* 301: 1902-8. PMID: 19436017.
38. Kristine M. Pleacher, Elizabeth S. Roach, Willem Van der Werf, Armand H. Matheny Antommaria, and Susan L. Bratton (2009) "Impact of a Pediatric Donation after Cardiac Death Program," *Pediatric Critical Care Medicine,* 10: 166-70. PMID: 19188881.
39. Flory L. Nkoy, Sarah Petersen, Armand H Matheny Antommaria, and Christopher G. Maloney (2008) "Validation of an Electronic System for Recording Medical Student Patient Encounters," *AMIA [American Medical Informatics Association] Annual Symposium Proceedings*, 6: 510-14. PMID: 18999155. Nominated for the Distinguished Paper Award
40. Armand H. Matheny Antommaria, Sean D. Firth, and Christopher G. Maloney (2007) "The Evaluation of an Innovative Pediatric Clerkship Structure Using Multiple Outcome Variables including Career Choice" *Journal of Hospital Medicine*, 2: 401-408. PMID: 18081170.
41. Armand H. Matheny Antommaria (2006) "'Who Should Survive?: One of the Choices on Our Conscience:' Mental Retardation and the History of Contemporary Bioethics." *Kennedy Institute of Ethics Journal*, 16: 205-224. PMID: 17091558.
42. Armand H. Matheny Antommaria (2004) "Do as I Say Not as I Do: Why Bioethicists Should Seek Informed Consent for Some Case Studies." *Hastings Center Report,* 34 (3): 28-34. PMID: 15281724.

43. Armand H. Matheny Antommaria (2004) "A Gower Maneuver: The American Society for Bioethics and Humanities' Resolution of the 'Taking Stands' Debate." *American Journal of Bioethics,* 4 (Winter): W24-27. PMID: 15035934.

NON PEER-REVIEWED JOURNAL ARTICLES

1. Katherine Wade and Armand H. Matheny Antommaria (2016) "Inducing HIV Remission in Neonates: Children's Rights and Research Ethics." *Journal of Medicine and Biology*, 58(3): 348-54. PMID 27157354.
2. Armand H. Matheny Antommaria (2014) "Response to Open Peer Commentaries on 'An Ethical Analysis of Mandatory Influenza." *American Journal of Bioethics,* 14(7): W1-4. PMID: 24978422.
3. Armand H. Matheny Antommaria and Brent D. Kaziny (2012) "Ethical Issues in Pediatric Emergency Medicine's Preparation for and Response to Disasters." *Virtual* Mentor, 14: 801-4. PMID: 23351860.
4. Armand H. Matheny Antommaria, Tia Powell, Jennifer E. Miller, and Michael D. Christian (2011) "Ethical Issues in Pediatric Emergency Mass Critical Care," *Pediatric Critical Care Medicine*, 12(6 Suppl): S163-8. PMID: 22067926.
5. Armand H. Matheny Antommaria and Emily A. Thorell (2011) "Non-Pharmaceutical Interventions to Limit Transmission of a Pandemic Virus: The Need for Complementary Programs to Address Children's Diverse Needs." *Journal of Clinical Ethics,* 22: 25-32. PMID: 21595352.
6. Armand H. Matheny Antommaria (2010) "Conscientious Objection in Clinical Practice: Notice, Informed Consent, Referral, and Emergency Treatment." *Ave Maria Law Review*, 9: 81-99.
7. Armand H. Matheny Antommaria (2008) "Defending Positions or Identifying Interests: The Uses of Ethical Argumentation in the Debate over Conscience in Clinical Practice," *Theoretical Medicine and Bioethics,* 29: 201-12. PMID: 18821078.
8. Armand H. Matheny Antommaria (2008) "How can I give her IV antibiotics at home when I have three other children to care for?: Using Dispute System Design to Address Patient-Provider Conflicts in Health Care." *Hamline Journal of Public Law & Policy*, 29: 273-86.
9. Armand H. Matheny Antommaria (2007) "Alternative Dispute Resolution and Pediatric Clinical Ethics Consultation: Why the Limits of Ethical Expertise and the Indeterminacy of the Best Interests Standard Favor Mediation." *Ohio State Journal on Dispute Resolution,* 23: 17-59.
10. Armand H. Matheny Antommaria (2006) "Jehovah's Witnesses, Roman Catholicism, and Calvinism: Religion and State Intervention in Parental, Medical Decision-Making," *Journal of Law and Family Studies,* 8: 293-316.
11. Armand H. Matheny Antommaria and James F. Bale, Jr. (2002) "Ethical Issues in Clinical Practice: Cases and Analyses," *Seminars in Pediatric Neurology* 9: 67-76. PMID: 11931129.

REVIEW ARTICLES

Armand H. Matheny Antommaria (2010) "Conceptual and Ethical Issues in the Declaration of Death: Current Consensus and Controversies." *Pediatrics in Review* 31: 427-430. PMID: 20889737.

BOOKS

1. Armand H. Matheny Antommaria, ed. (2022) *Ethics Rounds: A Casebook in Pediatric Bioethics Part II*. Itasca, IL: American Academy of Pediatrics.
2. Armand H. Matheny Antommaria (1998) *A Retrospective, Political and Ethical Analysis of State Intervention into Parental Healthcare Decisions for Infants with Disabilities*. Wynnewood, Pennsylvania: Evangelicals for Social Action.

BOOK CHAPTERS

1. Armand H. Matheny Antommaria (2018) "Against Medical Advice Discharges: Pediatric Considerations." In *Against-Medical-Advice Discharges from the Hospital: Optimizing Prevention and Management to Promote High-Quality, Patient-Centered Care.* David Alfandre. New York, Springer: 143-157.
2. Armand H. Matheny Antommaria (2016) "Conscientious Objection in Reproductive Medicine." In *The Oxford Handbook of Reproductive Ethics.* Leslie Francis. Oxford, Oxford University Press: 209-225.
3. Armand H. Matheny Antommaria (2011) "Patient Participation in Medical Education." In *Clinical Ethics in Pediatrics: A Case-based Approach.* Douglas Diekema, Mark Mercurio, and Mary Beth Adam. Cambridge, Cambridge University Press: 221-225.
4. Armand H. Matheny Antommaria (2011) "State Intervention in Parental Decision Making: *Gone Baby Gone*." In *The Picture of Health: Medical Ethics and the Movies.* Henri Colt, Silvia Quadrelli, and Lester Friedman. Oxford, Oxford University Press: 308-12.
5. Armand H. Matheny Antommaria (2009) "Managing Conflicts of Interest: A Perspective from a Pediatrician." In *Professionalism in Medicine: The Case-Based Guide for Medical Students*. John Spandorfer, Charles Pohl, Thomas Nasca and Susan Lee Rattner. Cambridge, Cambridge University Press: 376-7.
6. Armand H. Matheny Antommaria (2007) "Do-Not-Resuscitate Orders." In *Comprehensive Pediatric Hospital Medicine*. L. B. Zaoutis and V. W. Chiang. Philadelphia, Mosby Elsevier**:** 1200-4.

OTHER

Policy Statements and Technical Reports

1. American Academy of Pediatrics Committee on Bioethics. Armand H. Matheny Antommaria Lead Author. (2013) "Conflicts between Religious or Spiritual Beliefs and Pediatric Care: Informed Refusal, Exemptions, and Public Funding." *Pediatrics.* 132: 962-965. PMID: 24167167.
2. American Academy of Pediatrics Committee on Bioethics. Armand H. Matheny Antommaria Lead Author. (2013) "Ethical Controversies in Organ Donation After Circulatory Death." *Pediatrics.* 131: 1021-1026. PMID: 23629612.
3. American Academy of Pediatrics Committee on Bioethics and Committee on Genetics and the American College of Medical Genetics and Genomics Social, Ethical, and Legal Issues Committee (2013) "Policy Statement: Ethical and Policy Issues in Genetic Testing and Screening of Children." *Pediatrics.* 131: 620-622. PMID: 23428972.
4. Lainie Friedman Ross, Howard M. Saal, Karen L. David, Rebecca R. Anderson and the American Academy of Pediatrics Committee on Bioethics and Committee on Genetics and the American College of Medical Genetics and Genomics Social, Ethical, and Legal Issues Committee (2013) "Technical Report: Ethical and Policy Issues in Genetic Testing and Screening of Children." *Genetics in Medicine.* 15: 234-245. PMID: 23429433.
5. American Academy of Pediatrics Committee for Pediatric Research and Committee on Bioethics (2012) "Human Embryonic Stem Cell (hESC) and Human Embryo Research." *Pediatrics* 130: 972-977. PMID: 23109685.
6. American College of Obstetricians and Gynecologists, Committee on Ethics and American Academy of Pediatrics, Committee on Bioethics (2011) "Maternal-Fetal Intervention and Fetal Care Centers," *Pediatrics* 128; e473-e478. PMID: 21788223.
7. American Academy of Pediatrics Committee on Pediatric Emergency Medicine and Committee on Bioethics (2011) "Consent for Emergency Medical Services for Children and Adolescents." *Pediatrics* 128: 427-433. PMID: 21788221.

8. Council on School Health and Committee on Bioethics. Robert Murray and Armand H. Matheny Antommaria Lead Authors. (2010) "Honoring –Do-Not-Attempt Resuscitation Requests in Schools." *Pediatrics* 125; 1073-1077. PMID: 20421255.
9. Committee on Bioethics (2010) "Ritual Genital Cutting of Female Minors." *Pediatrics* 125; 1088-1093. PMID: 20421257.
10. Committee on Bioethics. (2010) "Children as Hematopoietic Stem Cell Donors," *Pediatrics* 125; 392-40. PMID: 20100753.
11. Committee on Bioethics. Armand H. Matheny Antommaria Lead Author. (2009) "Physician Refusal to Provide Information or Treatment Based on Claims of Conscience." *Pediatrics.* 124; 1689-93. PMID: 19948636.
12. Committee on Bioethics (2009) "Pediatrician-Family-Patient Relationships: Managing the Boundaries." *Pediatrics* 124; 1685-8. PMID: 19948635.
13. Douglas S. Diekema, Jeffrey R. Botkin, and Committee on Bioethics (2009) "Forgoing Medically Provided Nutrition and Hydration in Children." *Pediatrics* 124; 813-22. PMID: 19651596.
14. Lainie Friedman Ross, J. Richard Thistlethwaite, Jr., and the Committee on Bioethics (2008) "Minors as Living Solid-Organ Donors." *Pediatrics* 122: 454-61. PMID: 18676567.
15. Mary E. Fallat, John Hutter, and Section on Hematology Oncology and Section on Surgery the Committee on Bioethics (2008) "Preservation of Fertility in Pediatric and Adolescent Patients with Cancer." *Pediatrics* 121: 1461-9. PMID: 18450888.
16. Marcia Levetown and Bioethics and the Committee on Bioethics (2008) "Communicating With Children and Families: From Everyday Interactions to Skill in Conveying Distressing Information." *Pediatrics* 121: 1441-60. PMID: 18450887.
17. American Academy of Pediatrics. Committee on Bioethics (2007) "Professionalism in Pediatrics: Statement of Principles." *Pediatrics* 120:895-7. PMID: 17908776.

Ethics Rounds

1. Imogen Clover-Brown, Bryanna More, Christina G. Andrews, and Armand H. Matheny Antommaria. (2023) "Ethical Issues With Patient-Provider Interactions in an Evolving Social Media Landscape." *Pediatrics.* 151: e2022060066. PMIC 3765789.
2. Maeghann S. Weaver, Marianne E. M. Yee, Courtney E. Lawrence, Armand H. Matheny Antommaria, and Ross M. Fasano. (2023) "Requests for Directed Blood Donations." *Pediatrics*. 151: e2022058183. PMID: 36897227.
3. Erwin Jiayuan Khoo, Devan M. Duenas, Benjamin S. Wilfond, Luke Gelinas, Armand H. Matheny Antommaria. (2023) "Incentives in Pediatric Research in Developing Countries: When Are They Too Much?" *Pediatrics*. 141: e2021055702. PMID: 36660851.
4. Kim Mooney-Doyle, Kimberly A. Pyke-Grimm, Ashley Foster Lanzel, Kathleen E. Montgomery, Jamila Hassan, Anisha Thompson, Rebecca Rouselle, and Armand H. Matheny Antommaria. (2022) "Balancing Protection and Progress in Pediatric Palliative Care Research: Stakeholder Perspectives." *Pediatrics*. 150: e2022057502. PMID: 36069137.
5. Megan H. Pesch, Phoebe Dazinger, Lainie Friedman Ross, and Armand H. Matheny Antommaria. (2022) "An Ethical Analysis of Newborn Congenital Cytomegalovirus Screening." *Pediatrics*. 149: e2021055368. PMID: 35641472.
6. Ian D. Wolfe, Don Brunnquell, Rena Sorensen, and Armand H. Matheny Antommaria. (2022) "Should Tactile Defensiveness Exclude a Life-Sustaining Intervention in an Adolescent With Autism?" *Pediatrics.* 149: e2021054469. PMID: 35229117.
7. Jennifer E. deSante-Bertkau, Timothy K. Knilans, Govind Persad, Patricia J. Zettler, Holly Fernandez Lynch, and Armand H. Matheny Antommaria. (2021) "Off-Label Prescription of COVID-19 Vaccines in Children: Clinical, Ethical, and Legal Issues." *Pediatrics.* 149: e2021054578. PMID: 34615694.

8. Jamilah M. Hackworth, Meera Kotagal, O. N. Ray Bignal, 2nd, Ndidi Unaka, and Armand H. Matheny Antommaria. (2021) "Microaggressions: Privileged Observers' Duty to Act and What They Can Do." *Pediatrics*. 148: e2021052758. PMID: 34417286.
9. Elizabeth Lanphier, Luke Mosley, and Armand H. Matheny Antommaria. (2021) "Assessing Visitor Policy Exemption Requests During the COVID-19 Pandemic." *Pediatrics.* 148: e2021051254. PMID: 33990461.
10. Natalie Lanocha, Tyler Tate, Erica Salter, Nanette Elster, and Armand H. Matheny Antommaria. (2021) "Can Parents Restrict Access to Their Adolescent's Voice?: Deciding About a Tracheostomy." *Pediatrics*. 147: e2021050358. PMID 33785636.
11. Timothy Crisci, Zeynep N. Inanc Salih, Ndidi Unaka, Jehanna Peerzada, and Armand H. Matheny Antommaria. (2021) "What Should an Intern Do When She Disagrees With the Attending?" *Pediatrics.* 147: e2020049646. PMID 33627371.
12. Liza-Marie Johnson, Erica C. Kaye, Kimberly Sawyer, Alex M. Brenner, Stefan J. Friedrichsdorf, Abby R. Rosenberg, Armand H. Mathey Antommaria. (2021) "Opioid Management in the Dying Child With Addiction." *Pediatrics* 147: e2020046219. PMID 33446508.

Continuing Medical Education

1. Armand H. Matheny Antommaria (2014) Authored 4 questions. NEJM Knowledge+ Family Medicine Board Review. NEJM Group.
2. Armand H. Matheny Antommaria (2009) "Hot Topics: Ethics and Donation After Cardiac Death [online course]. PediaLink. American Academy of Pediatrics. October 24. http://ethics.ht.courses.aap.org/. Accessed December 14. 2009.

Editorials

1. Armand H. Matheny Antommaria, Chris Feudtner, Mary Beth Benner, and Felicia Cohn on Behalf of the Healthcare Ethics Consultant-Certified Certification Commission (2020) "The Healthcare Ethics Consultant-Certified Program: Fair, Feasible, and Defensible, But Neither Definite Nor Finished," *American Journal of Bioethics* 20:1-5. PMID: 32105202.
2. Armand H. Matheny Antommaria and Pamela W. Popp (2020) "The Potential Roles of Surrogacy Ladders, Standby Guardians, and Medicolegal Partnerships, in Surrogate Decision Making for Parents of Minor Children," *Journal of Pediatrics* 220:11-13. PMID 31952849.

Commentaries

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2. Armand H. Matheny Antommaria and Elizabeth Lanphier. (2022) "Supporting Marginalized Decision-Marker's Autonom(ies)." *American Journal of Bioethics*. 22(6):22-24. PMID: 35616965.
3. Mary V. Greiner and Armand H. Matheny Antommaria. (2022) "Enrolling Foster Youth in Clinical Trials: Avoiding the Harm of Exclusion." *American Journal of Bioethics.* 22(4):85-86. PMID: 35420526. Reprinted in (2024) *Challenging Cases in Clinical Research Ethics*. Benjamin S. Wilfond, Liza-Marie Johnson, Devan M. Duenas, and Holly A. Taylor. Boca Raton, FL, CRC Press: 166-167.
4. William Sveen and Armand H. Matheny Antommaria. (2020) "Why Healthcare Workers Should Not Be Prioritized in Ventilator Triage." *American Journal of Bioethics.* 20(7): 133-135. PMID: 32716811.
5. Armand H. Matheny Antommaria, William Sveen, and Erika L. Stalets (2020) "Informed Consent Should Not Be Required for Apnea Testing and Arguing It Should Misses the Point," *American Journal of Bioethics.* 20: 25-27. PMID: 32441602.

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8. Armand H. Matheny Antommaria (2018) "Accepting Things at Face Value: Insurance Coverage for Transgender Healthcare." *American Journal of Bioethics.* 18: 21-23. PMID: 31159689.
9. Armand H. Matheny Antommaria and Judith R. Ragsdale (2018) "Shaken, not Stirred: What are Ethicists Licensed to Do?" *American Journal of Bioethics* 18: 56-58. PMID: 29697345.
10. Armand H. Matheny Antommaria (2017) "Issues of Fidelity and Trust Are Intrinsic to Uncontrolled Donation after Circulatory Determination of Death and Arise Again with Each New Resuscitation Method," *American Journal of Bioethics* 17: 20-22. PMID: 28430053.
11. Armand H. Matheny Antommaria (2016) "Conscientious Objection: Widening the Temporal and Organizational Horizons," *The Journal of Clinical Ethics* 27: 248-250. PMID: 27658282.
12. Armand H. Matheny Antommaria and Ron King. (2016) "Moral Hazard and Transparency in Pediatrics: A Different Problem Requiring a Different Solution." *American Journal of Bioethics* 16: 39-40. PMID: 27292846.
13. Armand H. Matheny Antommaria and Richard F. Ittenabch (2016) "Quality Attestation's Portfolio Evaluation Is Feasible, But Is It Reliable and Valid?" *American Journal of Bioethics* 16: 35-38. PMID: 26913658.
14. Armand H. Matheny Antommaria and Kristin Stanley Bramlage (2015) "Enrolling Research Participants in Private Practice: Conflicts of Interest, Consistency, Therapeutic Misconception, and Informed Consent." *AMA Journal of Ethics*. 17:1122-1126. PMID: 26698585.
15. Armand H. Matheny Antommaria (2015) "Characterizing Clinical Ethics Consultations: The Need for a Standardized Typology of Cases." *American Journal of Bioethics* 15: 18-20. PMID: 25970383.
16. Armand H. Matheny Antommaria (2015) "Intensified Conflict Instead of Closure: Clinical Ethics Consultants' Recommendations' Potential to Exacerbate Ethical Conflicts." *American Journal of Bioethics* 15: 52-4. PMID: 25562231.
17. Lainie Friedman Ross and Armand H. Matheny Antommaria (2014) "The need to promote all pediatric stem cell donors' understanding and interests." *Pediatrics* 133: e1356-e1357. PMID: 24777208.
18. Armand H. Matheny Antommaria (2014) "Pubertal Suppression and Professional Obligations: May a Pediatric Endocrinologist Refuse to Treat an Adolescent with Gender Dysphoria." *American Journal of Bioethics* 13: 43-46. PMID: 24422933.
19. Armand H. Matheny Antommaria (2012) "Empowering, Teaching, and Occasionally Advocating: Clinical Ethics Consultants' Duties to All of the Participants in the Process." *American Journal of Bioethics* 12 11-3. PMID: 22852533.
20. Armand H. Matheny Antommaria (2010) "Dying but not Killing: Donation after Cardiac Death Donors and the Recovery of Organs." *Journal of Clinical Ethics* 21: 229-31. PMID: 21089993.
21. Armand H. Matheny Antommaria and Julie Melini (2010) "Is it Reasonable to Refuse to be Seen by a Nurse Practitioner in the Emergency Department?" *American Journal of Bioethics* 10: 15-17. PMID: 20694899.
22. William Meadow, Chris Feudtner, Armand H. Matheny Antommaria, Dane Sommer, John Lantos (2010) "A Premature Baby with Necrotizing Enterocolitis Whose Parents Are Jehovah's Witnesses." *Pediatrics.* 216: 151-155. PMID: 20566607.
23. C. C. Weitzman, S. Schlegel, Nancy Murphy, Armand H. Matheny Antommaria, J. P. Brosco, Martin T. Stein (2009) "When Clinicians and a Parent Disagree on the Extent of Medical Care." *Journal of Developmental and Behavioral Pediatrics.* 30: 242-3. PMID: 19525718. Reprinted as (2010) *Journal of Developmental and Behavioral Pediatrics.* 31: S92-5. PMID: 20414087

24. Armand H. Matheny Antommaria and Susan Bratton (2008) "Nurses' Attitudes toward Donation after Cardiac Death: Implications for Nurses' Roles and Moral Distress." *Pediatric Critical Care Medicine,* 9: 339-40. PMID: 18446100.
25. Armand H. Matheny Antommaria and Nannette C. Dudley (2007) "Should Families Be Present During CPR?" *AAP Grand Rounds,* 17: 4-5.
26. Armand H. Matheny Antommaria (2006) "The Proper Scope of Analysis of Conscientious Objection in Healthcare: Individual Rights or Professional Obligations" *Teaching Ethics*, 7: 127-31.
27. Armand H. Matheny Antommaria and Rajendu Srivastava (2006) "If Cardiologists Take Care of Patients with Heart Disease, What do Hospitalists Treat?: Hospitalists and the Doctor-Patient Relationship." *American Journal of Bioethics*, 6: 47-9. PMID: 16423793.
28. Armand H. Matheny Antommaria (2003) "I Paid Out-of-Pocket for My Son's Circumcision at Happy Valley Tattoo and Piercing: Alternative Framings of the Debate over Routine Neonatal Male Circumcision," *American Journal of Bioethics* 3: 51-3. PMID: 12859817.

Letters

1. Benjamin S. Wilfond, David Magnus, Armand H Matheny Antommaria, Paul Appelbaum, Judy Aschner, Keith J. Barrington, Tom Beauchamp, Renee D. Boss, Wylie Burke, Arthur L. Caplan, Alexander M. Capron, Mildred Cho, Ellen Wright Clayton, F. Sessions Cole, Brian A. Darlow, Douglas Diekema, Ruth R. Faden, Chris Feudtner, Joseph J. Fins, Norman C. Fost, Joel Frader, D. Micah Hester, Annie Janvier, Steven Joffe, Jeffrey Kahn, Nancy E. Kass, Eric Kodish, John D. Lantos, Laurence McCullough, Ross McKinney, Jr., William Deadow, P. Pearl O'Rourke, Kathleen E. Powderly, DeWayne M. Pursley, Lainie Friedman Ross, Sadath Sayeed, Richard R. Sharp, Jeremy Sugarman, William O. Tarnow-Mordi, Holly Taylor, Tom Tomlison, Robert D. Truog, Yoram T. Unguru, Kathryn L. Weise, David Woodrum, Stuart Youngner (2013) "The OHRP and SUPPORT," *New England Journal of Medicine,* 368: e36. PMID: 23738513.
2. Lainie Friedman Ross and Armand H. Matheny Antommaria (2011) "In Further Defense of the American Academy of Pediatrics Committee on Bioethics 'Children as Hematopoietic Stem Cell Donors' Statement." *Pediatric Blood & Cancer*. 57: 1088-9.
3. Armand H. Matheny Antommaria (2011) "Growth Attenuation: Health Outcomes and Social Services." *Hastings Center Report*, 41(5): 4. PMID: 21980886.
4. Susan Bratton and Armand H. Matheny Antommaria (2010) "Dead Donor Rule and Organ Procurement: The Authors Reply." *Pediatric Critical Care Medicine*, 11: 314-5.
5. Armand H. Matheny Antommaria and Joel Frader (2009) "Policies of Children's Hospitals on Donation After Cardiac Death—Reply." *Journal of the American Medical Association*, 302: 845.

Case Reports

Armand H. Matheny Antommaria (2002) "Case 4.9: Inappropriate Access to a Celebrity's Medical Records." In *Ethics and Information Technology: A Case-Based Approach to a Health Care System in Transition*, James G. Anderson and Kenneth W. Goodman, 79-80. New York: Springer-Verlag.

Book Reviews

1. Armand H. Matheny Antommaria (2024) Review of *Mormonism, Medicine, and Bioethics,* by Courtney S. Campbell. *Mormon Studies Review* 11: 182-8.
2. Armand H. Matheny Antommaria (2023) "An Ambitious Goal: A Grounded, Informed, and Compelling Theological Bioethics." Review of *Disability's Challenge to Theology: Genes, Eugenics, and the Metaphysics of Modern Medicine* by Devan Stahl. *Hastings Center Report* 53(2): 44-45.
3. Armand H. Matheny Antommaria (2021) Review of *When Harry Became Sally: Responding to the Transgender Moment,* by Ryan T. Anderson. *Journal of Medical Humanities* 42: 195-9. PMID 31808021.

4. Armand H. Matheny Antommaria (2012) Review of *The Ethics of Organ Transplantation*, by Steven J. Jensen, ed., *Journal of the American Medical Association* 308: 1482-3.
5. Armand H Matheny Antommaria (2012) Review of *The Soul of Medicine: Spiritual Perspectives and Clinical Practice*, by John R. Peteet and Michael N. D'Ambra, ed., *Journal of the American Medical Association* 308: 87.
6. Armand H. Matheny Antommaria (2009) Review of *Conflicts of Conscience in Health Care: An Institutional Compromise,* by Holly Fernandez Lynch. *American Journal of Bioethics* 9: 63-4.
7. Armand H. Matheny Antommaria (2008) Review of *A Practical Guide to Clinical Ethics Consulting: Expertise, Ethos, and Power*, by Christopher Meyers. *American Journal of Bioethics* 8: 72-3.
8. Armand H. Matheny Antommaria (2004) Review of *Children, Ethics, and Modern Medicine*, by Richard B. Miller. *American Journal of Bioethics* 4: 127-8.
9. Armand H. Matheny Antommaria (2002) Review of *Ward Ethics: Dilemmas for Medical Students and Doctors in Training*, by Thomasine Kushner and David Thomasma, ed. *American Journal of Bioethics* 2: 70-1. PMID: 22494193.
10. Armand H. Matheny Antommaria (1999) Review of *Human Cloning: Religious Responses*, by Ronald Cole-Turner, ed. *Prism* 6 (March/April): 21.
11. Armand H. Matheny Antommaria (1999) Review of *Christian Theology and Medical Ethics: Four Contemporary Approaches*, by James B. Tubbs, Jr. *Journal of Religion* 79 (April): 333-5.
12. Armand H. Matheny Antommaria (1997) Review of *Body, Soul, and Bioethics*, by Gilbert C. Meilaender. *Prism* 4 (May/June): 28.

Newspaper Articles

1. W. Bradley Poss and Armand H. Matheny Antommaria (2010) "Mass casualty planning must incorporate needs of children." *AAP News* 31 (July): 38.
2. Robert Murray and Armand H. Matheny Antommaria (2010) "Pediatricians should work with school nurses to develop action plans for children with DNAR orders." *AAP News* 31 (May): 30..
3. Armand H. Matheny Antommaria (2009) "Addressing physicians' conscientious objections in health care." *AAP News* 30 (December): 32.

UNPUBLISHED POSTER PRESENTATIONS

1. Armand H. Matheny Antommaria. (2018) "Ethical Issues in the Care of International Patients: A Case Study." International Conference on Clinical Ethics and Consultation, Oxford, United Kingdom.
1. Jill S Sweney, Brad Poss, Colin Grissom, Brent Wallace, and Armand H Matheny Antommaria, (2010) "Development of a Statewide Pediatric Pandemic Triage Plan in Utah." Pediatric Academic Societies Annual Meeting, Vancouver, Canada. E-PAS20103713.147.
2. Christopher G. Maloney, Armand H. Matheny Antommaria, James F. Bale, Thomas Greene, Jian Ying, Gena Fletcher, and Rajendu Srivastava (2010) "Why Do Pediatric Interns Violate the 30 Hour Work Rule?" Pediatric Academic Societies Annual Meeting, Vancouver, Canada. E-PAS20101500.596
3. Armand H. Matheny Antommaria and Edward B. Clark (2007) "Resolving Conflict through Bioethics Mediation." 3rd International Conference on Ethics Consultation and Clinical Ethics, Toronto, Canada.
4. Elizabeth Tyson, Tracy Hill, Armand Antommaria, Gena Fletcher, and Flory Nkoy (2007) "Physician Practice Patterns Regarding Nasogastric Feeding Supplementation and Intravenous Fluids in Bronchiolitis Patients." Pediatrics Academic Societies Annual Meeting, Toronto, Canada. E-PAS2007:61300.

ORAL PRESENTATIONS

Keynote/Plenary Lectures

International

1. 2021, *Panelist*, Partnership for Quality Medical Donations, Charitable Access Programming for Rare Diseases, "Ethical Issues," Webinar, April 6.
2. 2017, *Invited Speaker*, Spina Bifida Fetoscopic Repair Study Group and Consortium, "Ethics of Innovation and Research in Fetal Surgery," Cincinnati, Ohio, October 26.
3. 2014, *Invited Speaker,* CIC 2013 CCI: Canadian Immunization Conference, "Condition-of-Service Influenza Prevention in Health Care Settings," Ottawa, Canada, December 2.
4. 2014, *Invited Speaker*, National Conference of the Chinese Pediatric Society, "A Brief Introduction to Pediatric Research and Clinical Ethics," Chongqing, China, September 12.

National

1. 2020, *Panelist*, Children's Mercy Bioethics Center, "Ethical Issues in the COVID Pandemic at Children's Hospitals," Webinar, March 2.
2. 2019, *Invited Speaker*, North American Fetal Therapy Network (NAFTnet), "Ethics of Innovation," Chicago, Illinois, October 12.
3. 2019, *Panelist,* National Society of Genetic Counselors Prenatal Special Interest Group, "Fetal Intervention Ethics," Webinar, September 12.
4. 2017, *Invited Participant,* American College of Epidemiology Annual Meeting, Preconference Workshop, "Extreme Personal Exposure Biomarker Levels: Guidance for Study Investigators," New Orleans, Louisiana, September 24.
5. 2016, *Invited Speaker,* American Academy of Pediatrics National Conference & Exhibition, Joint Program: Section on Hospital Medicine and Section on Bioethics, "Resource Allocation: Do We Spend Money to Save One Patient with Ebola or Over a 1,000?" San Francisco, California, October 23.
6. 2016, *Invited Speaker*, 26th Annual Specialist Education in Extracorporeal Membrane Oxygenation (SEECHMO) Conference, "Ethical Issues in ECMO: The Bridge to Nowhere," Cincinnati, Ohio, June 5.
7. 2015, *Invited Speaker,* Extracorporeal Life Support Organization (ELSO) 26th Annual Conference, "ECMO-Supported Donation after Circulatory Death: An Ethical Analysis," Atlanta, Georgia, September 20.
8. 2014, *Invited Speaker*, Pediatric Evidence-Based Practice 2014 Conference: Evidence Implementation for Changing Models of Pediatric Health Care, "Ethical Issues in Evidence-Based Practice," Cincinnati, Ohio, September 19.
9. 2014, *Invited Speaker,* 6th Annual David Kline Symposium on Public Philosophy: Exploring the Synergy Between Pediatric Bioethics and Child Rights, "Does Predictive Genetic Testing for Adult Onset Conditions that Are Not Medically Actionable in Childhood Violate Children's Rights?" Jacksonville, Florida, March 6.
10. 2010, *Invited Speaker,* Quest for Research Excellence: The Intersection of Standards, Culture and Ethics in Childhood Obesity, "Research Integrity and Religious Issues in Childhood Obesity Research," Denver, Colorado, April 21.
11. 2010, *Invited Speaker*, Symposium on the Future of Rights of Conscience in Health Care: Legal and Ethical Perspectives, J. Reuben Clark Law School at Brigham Young University and the Ave Maria School of Law, "Conscientious Objection in Clinical Practice: Disclosure, Consent, Referral, and Emergency Treatment," Provo, Utah, February 26.
12. 2009, *Invited Speaker*, Pediatric Organ Donation Summit, "Research Findings Regarding Variations in Pediatric Hospital Donation after Cardiac Death Policies," Chicago, Illinois, August 18.

13. 2008, *Meet-the-Experts*, American Academy of Pediatrics National Conference & Exhibition, "Physician Refusal to Provide Treatment: What are the ethical issues?" Boston, Massachusetts, October 11.
14. 2008, *Invited Conference Faulty*, Conscience and Clinical Practice: Medical Ethics in the Face of Moral Controversy, The MacLean Center for Clinical Medical Ethics at the University of Chicago, "Defending Positions or Identifying Interests: The Uses of Ethical Argumentation in the Debate over Conscience in Clinical Practice," Chicago, IL, March 18.
15. 2007, *Symposium Speaker*, Alternative Dispute Resolution Strategies in End-of-Life Decisions, The Ohio State University Mortiz College of Law, "The Representation of Children in Disputes at the End-of-Life," Columbus, Ohio, January 18.
16. 2005, *Keynote Speaker*, Decisions and Families, *Journal of Law and Family Studies* and The University of Utah S.J. Quinney College of Law, "Jehovah's Witnesses, Roman Catholicism, and Calvinism: Religion and State Intervention in Parental, Medical Decision-Making," Salt Lake City, Utah, September 23.

Regional/Local

1. 2024, *Case Expert Commentator*, Center for Bioethics Clinical Ethics Consortium, Harvard Medical School, "Can he be his mother's keeper?", Boston, Massachusetts, February 2.
2. 2023, *Speaker*, Yale Ethics Program, Yale School of Medicine, "Gender-Affirming Care," New Haven, Connecticut, March 8.
3. 2021, *Panelist*, Pediatric Residency Noon Conference, University of Tennessee Health Science Center, "Bioethics Rounds—Ethical Issues in the Care of Transgender Adolescents," Memphis, Tennessee, September 21.
4. 2020, *Keynote Speaker*, 53rd Annual Clinical Advances in Pediatrics, "Referral to a Fetal Care Center: How You Can Help Patients' Mothers Address the Ethical Issues," Kansas City, Kansas, September 16.
5. 2019, *Speaker,* Patient and Family Support Services, Primary Children's Hospital, "Ethical Issues in the Care of Trans Adolescents," Salt Lake City, Utah, December 5.
6. 2019, *Speaker,* Evening Ethics, Program in Medical Ethics and Humanities, University of Utah School of Medicine, "Patients, Parents, and Professionals: Ethical Issues in the Treatment of Trans Adolescents," Salt Lake City, Utah, December 4.
7. 2019, *Speaker,* Pediatric Hospital Medicine Board Review Course, "Ethics, Legal Issues, and Human Rights including Ethics in Research," Cincinnati, Ohio, September 8.
8. 2019, *Speaker,* Advances in Fetology, "Evolving Attitudes Toward the Treatment of Children with Trisomies," Cincinnati, Ohio, September 6.
9. 2019, *Speaker,* Half-Day Ethics Training: Ethics Consultation & Ethics Committees, "Navigating the Rapids of Clinical Ethics Consultation: Intake, Recommendations, and Documentation," Salt Lake City, Utah, June 1.
10. 2019, *Speaker*, Scientific and Ethical Underpinnings of Gene Transfer/Therapy in Vulnerable Populations: Considerations Supporting Novel Treatments, BioNJ, "What Next? An Ethical analysis of Prioritizing Conditions and Populations for Developing Novel Therapies," Cranbury, New Jersey, March 7.
11. 2018, *Panelist*, Periviability, 17th Annual Regional Perinatal Summit, Cincinnati, Ohio, October 12.
12. 2018, *Speaker,* Regional Advance Practice Registered Nurse (APRN) Conference, "Adults are Not Large Children: Ethical Issues in Caring for Adults in Children's Hospitals," Cincinnati, Ohio, April 26.
13. 2018, *Speaker*, Southern Ohio/Northern Kentucky Sigma Theta Tau International Annual Conference, "Between Hope and Hype: Ethical Issues in Precision Medicine," Sharonville, Ohio, March 2.

14. 2017, *Speaker*, Advances in Fetology 2017, "Ethics of Innovation and Research: Special Considerations in Fetal Therapy Centers," Cincinnati, Ohio, October 27.
15. 2016, *Speaker*, End-of-Life Pediatric Palliative Care Regional Conference, "Ethical/Legal Issues in Pediatric Palliative Care," Cincinnati, Ohio, September 15.
16. 2016, *Speaker*, 26th Annual Bioethics Network of Ohio (BENO) Conference, "When Does Parental Refusal of Medical Treatment for Religious Reasons Constitute Neglect?" Dublin, Ohio, May 29.
17. 2014, *Speaker,* Cincinnati Comprehensive Sickle Cell Center Symposium: Research Ethics of Hydroxyurea Therapy for Sickle Cell Disease During Pregnancy and Lactation, "Ethical Issues in Research with Pregnant and Lactating Women," Cincinnati, Ohio, October 30.
18. 2014, *Speaker,* Advances in Fetology 2014, "The 'Miracle Baby' and Other Cases for Discussion," Cincinnati, Ohio, September 26.
19. 2014, *Speaker,* Advances in Fetology 2014, "'Can you tell me …?': Achieving Informed Consent Given the Prevalence of Low Health Literacy," Cincinnati, Ohio, September 26.
20. 2014, *Panelist*, Center for Clinical & Translational Science & Training, Secrets of the Dead: The Ethics of Sharing their Data, Cincinnati, Ohio, August 28.
21. 2014, *Speaker,* Office for Human Research Protections Research Community Forum: Clinical Research … and All That Regulatory Jazz, "Research Results and Incidental Findings: Do Investigators Have a Duty to Return Results to Participants," Cincinnati, Ohio, May 21.
22. 2013, *Opening Presentation*, Empirical Bioethics: Emerging Trends for the 21st Century, University of Cincinnati Center for Clinical & Translational Science & Training, "Empirical vs. Normative Ethics: A Comparison of Methods," Cincinnati, Ohio, February 21.
23. 2012, *Videoconference,* New York State Task Force on Life and the Law, "Pediatric Critical Care Triage," New York, New York, March 1.
24. 2011, *Presenter,* Fall Faculty Development Workshop, College of Social Work, University of Utah, "Teaching Ethics to Students in the Professions, " Salt Lake City, Utah, November 14.
25. 2011, *Speaker,* 15th Annual Conference, Utah Chapter of the National Association of Pediatric Nurse Practitioners, "Ethical Issues in Pediatric Practice," Salt Lake City, Utah, September 22.
26. 2011, *Speaker*, Code Silver! Active Shooter in the Hospital, Utah Hospitals & Health Systems Association, Salt Lake City, Utah, March 21.
27. 2009, *Speaker,* Medical Staff Leadership Conference, Intermountain Healthcare, "The Ethics of Leadership," Park City, Utah, October 30.
28. 2008, *Speaker*, The Art and Medicine of Caring: Supporting Hope for Children and Families, Primary Children's Medical Center, "Medically Provided Hydration and Nutrition: Ethical Considerations," Salt Lake City, Utah, February 25.
29. 2005, *Speaker*, Utah NAPNAP (National Association of Pediatric Nurse Practitioners) Chapter Pharmacology and Pediatric Conference, "Immunization Update," Salt Lake City, Utah, August 18.
30. 2005, *Keynote Speaker,* 17th Annual Conference, Utah Society for Social Work Leadership in Health Care, "Brain Death: Accommodation and Consultation," Salt Lake City, March 18.
31. 2004, *Continuing Education Presentation*, Utah NAPNAP (National Association of Pediatric Nurse Practitioners), "Febrile Seizures," Salt Lake City, Utah, April 22.
32. 2004, *Speaker,* Advocacy Workshop for Primary Care Providers, "Ethics of Advocacy," Park City, Utah, April 3.
33. 2002, *Speaker,* 16th Annual Biologic Basis of Pediatric Practice Symposium, "Stem Cells: Religious Perspectives," Deer Valley, Utah, September 14.

Meeting Presentations

International

1. 2024, *Panelist*, International Conference on Clinical Ethics and Consultation, "Clinical Ethicists as Expert Witnesses: A Workshop Based on the Experiences of Clinical Ethicists and Lawyers in Pediatrics," Montreal, Canada, May 31.
2. 2023, *Speaker*, International Conference on Clinical Ethics and Consultation, "Addressing Ethical and Conceptual Issues in Gender-Affirming Medical Care Outside of the Hospital," Rome, Italy, June 8.
3. 2018, *Speaker*, International Conference on Clinical Ethics and Consultation, "A Systematic Review of Typologies Used to Characterize Clinical Ethics Consultations," Oxford, United Kingdom, June 21.

National

1. 2024, Srinivasan Suresh, Sriram Ramgopal, Judith Dexheimer, and Armand H. Matheny Antommaria. *Workshop Presenter*, Pediatric Academic Societies Annual Meeting, "ChatGPT for Pediatricians: You've Heard About It. Noe Learn How to Use It!" Toronto, May 6.
2. 2023, *Speaker*, American Society for Bioethics and Humanities Annual Meeting, "Addressing Restrictions on Gender-Affirming Medical Care in New Spaces: State Houses and Courtrooms," Baltimore, Maryland, October 13.
3. 2023, Kelsey S. Ryan, Rakhi Gupta Bassuray, Leela Sarathy, Sharon Ostfeld, Armand H. Matheny Antommaria, Erin Rholl, Steven R. Leuthner, and Christy L. Cummings. *Workshop Presenter,* Pediatric Academic Societies Annual Meeting, "How Can Newborn Toxicology Testing be Equitable?" Washington, DC, April 30.
4. 2022, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "A Mixed Methods Analysis of Requests for Religious Exemptions to a COVID-19 Vaccine Requirement." Portland, Oregon, October 27.
5. 2022, *Panelist,* American Society for Bioethics and Humanities Annual Meeting, Pediatric Ethics Affinity Group, "When Ethical Healthcare Is Prohibited By Law, How Do We Respond?" Portland, Oregon, October 27.
6. 2022, *Speaker,* APPD/PAS Fellow Core Curriculum Workshop, Pediatric Academic Societies Annual Meeting, "From Idea to Implementation: Navigating the Ethical Landscape of Pediatric Clinical Research," Denver, Colorado, April 22.
7. 2021, *Panelist,* Pediatric Endocrine Society Annual Meeting, Difference of Sex Development Special Interest Group, Virtual Conference, April 29.
8. 2020, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "Is This Child Dead? Controversies Regarding the Neurological Criteria for Death," Virtual Conference, October 17.
9. 2020, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "Contemporary Ethical Controversy in Fetal Therapy: Innovation, Research, Access, and Justice," Virtual Conference, October 15.
10. 2020, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "K-12 Schools and Mandatory Public Health Programs During the COVID-19 Pandemic," Virtual Conference, October 15.
11. 2019, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "Ethical Issues in Translating Gene Transfer Studies Involving Children with Neurodegenerative Disorders," Pittsburgh, Pennsylvania, October 26.
12. 2019, *Moderator,* Pediatric Academic Societies Annual Meeting, Clinical Bioethics, Baltimore, Maryland, April 28.

13. 2018, *Presenter,* American Society for Bioethics and Humanities Annual Meeting, "Looking to the Past, Understanding the Present, and Imaging the Future of Bioethics and Medical Humanities' Engagement with Transgender Health," Anaheim, California, October 19.
14. 2018, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "Should Vaccination Be a Prerequisite for Sold Organ Transplantation?" Anaheim, California, October 18.
15. 2018, Lindsey Douglas, Armand H. Matheny Antommaria, Derek Williams. *Workshop Presenter*, Pediatric Hospital Medicine Annual Meeting, "IRB Approved! Tips and Tricks to Smooth Sailing through the Institutional Review Board (IRB)." Atlanta, Georgia, July 20.
16. 2018, Alan Schroeder, Armand H. Matheny Antommaria, Hannah Bassett, Kevin Chi, Shawn Ralston, Rebecca Blankenburg. *Workshop Speaker,* Pediatric Hospital Medicine Annual Meeting, "When You Don't Agree with the Plan: Balancing Diplomacy, Value, and Moral Distress," Atlanta, Georgia, July 20.
17. 2018, Alan Schroeder, Hannah Bassett, Rebecca Blankenburg, Kevin Chi, Shawn Ralston, Armand H. Matheny Antommaria. *Workshop Speaker,* Pediatric Academic Societies Annual Meeting, "When You Don't Agree with the Plan: Balancing Diplomacy, Value, and Moral Distress," Toronto, Ontario, Canada, May 7.
18. 2017, *Speaker,* American Society for Bioethics and Humanities Annual Meeting, "Tensions in Informed Consent for Gender Affirming Hormone Therapy and Fertility Preservation in Transgender Adolescents," Kansas City, Missouri, October 19.
19. Lindsey Douglas, Armand H. Matheny Antommaria, and Derek Williams. 2017, *Workshop Leader,* PHM[Pediatric Hospital Medicine]2017, "IRB Approved! Tips and Tricks to Smooth Sailing through the Institutional Review Board (IRB) Process," Nashville, Tennessee, July 21.
20. 2016, *Speaker*, American Society for Bioethics and Humanities Annual Meeting, "Ethical Challenges in the Care of International Patients: Organization, Justice, and Cultural Considerations," Washington, DC, October 9.
21. 2015, *Coauthor,* The American Society of Human Genetics Annual Meeting, "Adolescents' Opinions on Disclosure of Non-Actionable Secondary Findings in Whole Exome Sequencing," Baltimore, Maryland, October 9.
22. 2012, *Speaker*, American Society for Bioethics and Humanities Annual Meeting, "A Public Health Ethics Analysis of the Mandatory Immunization of Healthcare Personnel: Minimizing Burdens and Increasing Fairness," Washington, DC, October 21.
23. Armand H. Matheny Antommaria, Valerie Gutmann Koch, Susie A. Han, Carrie S. Zoubul. 2012, *Moderator*, American Society for Bioethics and Humanities Annual Meeting, "Representing the Underrepresented in Allocating Scarce Resources in a Public Health Emergency: Ethical and Legal Considerations," Washington, DC, October 21.
24. 2012, *Platform Presentation,* Pediatric Academic Societies Annual Meeting, "Qualitative Analysis of International Variation in Donation after Circulatory Death Policies and Rates," Boston, Massachusetts, April 30. Publication 3150.4.
25. 2011, *Speaker*, American Society for Bioethics and Humanities Annual Meeting, "The Intersection of Policy, Medicine, and Ethics during a Public Health Disaster: Special Considerations for Children and Families," Minneapolis, Minnesota, October 13.
26. Armand H. Matheny Antommaria and Joel Frader. 2010, *Workshop Leader,* Pediatric Academic Societies Annual Meeting, "Conscientious Objection in Health Care: Respecting Conscience and Providing Access," Vancouver, British Columbia, Canada. May 1. Session 1710.
27. 2009, *Workshop Leader,* American Society for Bioethics and Humanities Annual Meeting, "Advanced Clinical Ethics Consultation Skills Workshop: Process and Interpersonal Skills," Washington, DC, October 15.

28. 2009, *Platform Presentation*, Pediatric Academic Societies Annual Meeting, "Qualitative Analysis of Donation after Cardiac Death Policies at Children's Hospitals," Baltimore, Maryland, May 2. Publication 2120.6.
29. 2008, *Speaker*, American Society for Bioethics and Humanities Annual Meeting, "Qualitative Analysis of Donation After Cardiac Death (DCD) Policies at Children's Hospitals," Cleveland, Ohio, October 26.
30. 2007, *Participant,* Hamline University School of Law Biennial Symposium on Advanced Issues in Dispute Resolution, "An Intentional Conversation About Conflict Resolution in Health Care," Saint Paul, Minnesota, November 8-10.
31. *2007*, *Speaker,* American Society of Bioethics and Humanities Annual Meeting, "Bioethics Consultation and Alternative Dispute Resolution: Opportunities for Collaboration," Washington, DC, October 21.
32. 2007, *Speaker,* American Society of Bioethics and Humanities Annual Meeting, "DNAR Orders in Schools: Collaborations Beyond the Hospital," Washington, DC, October 18.
33. Armand H. Matheny Antommaria and Jeannie DePaulis. 2007, *Speaker,* National Association of Children's Hospitals and Related Institutions Annual Meeting, "Using Mediation to Address Conflict and Form Stronger Therapeutic Alliances," San Antonio, Texas, October 9.
34. 2006, *Speaker,* American Society of Bioethics and Humanities Annual Meeting, "Bioethics Mediation: A Critique," Denver, Colorado, October 28.
35. 2005, *Panelist,* American Society of Bioethics and Humanities Annual Meeting, "How I See This Case: 'He Is Not His Brain,'" Washington, DC, October 20.
36. 2005, *Paper Presentation,* Pediatric Ethics: Setting an Agenda for the Future, The Cleveland Clinic, "'He Is Not His Brain:' Accommodating Objections to 'Brain Death,'" Cleveland, Ohio, September 9.
37. 2004, *Speaker,* American Society for Bioethics and Humanities Spring Meeting, "Verification and Balance: Reporting Within the Constraints of Patient Confidentiality," San Antonio, Texas, March 13.
38. 2002, *Panelist*, American Society for Bioethics and Humanities Annual Meeting, "'Who Should Survive?:' Mental Retardation and the History of Bioethics," Baltimore, Maryland, October 24.

Invited/Visiting Professor Presentations

1. 2013, Visiting Professor, "How to Listen, Speak and Think Ethically: A Multidisciplinary Approach," Norton Suburban Hospital and Kosair Children's Hospital, Louisville, Kentucky, May 22.
2. 2010, Visiting Professor, Program in Bioethics and Humanities and Department of Pediatrics, "What to Do When Parents Want Everything Done: 'Futility' and Ethics Facilitation," University of Iowa Carver College of Medicine, Iowa City, Iowa, September 10.

Grand Round Presentations

1. 2023, Harvey and Bernice Jones Lecture in Pediatric Ethics, "Too Far or Not Far Enough? Assessing Possible Changes in Determining Death and Procuring Organs," Arkansas Children's Hospital, Little Rock, November 16.
2. 2019, David Green Lectureship, "Establishing Goals of Care and Ethically Limiting Treatment," Primary Children's Hospital, Salt Lake City, Utah, December 5.
3. 2018, "The Ethics of Medical Intervention for Transgender Youth," El Rio Health, Tucson, Arizona, September 29.
4. 2018, Pediatrics, "Patient Selection, Justice, and Cultural Difference: Ethical Issues in the Care of International Patients," Cleveland Clinic, Cleveland, Ohio, April 10.
5. 2018, Bioethics, "Reversibility, Fertility, and Conflict: Ethical Issues in the Care of Transgender and Gender Nonconforming Children and Adolescents," Cleveland Clinic, Cleveland, Ohio, April 9.

6. 2017, Heart Institute, "'Have you ever thought about what you would want—if god forbid—you became sicker?': Talking with adult patients about advance directives," Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, October 16.
7. 2017, Pediatrics, "Respectful, Effective Treatment of Jehovah's Witnesses," with Judith R. Ragsdale, PhD, MDiv and David Morales, MD, Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, March 14.
8. 2017, Pediatrics, "Ethical Dilemmas about Discharging Patients When There Are Disagreements Concerning Safety," Seattle Children's Hospital, Seattle, Washington, January 19.
9. 2015, Pediatrics, "'Nonbeneficial' Treatment: What must providers offer and what can they withhold?," Greenville Health System, Greenville, South Carolina, May 10.
10. 2014, Advance Practice Providers, "Common Ethical Issues," Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, August 13.
11. 2014, Respiratory Therapy, "Do-Not-Resuscitate (DNR) Orders," Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, July 15.
12. 2013, Heart Institute, "No Not Months. Twenty-Two *Years*-Old: Transiting Patients to an Adult Model of Care." Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, October 21.
13. 2013, Division of Neonatology, "This Premature Infant Has a *BRCA1* Mutation!?: Ethical Issues in Clinical Whole Exome Sequencing for Neonatologists." Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, October 11.
14. 2013, Department of Pediatrics, "Adults are Not Large Children: Ethical Issues in Caring for Adults in Children's Hospitals," Cincinnati Children's Hospital Medical Center, Cincinnati, Ohio, February 26.
15. 2012, "Mandate or Moratorium?: Persisting Ethical Controversies in Donation after Circulatory Death," Cedars-Sinai Medical Center, Los Angeles, California, May 16.
16. 2011, Division of Pediatric Neurology Friday Lecture Series, "Inducing or Treating 'Seizures' with Placebos: Is It Ever Ethical?," University of Utah, Salt Lake City, Utah, October 7.
17. 2011, Department of Surgery, "DNR Orders in the OR and other Ethical Issues in Pediatric Surgery: Case Discussions," Primary Children's Medical Center, Salt Lake City, Utah, October 3.
18. 2009, Department of Pediatrics, "What to Do When Parents Want Everything Done: 'Futility' and Bioethical Mediation," Primary Children's Medical Center, Salt Lake City, Utah, September 17.
19. 2008, Division of Pulmonology and Critical Care, "Futility: May Clinicians Ever Unilaterally Withhold or Withdraw Medical Treatment?" Utah Valley Regional Medical Center, Provo, Utah, April 17.
20. 2007, Division of Otolaryngology-Head and Neck Surgery, "Advance Directives, Durable Powers of Attorney for Healthcare, and Do Not Attempt Resuscitation Orders: Oh My!," University of Utah School of Medicine, Salt Lake City, Utah, June 20.

Outreach Presentations

1. 2019, *Panelist*, Cincinnati Edition, WVXU, "The Ethics of Human Gene Editing," Cincinnati, Ohio, June 13.
2. 2019, *Speaker,* Adult Forum, Indian Hill Church, "Medical Ethics," Indian Hill, Ohio, March 24.
3. 2016, *Speaker,* Conversations in Bioethics: The Intersection of Biology, Technology, and Faith, Mt. Washington Presbyterian Church, "Genetic Testing," Cincinnati, Ohio, October 12.
4. 2008, *Speaker,* Science in Society, Co-sponsored by KCPW and the City Library, "Death—Choices," Salt Lake City, Utah, November 20.
5. 2003, *Panelist,* Utah Symposium in Science and Literature, "The Goodness Switch: What Happens to Ethics if Behavior is All in Our Brains?" Salt Lake City, Utah, October 10.
6. 2002, *Respondent*, H. Tristram Englehardt, Jr. "The Culture Wars in Bioethics," Salt Lake Community College, Salt Lake City, Utah, March 29.

Podcasts

1. 2021, "Ethics of COVID Vaccines in Kids," PHM from Pittsburgh, August 12.
2. 2020, COVID Quandaries: Episode 1, "Is Getting Sick Just Part of the Job?" Hard Call, October 6.

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF SOUTH CAROLINA
Charleston Division

STERLING MISANIN, et al., *Plaintiffs*, v. ALAN WILSON, in his official capacity as the Attorney General of South Carolina, et al., *Defendants*.	Case No. 2:24-cv-04734-RMG

DECLARATION OF JOHANNA OLSON-KENNEDY, M.D., M.S.

I, Johanna Olson-Kennedy, M.D., M.S., hereby state as follows:

1. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation.

2. I am over the age of 18.

3. I have actual knowledge of the matters stated herein. If called to testify in this matter, I would testify truthfully and based on my expert opinion.

4. I am aware of an article titled "U.S. Study on Puberty Blockers Goes Unpublished Because of Politics, Doctor Says," authored by Azeen Ghorayshi and published in the New York Times on October 23, 2024.

5. Based on a misleading title and selective quotations, the article by Ms. Ghorayshi presents an inaccurate and misrepresentative picture of the status of research I, along with others, have been conducting.

6. As I have previously testified, I am a principal investigator on a multisite study that has been funded in part through a National Institutes of Health grant and is examining the impact of gender-affirming medical care for transgender youth on physiologic and psychological health and well-being. The study involves over 400 study participants for whom thousands of data points have been collected. The first eight years of this study have already been completed and to date, the study has yielded over a dozen manuscripts.

7. Research takes time and significant resources, and we want to ensure that we publish our data accurately.

8. Among the multiple manuscripts relating to the study that have been published, our manuscript pertaining to the "Psychosocial Functioning in Transgender Youth after 2 Years of Hormones" was published in the *New England Journal of Medicine* in 2023 and our manuscript relating to "Laboratory Changes During Gender-Affirming Hormone Therapy in Transgender Adolescents" was published in *Pediatrics* in 2024.

9. Throughout this study, up to the present moment, we have continued to conduct detailed statistical analyses for numerous constructs, including thousands of data points we have gathered and multiple outcome measures. Some of these relate to the functioning of transgender youth who received gonadotrophin-releasing hormone analogues ("GnRHa") as a medical intervention in relation to the gender dysphoria.

10. As I testified previously, by its very nature, puberty suppression *stops* further development of physical characteristics inconsistent with the adolescent's identity, which is therefore meant to *prevent* (not necessarily improve) the worsening of gender dysphoria, the deterioration of mental health, and the development of further body dissatisfaction.

11. At the time of my conversation with Ms. Ghorayshi in the Spring of 2024 as well as at the time of this declaration, analyses pertaining to multiple data points and outcomes, including the impact of GnRHa on transgender youth, remain ongoing.

12. It is false that I, or anyone involved in the NIH-funded study, has withheld publication of data because of politics, as the headline of Ms. Ghorayshi's article falsely states.

13. Ms. Ghorayshi's article ignores key context I provided to her explaining that the analyses relating to multiple domains we are looking at remains ongoing and that that is why a manuscript pertaining to the impact of GnRHa treatments for transgender youth has yet to be published.

14. As even the article acknowledges, we have every intention to publish our data but the length of time it has taken to do so is attributable to the sheer amount of work and resources required to do so accurately, transparently, and clearly. This goal has been further impacted by resource limitations, including funding cuts and personnel changes.

15. In my conversation with Ms. Ghorayshi, the specter of politicization and weaponization of scientific work, including our ongoing study, was raised not as a reason or explanation for a delay in, or withholding of publication of our findings but as a reason for any scientist, including myself, to communicate their findings with clarity and in a manner in which they can be understood not just by the scientific community but by non-scientists as well. As such, I discussed our study, for which analyses are still ongoing, as a hypothetical example for why our work product "has to be exactly on point, clear and concise. And that takes time."

16. In our work as scientific and medical professionals, we strive to ensure the accurate, transparent, and detailed reporting of data to better understand phenomena, inform the scientific community and relevant stakeholders of our findings, and generate areas and new ideas for further

research. It is unfortunate, however, that to do so we must now worry about our words and findings being misunderstood or misrepresented. That prospect is not and should not be a reason to delay or not publish data, but rather an incentive to ensure that we do so carefully, clearly, and concisely, so that our findings cannot be twisted or misrepresented. The process to do so thus takes time and resources, which often are both limited.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 17th day of November 2024.

Johanna Olson-Kennedy, M.D., M.S.