

**IN THE UNITED STATES DISTRICT COURT  
FOR THE MIDDLE DISTRICT OF FLORIDA**

**STATE OF FLORIDA, *et al.***

Plaintiffs,

v.

**DEPARTMENT OF HEALTH AND  
HUMAN SERVICES, *et al.***

Defendants.

Case No. 8:24-cv-01080-WFJ-TGW

**RESPONSE TO THE COURT’S EXHIBIT**

On June 21, 2024, the Court held a hearing on Plaintiffs’ motion for a Stay or a Preliminary Injunction. ECF No. 37. At the hearing, the Court distributed an article titled “A systematic review of hormone treatment for children with gender dysphoria and recommendations for research” by Jonas F. Ludvigsson, *et al.*, published in the ACTA Paediatrica medical journal. ECF No. 38. The study concludes that a review of its selected 24 studies “suggests that long-term effects of hormone therapy on psychosocial and somatic health care are unknown, except that GnRHa treatment seems to delay bone maturation and gain in bone mineral density.” *Id.* at 12. At the hearing, the Court indicated that it intended to refer to the article when balancing the equities and ordered “the parties to critique the Court’s exhibit.” ECF No. 37.

The Court should not rely on the exhibit as a basis for entry of a preliminary injunction for three reasons: (1) the study is not relevant to Plaintiffs’ facial challenge to the Rule, (2) it is improper for the Court to compile its own record, (3) reliance on

one study among many in the field of gender-affirming care provision for minors to draw any conclusions without the benefit of expert testimony and normal adversary testing would be improper; and (4) the study, even if admitted, does not support the claim that an injunction against enforcement of any provision of the Rule is in the public interest.

**I. The Rule Does Not Require Any Medical Provider to Provide Hormone Treatment to Children with Gender Dysphoria if Doing So is Inconsistent with Medical Judgment.**

The exhibit is not relevant to Plaintiffs' facial challenge to the Rule because no provision of the Rule requires medical providers to take actions inconsistent with their medical judgment. Medical providers are expected to consider relevant studies in their field of practice when making treatment decisions, including when determining whether to provide hormone therapy to a child with gender dysphoria. And a court reviewing a hypothetical application of the Rule could consider any studies upon which the provider relied in assessing whether the provider had a legitimate nondiscriminatory justification for denying treatment. But no application of the Rule is at issue in this case.

Section 1557 provides that "an individual shall not . . . be denied the benefits of, or be subjected to discrimination under, any health program or activity" based on sex. 42 U.S.C. § 18116(a). Consistent with the statutory language, the Rule precludes denials of treatment or coverage that are based on unlawful animus or bias, or constitute a pretext for discrimination, while permitting denials that are based on legitimate nondiscriminatory reasons, such as medical judgment. 45 C.F.R.

§§ 92.206(c), 92.207(c). Insofar as the Court understands the Rule to require a clinician to provide a health service to an individual that is contrary to the clinician’s medical judgment, the Court is mistaken. “There is no part of section 1557 that compels clinicians to provide a service that they do not believe is medically appropriate for a patient.” 89 Fed. Reg. at 37,596. Moreover, HHS’s Office for Civil Rights has a “general practice of deferring to a clinician’s judgment about whether a particular service is medically appropriate for an individual,” such as whether hormone treatment is medically appropriate for a child, and, in forming that judgment, a clinician may (and is expected to) rely on scientific literature. *See* 89 Fed. Reg. at 37,597.

Plaintiffs are challenging provisions of the Rule on their face in all of their applications; they are not challenging any application of any provision of the Rule to any of Florida’s policies or to the policies of any Catholic Medical Association member. In the speculative hypothetical that HHS were to investigate a provider for alleged sex discrimination for failing to provide hormone therapy to a child with gender dysphoria, this study could be referenced by the provider in support of its assertion of a legitimate nondiscriminatory justification. Similarly, in the context of any related enforcement action, a court could consider this study and other evidence relating to the issue to determine whether the medical provider’s decision was based on a legitimate nondiscrimination reason, as opposed to unlawful animus or a pretext for discrimination based on sex. *Cf. Dekker v. Weida*, 679 F. Supp. 3d 1271, 1294-95 (N.D. Fla. 2023) (considering “legitimate concerns about the effect on bone density”

in the context of a private lawsuit challenging an actual policy under Section 1557, not a challenge to the framework in §§ 92.206(c), 92.207(c)). But no such situation is before the Court.

At the facial challenge stage, when the Court “conclude[s] that a challenged regulatory provision does not exceed [the statute’s] limits . . . [it] will uphold the provision and preserve the right of complainants to bring as-applied challenges against any alleged unlawful applications.” *Nat’l Ass’n of Regulatory Utility Commissioners v. FERC*, 964 F.3d 1177, 1185 (D.C. Cir. 2020). It may be that “litigation will follow . . . but such is the nature of facial challenges.” *Id.* at 1189.

**II. The Court’s Compiling of Its Own Record is Inconsistent with Principles of Adversarial Presentment and the Court’s Duty to Evaluate Whether Plaintiffs Have Satisfied their High Burden to Obtain Extraordinary Relief.**

The adversarial nature of our justice system is premised on the parties’ responsibility for raising their own claims and adducing their own evidence. The Court’s *sua sponte* addition of this study to the record is inconsistent with those principles. Any decision to bypass those principles would be especially unwarranted here, given the extraordinary remedy that Plaintiffs seek.

“A preliminary injunction is a powerful exercise of judicial authority.” *Ne. Fla. Chapter. Of Ass’n of General Contractors of Am. v. City of Jacksonville*, 896 F.2d 1283, 1284 (11th Cir. 1990). It “is an extraordinary and drastic remedy not to be granted until *the movant* ‘clearly carries the burden of persuasion as to the four prerequisites.’” *Id.* at 1285 (emphasis added) (quoting *United States v. Jefferson Cnty.*, 720 F.2d 1511, 1519

(11th Cir. 1983)). “A party seeking a preliminary injunction bears the burden of establishing its entitlement to relief.” *Scott v. Roberts*, 612 F.3d 1279, 1290 (11th Cir. 2010). Where the moving party “fails to make the requisite showing” on each factor, the motion must be denied. *Zardui-Quintana v. Richard*, 768 F.2d 1213, 1216 (11th Cir. 1985).

Any decision by the Court to *sua sponte* supplement the record in response to any failure on Plaintiffs’ part to make the requisite showing on the public interest factor would be inconsistent with those principles.

**III. Even if This Case Presented a Challenge to Application of the Rule to a Particular Policy or Practice—Which it Does Not—Reliance on the Study to Order Injunctive Relief Without the Benefit of Expert Testimony and Normal Adversary Testing Would be Improper.**

This case presents a facial challenge to the Rule. It is not an opportunity for the Court to pre-judge whether any Florida or Catholic Medical Association member policy or practice related to gender-affirming care violates Section 1557 or is instead based on a legitimate nondiscriminatory reason, like medical evidence. But even if this case involved an application of the Rule, it would be inappropriate for the Court to rely on this study’s conclusions without the benefit of expert adversarial testimony.

In another case in this circuit, the district court held a two-day evidentiary hearing on a motion by transgender minors and others seeking to enjoin a state policy banning certain medical procedures and therapies for minors experiencing gender dysphoria. Multiple experts testified including Dr. Meredith McNamara, who testified at length regarding the flaws with *this* exact study. That expert—whose

testimony was assigned “significant weight” and deemed “to be highly credible” by the court, *Koe v. Noggle*, 688 F. Supp. 3d 1321, 1351 n.27, 1353 n.31 (N.D. Ga. 2023)—testified that the study had the following flaws:

- The authors lacked subject matter expertise;
- The review attempted to cover too many topics within one systematic review;
- The search terms were bare, which could have excluded important studies; and
- The authors searched only a short time period ending years before the study was published, so it did not reflect the best available evidence.

See Exhibit 1 (Transcript of Preliminary Injunction Hearing at 82-84), *Koe v. Noggle*, No. 1:23-cv-02904-seg (N.D. Ga. Aug. 10, 2023).<sup>1</sup> She also testified that the type of clinical trial that the authors of the study recommended—randomized controlled trials—would be “highly unethical and impractical to conduct” to study the use of gender affirming care for minors. *Id.* at 80.

The point here is not to suggest that a medical provider could not rely on the study cited by the Court when determining whether to provide hormone therapy to a child with gender dysphoria; or to suggest that a court could not consider the study if and when the Rule is applied to determine whether a medical provider’s decision to deny care was based on a legitimate nondiscrimination reason, as opposed to unlawful animus or a pretext for discrimination based on sex. But in this facial challenge to the

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<sup>1</sup> Defendants understand based on the *Koe* court record that the “systematic review published in the Littman Study” that Dr. McNamara was asked about refers to the systematic review published by Ludvigsson, *et al.* that the Court has cited.

Rule, the Court should not rely on this study alone to determine where the public interest lies without a full review of the literature and the sort of adversarial process with expert testimony through which such evidence is normally admitted. The particular study at issue, at minimum, should not be considered without also considering the “weight of medical authority” that supports the provision of hormone therapy to treat transgender minors when deemed medically necessary by their healthcare provider, including authority from the “American Academy of Pediatrics, American Academy of Child and Adolescent Psychiatry, American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Physicians, American Medical Association, American Psychiatric Association, and at least a dozen more.” *Dekker*, 679 F. Supp. 3d at 1285.

#### **IV. The Study Provides No Basis for a Broad Preliminary Injunction.**

If the Court nonetheless relies on this study in considering whether a preliminary injunction is in the public interest, Defendants respectfully submit that the study does not support broad injunctive relief, even if Plaintiffs could satisfy their burden on the other preliminary injunction factors (which they cannot).<sup>2</sup>

“‘[A]n injunction must be narrowly tailored to remedy the specific harm shown.’” *Nebraska Dep’t of Health & Human Servs. v. HHS*, 435 F.3d 326, 329-30 (D.C. Cir. 2006) (citation omitted). At the hearing on Plaintiffs’ motion, the Court asserted

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<sup>2</sup> “Failure to show any of the four factors is fatal[.]” *Am. Civil Liberties Union of Fla., Inc. v. Miami-Dade County Sch. Bd.*, 557 F.3d 1177, 1198 (11th Cir. 2009) (citation omitted). Thus, a showing on the public interest prong does not eliminate the necessary showing on any of the other three factors.

that refusals to treat transgender individuals for ailments such as a sore throat or cancer because they present as a sex that differs from their sex assigned at birth are not at issue in this case. Thus, there is no basis for preliminarily enjoining enforcement of, for example, 45 C.F.R. § 92.101(a)(2)(iv), against Plaintiffs or CMA's members in all of its applications so as to preclude HHS from enforcing the Rule where a transgender person has been discriminated against in that manner. In the same way, the study cited by the Court provides no basis for the Court to enjoin HHS from investigating a complaint of sex discrimination where a covered entity denied a transgender adult's request for insurance coverage for hormone therapy or other gender-affirming care. 45 C.F.R. § 92.207(b)(5). Even if the study supported a limitation on provision of certain types of gender-affirming care to minors (which has not been established), it would not support such a limitation for adults. Thus, the study in no circumstance supports the kind of broad preliminary injunction that would typically correlate to Plaintiffs' facial Administrative Procedure Act challenge to several provisions of the Rule.

Dated: June 26, 2024

Respectfully submitted,

BRIAN M. BOYNTON

Principal Deputy Assistant Attorney General

MICHELLE R. BENNETT

Assistant Director, Federal Programs Branch

/s/ Liam C. Holland

LIAM C. HOLLAND

Trial Attorney

United States Department of Justice

Civil Division, Federal Programs Branch

1100 L Street, N.W.



Washington, DC 20005

Tel: (202) 514-4964

Fax: (202) 616-8460

Email: [liam.c.holland@usdoj.gov](mailto:liam.c.holland@usdoj.gov)

*Counsel for Defendants*

# Exhibit 1

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The following is the PDF of an official transcript. Official transcripts may be filed in CM/ECF only by the official Court Reporter and will be restricted in CM/ECF for a period of 90 days. You may cite to a portion of the attached transcript by the docket entry number, referencing page and line number, only after the Court Reporter has filed the official transcript; however, you are prohibited from attaching a full or partial transcript to any document filed with the Court.

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF GEORGIA  
ATLANTA DIVISION

EMMA KOE, et al.,  
Plaintiffs,  
V.  
CAYLEE NOGGLE, et a.,  
INC., ET AL,  
Defendants.

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)  
) Civil Action  
) No. 1:23-CV-02904-SEG  
)  
) Volume 1 of 2  
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Transcript of proceedings  
before the Honorable Sarah E. Geraghty,  
United States Magistrate Judge  
August 10, 2023.

A P P E A R A N C E S:

On Behalf of the Plaintiff:

Benjamin Bradshaw, Esq.  
Stephen McIntyre, Esq.  
Meredith Garagiola, Esq.  
O'Melveny & Myers

Cynthia Cheng-Wun Weaver, Esq.  
Human Rights Campaign Foundation

Elizabeth Lynn Littrell, Esq.  
Southern Poverty Law Center

Cory Isaacson, Esq  
American Civil Liberties Union

On behalf of the Intervenors:

Edward D. Buckley, Esq.  
Thomas Joseph Mew, IV, Esq.

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Daniel Shumer

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Meredith McNamara

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Paul Hruz

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James Cantor

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1 PROCEEDINGS

2 THE COURT: This is case number 23CV2409.

3 We are here for a hearing on the Plaintiffs' Motion  
4 for a Preliminary Injunction.

5 Counsel, can you please announce your appearances,  
6 starting with the Plaintiffs.

7 MR. BRADSHAW: Good morning, Your Honor. Ben  
8 Bradshaw from O'Melveny & Myers for the Plaintiffs.

9 THE COURT: Good morning.

10 MR. MCINTYRE: Good morning, Your Honor. Steven  
11 McIntyre from O'Melveny & Myers.

12 MS. GARAGIOLA: Good morning, Your Honor. Meredith  
13 Garagiola with O'Melveny & Myers, also for the Plaintiffs.

14 MS. WEAVER: Good morning. Cynthia Weaver with the  
15 Human Rights Campaign Foundation.

16 MS. LITTRELL: Good morning, Your Honor. Beth  
17 Littrell with the Southern Poverty Law Center, also for the  
18 Plaintiffs.

19 MS. ISAASCON: Cory Isaacson with the ACLU  
20 Foundation of Georgia.

21 MR. BUCKLEY: Good morning, Your Honor. Ed Buckley  
22 for Nancy Doe and Linda Doe.

23 MR. MEW: Good morning, Your Honor. Tom Mew also on  
24 behalf of the Doe Intervenors for the Plaintiffs.

25 MR. STRAWBRIDGE: Good morning, Your Honor. Patrick

1 Strawbridge with Consovoy McCarthy for the Defendants.

2 MR. HARRIS: Good morning, Your Honor. Jeffrey  
3 Harris with Consovoy McCarthy for the Defendants.

4 MS. BATES: Good morning, Your Honor. Tiffany Bates  
5 with Consovoy McCarthy for the Defendants.

6 THE COURT: All right. Good morning to all and  
7 welcome.

8 I'd like to hear from both sides about your plans  
9 for today and tomorrow, including the number of witnesses that  
10 you all intend to call and about how long you think it will  
11 take you to present your evidence.

12 I know you've been in touch with the Courtroom  
13 Deputy about these matters but I also know that things can  
14 change as you gear up for a hearing.

15 So let me hear from counsel for Plaintiffs first.

16 MR. BRADSHAW: Thank you, Your Honor.

17 Ben Bradshaw.

18 We will start with -- our first witness will be  
19 Dr. Shumer and we anticipate roughly 45 minutes on direct with  
20 Mr. Shumer. Of course, then, defense will have the  
21 opportunity to cross Mr. Shumer and we may do some redirect.

22 Following Dr. Shumer, we will then present  
23 Dr. McNamara. Meredith McNamara will be our second witness  
24 and the same allocation of time, roughly 45 minutes on direct  
25 is what we anticipate. And then, of course, the Defendants



1 will have the opportunity to cross.

2 THE COURT: All right.

3 MR. BRADSHAW: By agreement with the other side  
4 after Dr. McNamara, even though it's somewhat out of order,  
5 the Defendants will present two witnesses because they are  
6 only available today and I can let counsel address that.

7 THE COURT: Sure.

8 MR. BRADSHAW: I think our expectation, just in  
9 terms of the big picture for today, is that we get through the  
10 two witnesses for the Plaintiffs, Dr. Shumer and Dr. McNamara  
11 we get through two witnesses for the Defendants, Dr. Hruz and  
12 Dr. Cantor. That would be, I think, making good progress, if  
13 we were able to do that.

14 Then that would leave for tomorrow we would start  
15 going back to our last witness, Dr. Massey. We will start the  
16 day with Dr. Massey. And then in terms of witnesses after  
17 Dr. Massey, Defendants would have Dr. Laidlaw, who would be  
18 their final witness.

19 So three witnesses, expert witnesses, on both sides.  
20 After that, we would reserve the right to recall one of our  
21 witnesses in rebuttal. Of course, that would count against  
22 our time, but we would like to reserve that right.

23 THE COURT: Okay.

24 MR. BRADSHAW: And then by agreement, Your Honor, we  
25 have set aside 30 minutes per side for closings.

1 THE COURT: All right. What about openings, if you  
2 all would like to make an opening?

3 MR. BRADSHAW: We have agreed amongst ourselves to  
4 dispense with openings.

5 THE COURT: That's fine with me.

6 MR. BRADSHAW: We don't think we need them, given  
7 that you have the papers.

8 THE COURT: Yes, sir.

9 MR. BRADSHAW: And you have the expert reports.

10 THE COURT: Okay. That sounds just fine with me.  
11 I've read all the briefing and I have your expert affidavits.  
12 So, yeah, that makes good sense.

13 MR. BRADSHAW: Before I -- then I will let  
14 counsel -- there are just a couple of other housekeeping  
15 issues. You might be wondering what those binders are in  
16 front of you. We have prepared -- so both sides have prepared  
17 preset of exhibits that neither side objects to their  
18 admission, so you have a binder, one with the Plaintiffs'  
19 exhibits and one with the Defendants' exhibits, so those are  
20 in front of you. We've also put them over by the witness bay,  
21 and I think the Clerk has one as well.

22 THE COURT: I appreciate that. Thank you.

23 MR. BRADSHAW: The one thing that's not in there are  
24 the expert reports themselves because they had already been  
25 filed. We assumed that the Court didn't need them, so we have

1 put them in a separate binder in front of Your Honor.

2 THE COURT: I have them. Thank you very much.

3 MR. BRADSHAW: Then the final thing, and then I will  
4 sit down, is that Intervenor's counsel is here. I just wanted  
5 to make sure that the Court understands that they will -- they  
6 are joining in the Motion for Injunctive Relief and have filed  
7 a separate motion to that effect.

8 THE COURT: Yes, I saw that.

9 MR. BRADSHAW: Thank you, Your Honor.

10 THE COURT: All right. Thank you.

11 Counsel for the Defendants.

12 MR. STRAWBRIDGE: Thank you, Your Honor. Good  
13 morning.

14 THE COURT: Good morning.

15 MR. STRAWBRIDGE: Mr. Bradshaw walked through, I  
16 think, most of the relevant information. Cross-examinations  
17 are a little hard sometimes to tell how long it will go. We  
18 would anticipate, you know, probably an hour or less for  
19 cross-examination for their witnesses this morning.

20 The direct testimony that we intend to present this  
21 afternoon, I think 30 to 45 minutes is probably a good  
22 estimate. And, you know, I think the estimate on time is  
23 probably right. I think both sides are prepared to present  
24 any additional witnesses, today if we get to them. Obviously  
25 sort of see where we go as the day goes on.

1 THE COURT: Okay.

2 MR. STRAWBRIDGE: I guess the only other comment I  
3 would make with respect to the exhibits, I don't know that we  
4 would actually like mark them as an admission set of exhibits.  
5 And if the Court would like us to do that, I'm sure we can  
6 arrange to put stickers on them and mark them, otherwise. If  
7 necessary, we can work with the Clerk or the court reporter.

8 THE COURT: Okay. I will keep that in mind. We'll  
9 see how it goes.

10 MR. STRAWBRIDGE: Sounds great. I don't think there  
11 is anything else to talk about.

12 THE COURT: Okay. Before we get started, if I might  
13 see one representative of each side. I wanted to briefly  
14 address a security-related matter with counsel. So if you  
15 might come up here, please.

16 (the following discussion was held at the bench  
17 between the court and counsel.)

18 THE COURT: I received a visit from the U.S.  
19 Marshals Office yesterday. The representative of the U.S.  
20 Marshals Office received a communication from an Agent Denson  
21 who was calling with a request on behalf of one of the  
22 Plaintiffs' expert, Dr. Massey. This person was asking for  
23 permission to bring weapons into the courthouse and to come in  
24 by way of a secured exit and be designated a certain room in  
25 the courtroom for Dr. Massey's protection.

1           The Marshals Service representative asked me if I  
2 knew anything about this. I said I did not. The Marshals  
3 Service is going to proceed according to its usual protocols,  
4 but there was some concern about the fact that this person  
5 represented himself as an agent, which connotes -- could  
6 connote FBI or ATF. It appeared to have been -- I think this  
7 was a representative of a private security firm and, you know,  
8 this is just because I would want to know if I were in your  
9 shoes. I think the issue has been resolved but just FYI if  
10 there is something I need to know, I assume you would let me  
11 know.

12           MR. BRADSHAW: We will let you know. I don't think  
13 there is anything you need to know. I know that Dr. Massey  
14 has concerns.

15           THE COURT: Sure.

16           MR. BRADSHAW: But I think the issue is resolved. I  
17 don't think there is anything.

18           THE COURT: Okay.

19           MR. BRADSHAW: He is here today.

20           THE COURT: Okay. Thank you. All right. You may  
21 present your first witness.

22           MR. MCINTYRE: Thank you, Your Honor.

23           The Plaintiffs call Dan Shumer.

24           COURTROOM DEPUTY: Sir, if you would please stand  
25 and raise your right hand.

1 DANIEL SHUMER,

2 a witness herein, having been first duly sworn, was examined  
3 and testified as follows:

4 COURTROOM DEPUTY: Thank you. You may be seated.

5 Sir, I just want to remind you it's very important  
6 that everybody in the court can hear your testimony, so please  
7 remember to speak directly into the microphone.

8 And if you could please at the moment state and  
9 spell your first and last name for the record.

10 THE WITNESS: Daniel Shumer. D-a-n-i-e-l  
11 S-h-u-m-e-r.

12 COURTROOM DEPUTY: Thank you, sir.

13 DIRECT EXAMINATION

14 BY MR. MCINTYRE:

15 Q Good morning, Dr. Shumer. Would you please share your  
16 profession with the court.

17 A I'm a pediatric endocrinologist.

18 Q What does a endocrinologist do?

19 A Endocrinology is science related to hormones.

20 Q Can you please tell the court about your education and  
21 training.

22 A I received my Medical Degree at Feinberg School of  
23 Medicine at Northwestern University.

24 Afterwards I was a pediatric resident and chief resident  
25 at Vermont Children's Hospital in Burlington, Vermont.

1 Subsequently, received a Fellowship in Pediatric Endocrinology  
2 at Boston Children's Hospital, and concurrent with that, a  
3 Masters of Public Health from Harvard's T.H. Chan School of  
4 Medicine.

5 Q What positions do you currently hold?

6 A I'm an Associate Professor of Pediatrics at the  
7 University of Michigan. I'm the Clinical Director of the  
8 Child and Adolescent Gender Clinic at Mott Children's Hospital  
9 at Michigan Medicine. I am the Medical Director for the  
10 Comprehensive Gender Services Program at Michigan Medicine,  
11 which is the health system of organized care for transgender  
12 adult and pediatric patients.

13 Q And do you have clinical responsibilities at Michigan?

14 A Yes. I'm a pediatric endocrinologist. I take of  
15 patients with endocrine disorders.

16 Q I believe you mentioned you work in a clinic. Do I have  
17 that right?

18 A Yes. I work at the Child and Adolescent Gender Clinic,  
19 which serves patients referred for gender-related concerns.

20 Q What are your responsibilities at the clinic?

21 A So as a clinician in the clinic, I test and manage  
22 patients, and as the Clinical Director of that clinic, I help  
23 program how the clinic provides care.

24 Q What kinds of conditions do you treat at the clinic?

25 A So as a pediatric endocrinologist, I treat patients with

1 endocrine disorders such as diabetes and other  
2 gender-endocrinology problems in the Child and Adolescent  
3 Gender Clinic and focus on patients with gender dysphoria.

4 Q And just so we are clear, what is gender dysphoria?

5 A Gender dysphoria is -- when a person has gender  
6 dysphoria, they have a difference between their gender  
7 identity and their assigned sex at birth. That difference is  
8 persisting over time and that difference causes significant  
9 distress in a person's life, such as impairment at school and  
10 other social situations.

11 Q What is the age range of the Clinic's patient population?

12 A Patients with gender dysphoria may be referred at any age  
13 in childhood, but primarily we are seeing patients around the  
14 beginning of puberty to 18. So roughly 10 to 18.

15 Q And how many patients have you personally treated for  
16 gender dysphoria?

17 A Over 400.

18 Q Can you describe the age range of the patients that you  
19 personally see?

20 A Generally patients between the age 8 to 23.

21 Q Do you conduct any research activities at Michigan?

22 A I do.

23 Q Will you please describe your research activities.

24 A Primarily the research activity involves the treatment of  
25 gender dysphoria and mental health outcomes in patients that



1 identify as transgender.

2 Q Have you published any peer-reviewed articles in the  
3 field of transgender medicine?

4 A I have.

5 Q Approximately how many?

6 A I would say approximately 20.

7 Q And can you give us a general idea of the topics that you  
8 have published on.

9 A Most of the work that I have published has involved the  
10 management of gender dysphoria.

11 Q I would like to go over some basic concepts.  
12 what is gender identity?

13 A Gender identity is a deeply felt sense of one's self as a  
14 boy, girl, a man, a woman on a gender perspective.

15 Q Where does one's gender identity come from?

16 A Gender identity is a deeply-felt internal sense of one's  
17 self that is based in biology.

18 Q How, if at all, does gender identity differ from sex?

19 A Sex is a way that we attempt to categorize people into  
20 male and female categories. There are many components to sex,  
21 including anatomic sex, chromosomes, hormones and gender  
22 identity. So gender identity is part of the definition of  
23 sex.

24 Q Doctor, are you familiar with the term assigned sex?

25 A Yes.

1 Q what is your understanding of that term?

2 A Assigned sex refers to after a baby is born, typically by  
3 looking at the external genitalia, determining that that baby  
4 is a boy or a girl.

5 Q And what does it mean to be transgender?

6 A Someone is transgender if their gender identity doesn't  
7 match the sex that was assigned at birth.

8 Q Is there any relationship between being transgender and  
9 having gender dysphoria?

10 A Yes. Someone who is transgender may have gender  
11 dysphoria, if the difference in their gender is causing  
12 clinical distress.

13 Q where do the criteria for a diagnosis of gender dysphoria  
14 come from?

15 A They come from the Diagnostic and Statistical Manual  
16 published by the American Psychiatric Association.

17 Q Is that authority sometimes referred to as the DSM-5?

18 A Yes.

19 Q Can children and adolescent patients be diagnosed with  
20 gender dysphoria?

21 A Yes.

22 Q Have you personally diagnosed adolescent patients with  
23 gender dysphoria using the DSM-5 criteria?

24 A I have.

25 Q Can you please describe how health care providers go

1 about determining whether a child or adolescent patient  
2 satisfies the criteria for gender dysphoria?

3 A A medical provider conducts a clinical interview with the  
4 patient and also with their parents or other collaterals in  
5 their life to understand their gender identity, how that  
6 gender identity affects them in the world, and in the process  
7 of that conversation or examination, the diagnosis of gender  
8 dysphoria would be affirmed or not.

9 Q Are these the sorts of evaluations conducted at the  
10 clinic at which you work?

11 A Yes.

12 Q Have you personally participated in any such  
13 examinations?

14 A Yes. In our pediatric gender clinic, the first  
15 assessment is done by one of our medical health providers, and  
16 then the patients that meet criteria for the diagnoses of  
17 gender dysphoria is assessed by them, would see the medical  
18 providers where that diagnosis is reaffirmed.

19 Q Is gender dysphoria treatable?

20 A Gender dysphoria is not a treatment medical problem.

21 Q And what is your basis for saying that?

22 A Extensive literature outlining the treatment of gender  
23 dysphoria, as outlined in, for example, the World Professional  
24 Association for Transgender Health Standards of Care, the  
25 Endocrine Society Clinical Practice Guidelines, in addition to

1 my clinical experience treating hundreds of children with  
2 gender dysphoria and seeing their dramatic improvement over  
3 time.

4 Q Doctor, can you please explain why there is a clinical  
5 need to treat gender dysphoria in adolescent patients?

6 A I think that patients with gender dysphoria can suffer  
7 and the goal of medicine in general is to improve health. So  
8 a patient with any diagnosis that has an effective treatment  
9 should be offered that treatment in order to promote health.  
10 In gender dysphoria patients that are suffering from gender  
11 dysphoria and receive adequate treatment can have dramatic  
12 improvement in health and that's the basis for the need for  
13 treatment.

14 Q What is the treatment for gender dysphoria?

15 A I think first it's important to understand the patient's  
16 gender dysphoria, what's the sources of the distress, how it's  
17 affecting them in order to come up with a treatment plan.  
18 That treatment plan may include social support, social  
19 transition and medications as well as including puberal  
20 suppression or hormones.

21 Q As a clinician, do you treat children with medications  
22 when it comes to gender dysphoria?

23 A Prior to the onset of puberty, there is not a medical  
24 intervention that would be required. Puberty is a time where  
25 we start making sex hormones. And prior to that time, there

1 would be no hormones to block or to provide it. So a  
2 prepuberal child, a child who hasn't entered puberty, would  
3 not be provided a medical intervention for gender dysphoria.

4 Q Thank you. Doctor, let's take a step back.

5 where do these treatments come from?

6 A Pediatric endocrinologists use both the world  
7 Professional Association for Transgender Health Standards of  
8 Care, the most recent version is Version 8, and the Endocrine  
9 Society Clinical Guidelines.

10 Q And you mentioned the world Professional Association of  
11 Transgender Health. Is it your understanding that that  
12 organization is also referred to as WPATH?

13 A Yes.

14 Q Thank you. Do you follow the WPATH Standards of Care and  
15 the Endocrine Society Clinical Guidelines in your own  
16 practice?

17 A I do.

18 Q Doctor, can you speak to the level of support these  
19 treatments have in the medical community?

20 A Providers in my field rely on those guidelines for  
21 clinical practice. All major medical associations in the  
22 United States use it, including the American Academy of  
23 Pediatrics and the American Psychiatric Association endorse  
24 the use of those guidelines for the treatment of gender  
25 dysphoria in adolescents.

1 Q Is there a concern that these treatment standards are  
2 based on low-quality evidence?

3 A The treatments are based on extensive evidence that  
4 outline safety and advocacy.

5 Q Doctor, do you agree that there is a debate within the  
6 medical community about the safety and efficacy of  
7 gender-affirming medical care?

8 A I would argue that mainstream clinicians in the field of  
9 pediatric endocrinology are not debating the basic standards  
10 of care but rather some components of gender-affirming care do  
11 exist.

12 Q I know you touched on this a moment ago, but can you  
13 please walk us through the process of treating an adolescent  
14 patient who has been diagnosed with gender dysphoria.

15 A Yes. Once the patient is diagnosed with gender  
16 dysphoria, as I said, the clinicians work with the patient and  
17 family to understand the sources of that distress and what  
18 might be helpful in treatment.

19 A patient in early puberty is starting to develop  
20 secondary sex characteristics, meaning differences that come  
21 with testosterone or estrogen production. And in that  
22 process, gender dysphoria can oftentimes be exacerbated as a  
23 patient is going through puberty that is different from the  
24 gender identity that they affirm.

25 In that case, puberal suppression could be considered as

1 a way to stop the progression of that dysphoria using puberty  
2 and also to make a decision regarding hormonal care.

3 Q What kind of medications are used for puberal  
4 suppression?

5 A The name of the medications are called GnRH agonist.

6 Q Are GnRH agonist puberty blockers?

7 A Yes.

8 Q Can you help us understand what GnRH agonist are?

9 A Yes. I think it's first important to understand the  
10 science of puberty.

11 Puberty starts with messages from the hypothalamus which  
12 is part of the brain from GnRH which secretes impulses. Those  
13 impulses induce a pituitary gland to make other hormones and  
14 it's those impulses and those hormones that then tell the  
15 testes or ovaries to make sex hormones. GnRH agonist  
16 interferes with that GnRH production. And in so doing, the  
17 end result of the production of testosterone or estrogen no  
18 longer is happening.

19 Q What conditions are GnRH agonist used to treat?

20 A In addition to gender dysphoria, GnRH agonist are most  
21 often used in pediatrics to treat puberty.

22 Q So when it comes to treating gender dysphoria  
23 specifically, what purposes do GnRH agonist serve?

24 A On the basic level, they are delaying puberty, which is  
25 done because for that particular patient, it's been determined

1 that progression of puberty is worsening gender dysphoria or  
2 ultimately impairing health.

3 Q And for how long do transgender adolescent patients  
4 typically receive GnRH agonist?

5 A Most typically for two to three years.

6 Q why is that?

7 A After a treatment with -- during treatment with GnRH  
8 agonist, the patient continues to get older and mature and the  
9 conversation then turns to what comes next for the monitoring  
10 or persistence of that patient's gender identity, their  
11 understanding of puberty, and at some point, a decision needs  
12 to be made to either start testosterone or estrogen or if  
13 gender identity has changed, to withdraw from GnRH agonist and  
14 allow for natal puberty to continue. That prolonged use of GnRH  
15 agonist has -- there is some contention about that as well.  
16 Artificially delaying puberty for longer than necessary does  
17 not -- is not recommended.

18 Q What are the concerns that come from using GnRH agonist  
19 on a prolonged basis?

20 A There are several.

21 One is that a patient that is using GnRH agonist, as  
22 their peers are going through puberty, may struggle with being  
23 now the only kid that's transgender and not going through any  
24 puberty.

25 And also puberty is important not only for the



1 development of sex characteristics. Puberty is important for  
2 how we grow, bone density strengthening, and so we do need to  
3 go through puberty. Delaying puberty indefinitely has  
4 negative mental health and physical health risks.

5 Q Doctor, are you aware of any medical evidence that would  
6 support using GnRH agonist until a patient reaches the age of  
7 18?

8 A No. I would have concerns using GnRH agonist that long.

9 Q And I believe you mentioned, doctor, that at some point  
10 after a patient is no longer on GnRH agonist, hormone therapy  
11 is considered.

12 Do I have that right?

13 A Yes.

14 Q When do these discussions typically begin?

15 A I think it's important to talk about puberty and  
16 hormones, even when making the decision to start GnRH agonist,  
17 because GnRH agonist is really a bridge to another decision  
18 point, which may be testosterone or estrogen.

19 So at the beginning, we are talking about testosterone or  
20 estrogen, but going forward someone being treated with GnRH  
21 agonist would -- at another visit, we would be -- we would  
22 have gender identity, gender dysphoria symptoms, and those  
23 appear.

24 And then, to more specifically answer your question, in  
25 that 13-to-16-age window, sometimes the discussion turns to

1 testosterone or estrogen treatment.

2 Also there are many patients that present to the clinic  
3 after puberty or in mid-adolescence, and in those patients,  
4 we're not discussing puberal suppression. Puberty has already  
5 concluded. We're having a session more about testosterone or  
6 estrogen interactions.

7 Q And when you are having these discussions, what factors  
8 are considered when deciding whether it's appropriate for the  
9 patient to begin hormone therapy?

10 A I think most importantly is the patient's gender identity  
11 and gender dysphoria and whether or not hormone intervention  
12 would be beneficial.

13 Also, the patient themselves need to demonstrate an  
14 understanding of puberty and what the hormone interventions  
15 are intended to do and provide that consent.

16 Parents also provide consent and there must not be other  
17 medical or mental health problems that may interfere with the  
18 patient's ability to understand or to receive the care.

19 Q Ultimately, who makes the decision about whether a  
20 patient should be given hormone therapy?

21 A Well, it's a team that's led by the patient and their  
22 parents. So the patient is making a decision with the consent  
23 of the parents and with the provider prescribing, if it's  
24 appropriate.

25 Q Can you please describe what hormone therapy actually

1 consists of.

2 A Hormone therapy consists of the use of testosterone or  
3 estrogen with the intention of bringing the testosterone or  
4 estrogen level up into the normal range for a young man or a  
5 young woman that age with the idea of mimicking the normal  
6 timing and tempo of puberty changes to allow a patient to  
7 develop secondary sex characteristics in keeping with their  
8 affirmed gender identity.

9 Q Aside from testosterone or estrogen, would hormone  
10 therapy entail the administration of any other medications or  
11 other hormones?

12 A There may be other medications, other than testosterone  
13 or estrogen, for example, in trans boys taking testosterone,  
14 they may still be having periods that cause distress and  
15 medication may be used to address that.

16 For trans girls, estrogen or other anti-hemorrhaging  
17 medications will be used in combination with the estrogen in  
18 order to achieve that normal female level of estrogen and  
19 testosterone for the patient.

20 Q Do clinicians use hormone therapy to treat any conditions  
21 besides gender dysphoria?

22 A Yes.

23 Q What conditions?

24 A Endocrinologists use estrogen and testosterone primarily  
25 in adolescents who are not able to make their own testosterone

1 or estrogen or not able to make an appropriate amount. Those  
2 conditions would be a case of male patients not able to make  
3 enough testosterone, maybe because they have bilateral  
4 insufficiency or they've lost testes or they have a condition  
5 called Klinefelter's Syndrome.

6 Female patients that aren't able to make enough estrogen.  
7 You know, examples would include a condition called ovarian  
8 insufficiency where the ovaries stop making estrogen or Turner  
9 Syndrome, a condition where the ovaries don't make adequate  
10 estrogen to a chromosomal difference.

11 Q In your opinion as a medical professional doctor, is  
12 hormone therapy an effective treatment for the treatment of  
13 gender dysphoria in adolescents?

14 A Yes.

15 Q What is your basis for saying that?

16 A Extensive evidence outlining the use of hormones in  
17 treatment of gender dysphoria in addition to my clinical  
18 experience using those medications.

19 Q And in your opinion as a doctor, is hormone therapy a  
20 safe treatment for gender dysphoria in adolescents?

21 A Yes.

22 Q What is your basis for saying that?

23 A Similarly, there is extensive literature outlining the  
24 use of medication regarding safely profiling gender dysphoria.  
25 We also have experience using these medications as we have

1 discussed in other conditions. And, again, the clinical  
2 experience that I have treating patients with these  
3 medications. They are provided in a way that patients have  
4 effective response to their gender dysphoria and improve their  
5 quality of life.

6 Q Can you describe for us the -- what you see in your  
7 patients as a clinician as they are treated with hormone  
8 therapy?

9 A I think as a pediatric endocrinologist who takes care of  
10 a lot of patients with gender dysphoria, I have the joy of  
11 seeing patients that initially come into the clinic very  
12 anxious, really struggling, maybe not a lot of hope for the  
13 future. But then, over time, I watch patients flourish and  
14 grow.

15 One of my favorite visits is the visit at the time that  
16 we were transitioning a patient to adult care and watching  
17 patients launch out into the world, starting families, getting  
18 jobs, living happy, healthy productive lives that they may not  
19 have been able to picture at that first visit.

20 Q When a patient decides to pursue hormone therapy, what  
21 procedures or protocols do his or her health care providers  
22 follow?

23 A When a patient is referred to the Child and Adolescent  
24 Gender Clinic, the first thing that happens is a phone call  
25 with our social worker to learn a little bit more about why

1 the patient is coming to see us, what services and what  
2 questions might they have.

3 If the patient is struggling with gender identity, a  
4 biosocial assessment is performed where the patient's gender  
5 identity is elucidated, both from them, the parents'  
6 experiences with the patient's gender identity, and in the  
7 process of that biosocial assessment, the diagnosis of gender  
8 dysphoria may be made.

9 And also other health problems could be identified. And  
10 then from there, a medical visit would follow to continue to  
11 understand the patient's gender identity, their goals, and  
12 understand whether or not a medical intervention may or may  
13 not be helpful, discussing that in more detail and making  
14 those decisions together.

15 Q And once the patient begins hormone therapy, are there  
16 any follow-up visits that you provide?

17 A As with any medical problem that's requiring treatment,  
18 there's a follow-up plan where a patient comes back and at  
19 that visit, we re-evaluate the patient's gender identity,  
20 gender dysphoria symptoms, and their goals, and, then,  
21 monitoring labs to understand if the doses of the medications  
22 that we're prescribing needs adjustment, and then make the  
23 plan for continued follow up.

24 Q Doctor, has the U.S. Food and Drug Administration  
25 approved the use of hormone therapy for the treatment of

1 gender dysphoria in adolescents?

2 A The use of medications to treat gender dysphoria are used  
3 off label, not approved by the FDA.

4 Q Is it unusual in the practice of medicine to use  
5 medications off label?

6 A It is not unusual. It is a common practice to use  
7 medications that are approved for one indication for another  
8 indication, provided that there's evidence to support the safe  
9 and effective use of that medication for a particular  
10 intervention.

11 Q So what basis do you have as a medical doctor for using  
12 hormones off label to treat adolescents who have been  
13 diagnosed with gender dysphoria?

14 A I do that based on the evidence supporting our use as  
15 outlined in extensive literature, which has been subsequently  
16 summarized by WPATH and the Endocrine Society. Those  
17 guidelines are followed by pediatric endocrinologists across  
18 the country and around the world.

19 Q Is hormone therapy an experimental treatment for gender  
20 dysphoria in adolescents?

21 A No.

22 Q Does hormone therapy have any side effects?

23 A Just like all medications, hormones have side effects.  
24 Specific to testosterone or estrogen, we are learning that  
25 testosterone or estrogen level up into the normal male or

1 female range. So oftentimes I think about, well, what does --  
2 what is the risk of being a man or being a woman  
3 comparatively.

4 One example that I often use with families with  
5 testosterone, is if you never start testosterone, the chance  
6 that you will go bald is very low. On testosterone, your risk  
7 for baldness is probably very similar to other men in your  
8 family.

9 And, you know, for estrogen, for example, men that don't  
10 have breasts have very little risk of breast cancer. Women  
11 have a higher risk of breast cancer. So a person starting  
12 estrogen, that person would have a higher risk of breast  
13 cancer compared to not having estrogen at all. It turns out  
14 that the risk seems to be a bit lower in other women. Because  
15 of that, any women with breasts that have those breasts  
16 treatments with estrogen would need the same mammogram screens  
17 as any other woman with breasts.

18 In addition to that, if a person has excessively-high  
19 testosterone or estrogen levels, then that can cause other  
20 concerns. So excessively-high testosterone for anyone, for  
21 example, could lead to higher red blood cell counts, which is  
22 called polycythemia. Excessively-high estrogen levels has a  
23 higher risk for blood clotting problems. And so, we are  
24 monitoring patients' hormone levels when treating with  
25 testosterone or estrogen, whether it's for gender dysphoria or



1 for other medications in order to make sure that we're  
2 achieving normal levels for that person's age and adjusting  
3 the doses as need.

4 Q Does hormone therapy impair a patient's fertility?

5 A If someone is taking testosterone or estrogen, that  
6 medication does speak back to the pituitary gland and makes it  
7 less likely that, for example, a person would become pregnant  
8 or contribute to a pregnancy.

9 That being said, I always remind my patients that  
10 testosterone or estrogen is not birth control. And patients,  
11 including examples from my own panel, have become pregnant on  
12 hormones or contributed to pregnancy while taking estrogen.  
13 Someone who is desiring pregnancy, having had taken hormones  
14 for an extended period of time, I would recommend that person  
15 withdraw from hormones, for estrogen levels to rise for a  
16 trans man or for testosterone levels to rise, if it was a  
17 transgender woman in order to be more successful at achieving  
18 fertility.

19 There may be some folks that have been treated with  
20 hormones for an extended period of time where that treatment  
21 was initially for fertility. Of course, all people have  
22 variable fertility potential in the first place. And so the  
23 fact that hormone interventions may have that impact on  
24 fertility is something that is important to discuss with  
25 patients and families.

1 Q So what about in a case of a patient who begins on  
2 puberty-blocking medication and then proceeds to hormone  
3 therapy and never went through puberty consistent with their  
4 assigned sex? Is that patient's fertility permanently  
5 impaired?

6 A That patient would need to go through natal puberty in  
7 order to attempt fertility. So if a patient in that situation  
8 were desiring fertility, I would advise withdrawal from  
9 medication and progression through natal puberty. Anyone with  
10 gonads, I would not say has no fertility potential, but that  
11 person would have to go through that sequence of steps in  
12 order to obtain fertility.

13 Q And have you actually seen patients go through that  
14 sequence of steps?

15 A I have seen patients that desire fertility stop the  
16 medications and achieve it.

17 Q If a transgender patient takes hormones for a time but  
18 then stops, are there any other -- let me rephrase that. If a  
19 transgender patient takes hormones for a period of time and  
20 then stops, are there any permanent effects?

21 A Yes. Some of the effects of both testosterone or  
22 estrogen, I would describe as more permanent and some I would  
23 describe as less permanent or non permanent.

24 For testosterone specifically, when testosterone changes  
25 the shape of the vocal cords and the voice deepness, if

1 | someone were to withdraw from testosterone, the voice would  
2 | stay deeper. Other changes like muscular changes would fade  
3 | as someone withdraws from testosterone.

4        Estrogen, a specific example of a more permanent change  
5 would be breast development and an example of a less permanent  
6 change would be change to the skin or change to their body  
7 shape.

8 Q Given that some of these effects would be permanent, why  
9 not wait until a patient reaches adulthood to decide whether  
10 or not they should pursue hormone therapy?

11 A The fact is that puberty happens in adolescents, and as  
12 puberty that is the driver of significant gender dysphoria for  
13 adolescents. So by treating at the time of puberty, there can  
14 be a dramatic difference in outcome for a patient that by, for  
15 example, arresting someone's puberty using GnRH agonist and  
16 not allowing progression of the unwanted puberty of the  
17 development of unwanted secondary sex characteristics for that  
18 patient is that area for the rest of their life could have  
19 dramatic improved quality of life following that improvement  
20 for that patient. That withholding those medications until  
21 18, we're missing that critical window of addressing gender  
22 dysphoria during puberty, which can have life-long  
23 consequences.

24 Q In your clinical practice, how do you address the risks  
25 and effects of hormone therapy with your patients?

1 A I think doctors are quite skilled at doing this because  
2 we do this all the time for many, many different medical  
3 problems. But whenever any medication is considered, we're --  
4 first, why are we considering the medication? What medical  
5 problems is it being used to address? How does the medication  
6 work? What are we hoping the medication may do? What  
7 potential benefits would that particular medication have? How  
8 is that medication taken? What are some things that may  
9 happen that we wouldn't want to happen or side effects of the  
10 medication?

11 And by explaining those things in an age-appropriate way  
12 to a patient and answering questions that the patient or the  
13 family have, we're able to make a shared decision with  
14 patients and their families around medical decisions. That's  
15 how I work with patients with diabetes, with other problems,  
16 and also patients with gender dysphoria.

17 Q As a pediatric endocrinologist, do you have an opinion on  
18 whether it is ethical to deny transgender adolescents access  
19 to hormone therapy?

20 | A I do not consider that ethical.

21 | Q why not?

22 A Because gender dysphoria is a condition that has a known  
23 treatment, of course, that is safe and effective. And that by  
24 withholding a safe and effective treatment for a condition,  
25 we're not maximizing the health of the patient.

1 Q Is there a risk in adolescents who receive hormone  
2 therapy and develop sex characteristics inconsistent with  
3 their assigned sex will come to regret that decision?

4 A Having regret is extremely uncommon. But, of course,  
5 when we're having a conversation about the risks and benefits  
6 of intervention, we are talking about the permanent and  
7 non-permanent impacts of hormone intervention. A discussion  
8 about that is had and there are certain people out there  
9 that -- in the world that have talked about their regret but  
10 in terms of numbers, the numbers are very, very low.

11 Q What is your basis for saying that regret is uncommon;  
12 the numbers are very low?

13 A Again, it's the literature where they get treatment for  
14 gender dysphoria and experience.

15 Q Doctor, are you familiar with the legislation known as  
16 Senate Bill 140 or S.B. 140?

17 A Yes.

18 Q What is your understanding of what S.B. 140 does?

19 A I understand that S.B. 140 oppose use of hormone and  
20 estrogen to treat gender dysphoria until the age of 18.

21 Q Are you aware of any medical evidence that would support  
22 the use of puberty blockers to treat gender dysphoria in  
23 adolescents without the option of hormone therapy?

24 A That has never been described to my knowledge. I think  
25 that if I were practicing in a place where hormone puberal

1 suppression was available without hormones, I would have no  
2 problem prescribing puberal suppression in the first place.  
3 Without an exit ramp, it's a bridge to another decision point  
4 as part of a series of treatment options. And so, I would  
5 only be prescribing GnRH agonist, if the parents were actively  
6 trying to find treatment.

7 Q Would it be consistent with the WPATH Standard of Care  
8 and the Endocrine Society Clinic Guidelines to treat a patient  
9 with puberty blockers until they reached the age of 18?

10 A No.

11 Q In your opinion, would it be ethical to treat a patient  
12 with puberty blockers until they reached the age of 18?

13 A No. I think the treatment of puberty blockers until the  
14 age of 18 would be unsafe from a mental health and medical  
15 health perspective.

16 Q Dr. Shumer, as a pediatric endocrinologist, do you have  
17 an opinion on the effects that S.B. 140 will have on  
18 transgender adolescents within the State of Georgia?

19 A I am concerned that it would have devastating effects on  
20 patients with gender dysphoria.

21 Q What is the basis for your concerns?

22 A It's clear that untreated gender dysphoria leads to  
23 negative mental health consequences, including estrogen  
24 progression, anxiety, even self harm and suicidality and by  
25 withholding effective treatment for the condition, my concern

1 is that untreated gender dysphoria would lead to those  
2 negative mental health outcomes.

3 Q In your practice, do you ever have a chance to interact  
4 with patients or families who have been affected by laws that  
5 restrict their access to gender-affirming care?

6 A More recently I have. Patients have been coming to Ann  
7 Arbor for care where they have had trouble receiving care.  
8 Oftentimes, becoming very fearful that the care that either  
9 they may need or are already receiving or may need access to  
10 is no longer going to be available for their child and  
11 described it as a place that they may love to find the care  
12 that's needed for themselves or their child.

13 MR. MCINTYRE: Thank you very much, Dr. Shumer.

14 No further questions.

15 **CROSS-EXAMINATION**

16 BY MR. STRAWBRIDGE:

17 Q Good morning, Mr. Shumer.

18 A Good morning.

19 Q My name is Patrick Strawbridge. I'm counsel for  
20 Defendants in this matter.

21 THE COURT: I'm so sorry. Plaintiffs' counsel stood  
22 up.

23 MR. BRADSHAW: I was just noting that the clock was  
24 still running. We're keeping track of the time. My  
25 apologies.

3 BY MR. STRAWBRIDGE:

7 || Is that what you said?

9 || Q were any of those patients from Georgia?

11 || Q what states were those patients coming from?

12 A I have seen patients from Florida and Indiana.

13 Q Okay. And were they seeking -- what treatment were those  
14 patients seeking?

15 A Patients from -- two patients from Florida were  
16 seeking -- well, all patients were being evaluated for the  
17 diagnosis of gender dysphoria, and the patients that I have  
18 seen from Florida were -- are receiving testosterone and the  
19 patient from Indiana is receiving GnRH agonist.

20 | Q They were already receiving those?

21 A One patient was -- from Florida was receiving  
22 testosterone and is continuing it. One was not and now is.  
23 One patient from Indiana was not on any treatment and will be  
24 starting treatment but hadn't started yet.

25 Q And how old were those patients?



24 Q This is not the only case in which you have provided  
25 expert testimony on behalf of Plaintiffs here; is that

25 | Q Boe v. Marshall?

23 A I think over time may be it's been less, in some cases  
24 but I couldn't really give you an accurate answer to that  
25 unless I looked back, but 300 or 350 would be my estimate.

1 Q Okay. And how much time did you spend on the Arizona  
2 case?

3 A I would estimate 12 hours.

4 Q Okay. Outside of your work as an expert witness, I  
5 believe you testified you have your own clinical practice in  
6 Michigan; correct?

7 A Correct.

8 Q That's the C.S. Mott Children's Hospital in Ann Arbor?

9 A Correct.

10 Q You treat children with gender dysphoria at that clinic?

11 A Yes.

12 Q You have done so since 2015?

13 A Yes.

14 Q And you were recruited to start that clinic as you were  
15 coming off your Masters at Harvard?

16 A Yes.

17 Q Did you treat gender dysphoria in children before your  
18 time at Harvard?

19 A So I was in Boston receiving my fellowship as a pediatric  
20 endocrinologist, so I did but under supervision from my  
21 mentors.

22 Q But before you arrived in Boston for that fellowship, you  
23 were doing work there.

24 Did you treat children with gender dysphoria?

25 A No.

4	A	Yes.
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7	A	About 40 percent.
---	---	-------------------

17 Q Can you tell me approximately what your annual income  
18 through the University of Michigan is?

20 | Q Yes.

22 Q Is that -- are you paid that -- is any of that income  
23 divided amongst your various responsibilities?

24 A Not in the way that we've been talking. So I have  
25 clinical efforts, which is a certain percentage of my salary.

1 Then I have efforts related to teaching, but the clinical  
2 effort isn't then set up into pockets of gender and diabetes  
3 and endocrine. It's all combined.

4 Q What amount of your salary is allocated to your clinical  
5 effort?

6 A I think about 55 percent.

7 Q I wanted to clarify something. I may not have heard you  
8 correctly on direct examination but you do not actually  
9 diagnose gender dysphoria, do you?

10 A Yes, I do.

11 Q Is that new for you?

12 A I'm sorry, no.

13 Q Do you remember being deposed in an action in Indiana?  
14 I'm sorry. Yeah, in Indiana?

15 A Yes.

16 Q You were under oath at that deposition?

17 A Yes.

18 Q Do you remember testifying that you don't give a  
19 diagnosis of gender dysphoria as a pediatric endocrinologist?

20 A That may be the case. I can explain the difference in  
21 maybe how I'm thinking about the question in both scenarios.

22 In our clinic, the diagnosis of gender dysphoria is made  
23 by a mental health provider, which is a social worker, in our  
24 clinic. So I have never seen a patient that hasn't already  
25 been diagnosed with gender dysphoria. The diagnostic criteria

1 for gender dysphoria is available to any medical provider to  
2 use, so I do reaffirm diagnosis of gender dysphoria. I can  
3 make that diagnosis, but I don't independently make that  
4 diagnosis in a clinical practice.

5 Q In fact, every child that you see in your clinical  
6 practice has already been diagnosed with gender dysphoria;  
7 correct?

8 A Well, a patient may see me that doesn't have a diagnosis  
9 of gender dysphoria but that would then have also been  
10 determined by the medical health provider on our team.

11 Q Because gender dysphoria is classified as a mental health  
12 disorder?

13 A Gender dysphoria is classified as a mental health  
14 disorder in the DSM-5.

15 Q And you are not a psychiatrist?

16 A I am not.

17 Q Of the 600 -- I'm sorry. You testified that you have  
18 personally treated 400 children at the clinic with gender  
19 dysphoria?

20 A Yes.

21 Q That's an approximate number, I'm sure?

22 A Yes.

23 Q And I believe your declaration indicated the clinic that  
24 you started at have treated 600 children with gender dysphoria  
25 approximately?

2 Q of the 600 children that your clinic has treated in the  
3 past seven years, do you know how many of them were prescribed  
4 puberty blockers?

6 Q 20 percent. And how many of them were prescribed  
7 cross-sex hormones?

9 Q 70 percent. Is there a rule of how many visits are  
10 required to your clinic before a child may be prescribed  
11 puberty blockers?

13 Q Are there -- is there a rule on how many visits are  
14 required before a child may be prescribed cross-sex hormones?

16 | Q In your seven years at the clinic, have you ever  
17 | prescribed puberty blockers upon a child's initial visit to  
18 | the clinic?

22 | Q Do you know how often you have done that?

24 Q In your seven years at the clinic, have you ever  
25 prescribed cross-sex hormones to a child upon the first visit



1 with you?

2 A Yes.

3 Q And how often do you do that?

4 A Sometimes. Less often than with puberty blockers but  
5 there are certain situations where a patient may be prescribed  
6 hormones after that assessment has been done.

7 Q In children who have been prescribed puberty blockers at  
8 your clinic during your time there, what's the youngest child  
9 that has been prescribed puberty blockers for gender  
10 dysphoria?

11 A Well, someone who has precocious puberty, natal assigned  
12 female at birth or not assigned male at birth, you know, if I  
13 were to prescribe GnRH agonist to someone under both ages, it  
14 would not be for gender dysphoria. It would be puberal  
15 suppression. So I think that the answer must be eight for  
16 someone assigned female at birth.

17 Q What is the youngest child you have ever prescribed  
18 cross-sex hormone treatment for gender dysphoria?

19 A I believe 12.

20 Q What is this oldest child you have prescribed hormones  
21 for gender dysphoria?

22 A I think the answer is 16.

23 Q How many of the 600 children in your clinic approximately  
24 have had their gender dysphoria resolved without prescription  
25 of cross-sex hormones?

1 A Very few.

2 Q You said you prescribed cross-sex hormones to 70 percent  
3 of the children in your clinic. Is that what you said?

4 A Yes. So I would say that -- so I'm trying to understand  
5 your question. So about 70 percent of patients that meet the  
6 criteria for gender dysphoria that are in the age group that  
7 we are talking about hormones. So patients in that first 20  
8 percent that were treated with puberal suppression, if we  
9 include those into the hormone question, then, I would say the  
10 answer is about 90 percent.

11 Q Okay. So just so I understand, 20 percent puberty  
12 blocker and they are not at the age where you prescribed  
13 cross-sex hormones?

14 A Correct.

15 Q So is it about 10 percent that have gender dysphoria  
16 without cross-sex hormones?

17 A No. I would say that some patients that have gender  
18 dysphoria in the process of discussing the risks and benefits,  
19 the patient and families makes the decision not to treat with  
20 hormonal interventions, and then so that would be the bulk of  
21 the patients that are diagnosed with gender dysphoria that are  
22 not treated with hormones.

23 Other patients may have gender dysphoria but the source  
24 of their distress is not the development or lack of  
25 development characteristics, and so it wouldn't be -- the

25 A I'm aware that the patterns of referral are more close to

1 50/50 in younger kids, right. So a preteen girl that I see  
2 tend to come in more of a 50/50 ratio. In adolescents, there  
3 seems to be a higher rate of gender dysphoria in female at  
4 birth and people who present to care seems to present 50/50.  
5 So over the course of one's life and age, there is some  
6 demographic differences in frequency of the referral.

7 Q Is that because -- let me just ask that. Is that  
8 difference especially with respect to the older population, is  
9 that because of the change in historical trends as in the  
10 historical trend used to be that people seen for the treatment  
11 of gender dysphoria were largely male and so that's the older  
12 population and the younger population is female? Are you  
13 suggesting that people adopt new gender identities in  
14 adulthood at a 50/50 rate?

15 A Well, I don't know. I think it's really a interesting  
16 question that we are talking about. So, you know, I think in  
17 adolescents, oftentimes people with gender dysphoria present  
18 to care because of the development of secondary sex  
19 characteristics. And in people assigned female at birth,  
20 menstrual period is oftentimes a really heralding sign of  
21 puberty, but the same sort or boom in puberty that doesn't  
22 occur in assigned male at birth.

23 So one of my thoughts is that just the process  
24 (unintelligible) prompt people to come in to care. I think  
25 that it's much more challenging for people that are assigned

1 male at birth to come out of the closet or to talk about  
2 gender identity. And if so, I think that some people that  
3 have male sex assigned at birth and female generated may not  
4 present to care until later. So I think that it is an  
5 interesting, you know, thought experiment to think about,  
6 those demographic differences, yes.

7 Q There is nothing new about girls born female having a  
8 menstrual period when they enter adolescence, though; correct?

9 A Correct.

10 Q And you do agree that there is a historical trend, since  
11 the last decade where the gender dysphoria was overwhelming  
12 diagnosed in natal males and not natal females?

13 A I think you know data like from the 70's and 80's, yes, I  
14 think that is true.

15 Q What about from the 90's? What does the data say about  
16 that?

17 A I don't have data to report back to you, but I think that  
18 over time, the current pattern you described, the adolescents  
19 age group, there is the higher rate of gender dysphoria in  
20 people assigned natal female at birth has come about over  
21 time, so when that started, I'm not exactly sure.

22 Q Dr. Shumer, you agree that the administration of  
23 cross-sex hormones does carry risks and side effects for  
24 patients?

25 A I did say that, yes.

1 Q And the administration of cross-sex hormones to  
2 adolescence in particular can have some irreversible changes?

3 A Yes.

4 Q Such as effects on fertility I think you testified about?

5 A Can you say that again.

6 Q Such as effects on fertility?

7 A Yeah. I answered a question related to the potential of  
8 fertility.

9 Q Right. And I assume you advise patients going on  
10 cross-sex hormone treatment that their fertility could be  
11 impaired?

12 A We always talk about what is known about fertility and  
13 also how that relates to each individual patient.

14 Q But am I correct that you do warn them there is a  
15 possibility their fertility will be permanently impaired, if  
16 they complete cross-sex hormone treatment?

17 A I don't know if I have used the word that you just used  
18 that I would say that maybe permanently impaired. I discuss  
19 the topic in lot more nuance than that and use examples of,  
20 you know, fertility options in terms of the gamut of  
21 preservation prior to starting hormones. And that, yes, for  
22 some people that are on hormone therapy, it may diminish your  
23 fertility or make it not possible.

24 Q Is the potential loss of the ability to breastfeed a  
25 potential side effect of cross-sex hormone treatment?

1 A It's not something that I've discussed with patients  
2 before, no.

3 Q You don't think that administration of cross-sex hormone  
4 treatment for several years might impair the ability of a  
5 natal female to breastfeed?

6 A To be honest, I don't know if there's data to support  
7 that or not. That's not something that I readily discuss with  
8 patients.

9 Q Another side effect of this is the permanent development  
10 of breasts for natal males with estrogen?

11 A Yes.

12 Q Permanent voice deepening in natal females. I think you  
13 mentioned that.

14 A Yes. And, of course, a lot of these are the goals of the  
15 treatment, which is also discussed as a potential benefit.

16 Q Hair loss in natal females?

17 A Yes, as I discussed in direct.

18 Q And hair growth, too; correct?

19 A For trans boys on testosterone to develop body hair?

20 Q Yes.

21 A Certainly less often described as a side effect. More  
22 often described as something that the patient is excited  
23 about.

24 Q Venous thromboembolism in natal males is a risk factor  
25 with the administration of estrogen?

1 A Similarly to anyone taking estrogen. Estrogen is a  
2 thermogenetic hormone. So anyone taking estrogen for any  
3 reason would have a higher risk for venous thromboembolism  
4 that had they not taken estrogen.

5 Q Do you advise your patients that are going through the  
6 process of hormone treatment that this will be a treatment  
7 that they will have to undertake for a long period of time?

8 A No. Because every medical decision made is something  
9 that we constantly re-evaluate. So if a patient starts  
10 hormone intervention and reports that hormone intervention is  
11 no longer a goal for them, we then discontinue it.

12 Q Wouldn't their gender dysphoria require them to undertake  
13 a long process of cross-hormone treatment, if they wanted to  
14 continue the secondary sex characteristics into adulthood?

15 A That would be the most common scenario, but that --  
16 taking a very individualized approach, those goals would be  
17 re-evaluated at every encounter.

18 Q Is it your experience that patients in your care ever  
19 stop cross-sex hormones after starting them?

20 A In some cases that has happened. Oftentimes, the  
21 scenario that happens is that a patient will, you know -- for  
22 example, be taking testosterone and have achieved voice  
23 deepening and facial and body hair changes and are weighing  
24 the pros and the cons of continuing to take the medication for  
25 the rest of their lives and -- versus, you know, losing some



1 of the non-permanent effects of the medication by withdrawing  
2 and make the decision to stop the hormones in sort of talking  
3 through the risks and benefits with me and that decision with  
4 their treatment gender dysphoria.

5 Q In your experience, do patients with gender dysphoria  
6 sometimes decide -- elect not to proceed with various stages  
7 of treatment, such as cross-sex hormone treatment?

8 A Sure. I think of hormone interventions, blockers  
9 interventions, as sort of tools in a tool kit to treat gender  
10 dysphoria that may not be appropriate for each individual  
11 patient based on the source of their distress.

12 Q Do some of your patients elect to go on to surgical  
13 transition procedures?

14 A Some do.

15 Q Do some elect not to?

16 A Yes.

17 Q Of the 600 patients that come through your clinic, have  
18 most of them ultimately transitioned to an adult care plan?

19 A Yes.

20 Q Ones that have not yet reached the age of 18 or 20 or  
21 whenever it is you stop treating them?

22 A Yes.

23 Q Of those patients, are you formally in contact with all  
24 of them?

25 A No.

1 Q Are you -- are any of them being monitored or otherwise  
2 participating in a clinical study at your facility?

3 A The patients that are in the pediatric gender clinic are  
4 involved in a clinical study. Patients that are no longer  
5 part of our clinic are not followed in any particular set  
6 study that I'm aware.

7 Q So there is no effort to check in with your patients five  
8 years after treatment stopped, for example, to see how they  
9 are doing?

10 A That is not something that I endeavor to do, but I am in  
11 touch with many of my ex patients just because they play such  
12 an important part of, you know, my career and their lives have  
13 been impacted by the gender clinic to the point that they want  
14 to stay in touch, but not enough that you are suggesting, no.

15 Q That's like you may see them at the grocery store, that  
16 sort of thing?

17 A Yes.

18 Q Not a formal follow up?

19 A Correct. As is the case with any other pediatric  
20 endocrinology patients that I treat. I don't have a formal  
21 followed-up plan for those patients either.

22 Q Dr. Shumer, I believe you testified you do not consider  
23 the use of hormones in adolescents for treatment of gender  
24 dysphoria to be experimental.

25 A Right.

25 || But --

24 Q And the authors reported -- this is under Results -- it's  
25 Under Abstract, Results of the Abstract on Page 1 -- based on

1 their survey no Randomized Controlled Trials were identified.  
2 The few longitudinal observational studies were hampered by  
3 small numbers and high-attrition rates. Hence, the long-term  
4 effects of hormone therapy on psychosocial health could not be  
5 evaluated. Correct?

6 A Yes, that's what's written.

7 Q It also concluded four months ago that evidence to assess  
8 the effects of hormone treatment on the above fields in  
9 children with gender dysphoria is insufficient. Correct?

10 A That's the conclusion that they came to.

11 Q You don't have any evidence that these authors are  
12 motivated by anti-tran bias, do you?

13 A No. I think they're looking at a lot of the same -- they  
14 are looking at studies relating to gender dysphoria in order  
15 to come up with this systematic review, which is a little bit  
16 different than clinical practice guidelines in order to  
17 provide patient care. So that patient care clinical practice  
18 guideline is instructing based on best evidence what would --  
19 what is the suggested recommended course of action.

20 This systematic review reviews a lot of studies that I'm  
21 familiar with and some of the things that you mentioned, I  
22 would just like to sort of circle back on for a second. The  
23 randomized controlled trial, this is the highest, sort of  
24 level of evidence that you can have in science because you are  
25 isolating a discrete variable.

1        So, for example, if you are trying to say is penicillin A  
2 or B penicillin better, you can give people more of one or the  
3 other and make them unaware which one they are taking and  
4 leave every other variable the same. The differences between  
5 outcomes you can attribute only to the difference in the  
6 outcome.

7        So there are no randomized controlled trials to review in  
8 the treatment of gender dysphoria. And that makes a lot of  
9 sense, right? Because the treatment of gender dysphoria in  
10 children and adolescents is a complex longitudinal process  
11 throughout many years and is something that can be actively  
12 studied.

13        So instead we use other ways to assess these  
14 interventions. We use retrospective studies. We use  
15 longitudinal studies. We use case-controlled studies. And  
16 for the use of GnRH agonist hormones, those are the types of  
17 studies that we do have, and each of those studies is  
18 different but they in some way are trying to isolate the  
19 intervention and the variable or mental health or safety and  
20 in -- as a physician seeing a patient in front me, say with  
21 gender dysphoria, I say, okay, how would we use the variable  
22 literature to help make a decision about your care, about your  
23 treatment options for gender dysphoria.

24        When I reviewed the literature outlining GnRH agonist  
25 testosterone, estrogen, and it talked about those options with

1 the patients, I feel not only comfortable but feel strongly  
2 that those interventions may, in fact, be helpful for that  
3 patient because of data I have read and reviewed and which has  
4 been reviewed by WPATH and the Endocrine Society. Those  
5 organizations in reviewing all that they have, could come up  
6 with one or two recommendations that could come up with a  
7 recommendation to treat with these medications or against  
8 treatment and their recommendation is to treat. I think that  
9 what the systematic review highlights is that just like many  
10 areas of medicines, more data will be helpful to continue to  
11 understand how these different medical interventions impact  
12 gender dysphoria.

13 Q I appreciate the answer, Dr. Shumer.

14 My question is do you have evidence that any of these  
15 people who offered this paper were motivated by anti-tran  
16 thoughts?

17 A No.

18 Q You are familiar with the 2019 analysis by Kaltiala on  
19 cross-sex hormone in its transgender youth. It's in Tab 4 of  
20 that same binder, if you would like to refer to it.

21 A I'm with you. Yes, I'm familiar.

22 Q This was a chart review of 53 patients in Finland who  
23 were offered cross-sex hormone treatment; is that correct?

24 A Yes.

25 Q If you'll look at the material to refresh your

1 recollection.

2 A Yes.

3 Q And if we look at Conclusions, which is the second to  
4 last page of the binder, the authors concluded that quote,  
5 Among adolescents diagnosed with transsexualism, difficulties  
6 in adolescent development and functioning in life domains  
7 appropriate to late adolescence do not disappear with  
8 cross-sex hormone treatment.

9 Is that what it says?

10 A I believe so. I am not following exactly where you are,  
11 but if you would like me to --

12 Q The Conclusions section.

13 A Gotcha. Okay. Yes.

14 Q Finland also released recent advisory on the treatment of  
15 transgender youth; is that correct?

16 A That's my understanding.

17 Q If you turn to Tab 3 in this binder, it might refresh  
18 your recollection as to the document.

19 Are you familiar with that?

20 A Yes.

21 Q And if you turn to the Conclusions which is the third to  
22 last page, this recommendation instructed in adolescents,  
23 psychiatric disorders and developmental difficulties may  
24 predispose a young person to the onset of gender dysphoria.

25 Is that right?



2 Q And clinical experience reveals that autistic spectrum  
3 disorders are overrepresented among adolescents suffering from  
4 gender dysphoria?

6 Q It goes on to say that in light of available evidence,  
7 gender reassignment of minors is an experimental practice.

9 | A It does say that, yes.

13 Does it say that?

15 Q You don't have any evidence that the conclusions here  
16 were motivated by anti-tran bias, do you?

21 Q was this government recommendation formed by a review of  
22 the medical literature?

25 Q Now, I'd like to discuss the Evidence Review Commission

1 by England's National Health Service on gender-reforming  
2 hormones for children and adolescents with gender dysphoria.  
3 It's behind Tab 1 of this binder for your reference.

4 You are familiar with this document, are you not, doctor?

5 A Yes.

6 Q This was prepared in October of 2020; is that correct?

7 A Yes.

8 Q And if you look at the introduction, the purpose of this  
9 review was to assess the evidence for the clinical  
10 effectiveness, safety, and cost-effectiveness of  
11 gender-affirming hormones for children and adolescents age 18  
12 years or under with gender dysphoria.

13 Correct?

14 A Yes.

15 Q And this review found -- I'll turn to Conclusions which  
16 is on Page 50 of this document. Do see the Conclusions,  
17 Paragraph 7?

18 It found limited evidence for the effectiveness and  
19 safety of gender-affirming hormones in children and  
20 adolescents with gender dysphoria, with all studies being  
21 uncontrolled, observational studies, and all outcomes of very  
22 low certainty.

23 That was their conclusion; correct?

24 A That's their conclusion.

25 Q Any potential benefits of treatment must be weighed

1 against the largely unknown long-term safety profile of these  
2 treatments.

3 Correct?

4 A That's what they wrote, yes.

5 Q And you disagree with that conclusion; right, Dr. Shumer?

6 A I do.

7 Q You don't think that Dr. Cass is reaching an unreasonable  
8 conclusion here, do you?

9 A I think that she's reaching a conclusion that -- I  
10 disagree with the fact that she is saying that the fact  
11 that -- that the outcomes have very low certainty but I agree  
12 that there is not Randomized Controlled Trials available and I  
13 disagree with the premise we don't have safety data to  
14 suggest, understand the potential risks of these medications.  
15 I am also aware that, again in England, there is not a ban of  
16 these medications in people under 18 as a result of this  
17 document.

18 Q I understand you disagree, but my question is a little  
19 bit different. I'm asking you whether or not you think it's  
20 an unreasonable conclusion?

21 A Again, I would say that it's a wrong conclusion but I  
22 don't know if I would define the term unreasonable. I don't  
23 think it's a conclusion driven by mal intent but I think it's  
24 incorrect.

25 Q You are aware that this report that we are reviewing was

1 prepared as part of a larger review of the England National  
2 Health Services approach for gender dysphoria treatment?

3 A Yes.

4 Q That review was by Dr. Cass, the former president of the  
5 world college of Pediatric and Child Health?

6 A That's my understanding.

7 Q You will find this behind Tab 2 of your binder.

8 Dr. Cass issued an internal report in February of 2022;  
9 is that right?

10 A Yes.

11 Q And I'll refer you to the Summary on Page 18 of this  
12 document, 1.23.

13 This report concluded that evidence on the appropriate  
14 management of children and young people with gender  
15 incongruence and dysphoria is inconclusive both nationally and  
16 internationally.

17 Correct?

18 A That's what written, yes.

19 Q And internationally as well as nationally, longer term  
20 follow-up data on children and young people who have been seen  
21 by gender identity services is limited, including for those  
22 who have received physical interventions; who were transferred  
23 to adult services and/or accessed of private services; or who  
24 desisted, experienced regret or de-transitioned.

25 That was the Summary conclusion?

1 A Yes.

2 Q And that there has been research on short-term mental  
3 health outcomes and physical side effects of puberty blockers  
4 for this cohort, but very limited research on sexual,  
5 cognitive or broader developmental outcomes.

6 Correct?

7 A Which paragraph are you reading, so I can read along?

8 Q 1.27.

9 A Yes, it looks like you read that one correctly.

10 Q And then the next paragraph on .28. This report  
11 concluded that much of the existing literature about natural  
12 history and treatment outcomes for gender dysphoria in  
13 childhood is based on the case-mix of predominantly or  
14 birth-registered males presenting in early childhood. There  
15 is much less data on the more recent case-mix of predominantly  
16 birth-registered females presenting in early teens,  
17 particularly in relation to treatment and outcomes.

18 Correct?

19 A Yes.

20 Q That's Dr. Cass' conclusion in this internal report from  
21 2022?

22 A That's the conclusion, yes.

23 MR. STRAWBRIDGE: I have no further questions for  
24 you.

25 THE COURT: I imagine you have some redirect

24 Q How many times have you personally evaluated patients  
25 against diagnostic criteria with gender dysphoria set forth in

1 the DSM-5?

2 A I'd say the majority of the patients that I am seeing  
3 because they have been previously diagnosed with gender  
4 dysphoria but in all of the patients, I get the criteria and  
5 compare that to the criteria in the DSM. So all of the  
6 patients that I see, which would in the several hundreds.

7 Q Doctor, with children who have gender dysphoria that  
8 persist in adolescents, can you speak to how likely they are  
9 to continue to identify as transgender until adulthood?

10 A Yes. As a young child, the experience of gender identity  
11 as emerging may or may not be very predictive of adult  
12 adolescent or adult gender identity. But as puberty starts,  
13 we see that gender identity become more consolidated. Gender  
14 dysphoria often intensifies. So as puberty starts, if those  
15 things happen, then that does highly predict to continue  
16 through adolescence and adulthood.

17 Q What is the basis for this testimony that you just gave?

18 A Again, there's literature outlining this natural course  
19 of gender identity and also my clinical experience.

20 Q I believe you mentioned earlier this morning that hormone  
21 therapy can be used to treat conditions other than gender  
22 dysphoria.

23 Do I have that right?

24 A Yes.

25 Q When hormone therapy is prescribed to treat other

1 conditions besides gender dysphoria, are there potential sides  
2 effects?

3 A Yes.

4 Q What are those side effects?

5 A Similar to the side effects that we discussed with  
6 testosterone and when we're prescribing testosterone, of  
7 course, the goal is to achieve a normal to mid-level  
8 testosterone. And with that comes an inherited risks of being  
9 a man, as we -- our discussion with gender dysphoria, you  
10 know, baldness is the example that I like to use, but men and  
11 women have different risks for all sorts of different things  
12 that may be related to excessively-high testosterone. The  
13 example that I often use is high red blood cell counts, higher  
14 blood pressure, higher blood sugar. Those things you would be  
15 concerned about, if someone is on high-excessively  
16 testosterone.

17 For example, you know, an athlete that is abusing  
18 testosterone may hit a lot of home runs. Might not get into  
19 the hall of fame but also they would have a higher risk for  
20 high blood pressure and diabetes.

21 Q How can you ensure that the patient does not have  
22 excessive levels of testosterone or estrogen?

23 A The primary way is measurement. So you measure over  
24 time. But also in terms of a clinical exam, there is science  
25 that testosterone dose or estrogen dose could be excessive.



1 Q And those are sorts of examples conducted for adolescent  
2 patients who have gender dysphoria?

3 A Yes. Any patient who I prescribe testosterone or  
4 estrogen for, I need to monitor to make sure that the dosing  
5 is correct. That the medication is serving the purpose of  
6 what it's treating and also that the dose doesn't need to be  
7 adjusted for a particular reason.

8 Q Do pediatric endocrinologists prescribe hormone therapy  
9 to treat conditions other than gender dysphoria, specifically  
10 in adolescents?

11 A Yes.

12 Q And when you prescribe hormones to treat those patients,  
13 do you conduct the same sort of monitoring just described?

14 A Yes.

15 Q You testified earlier that certain medical associations  
16 in the United States for gender dysphoria destroy that?

17 A Yes.

18 Q Do you recall which organizations you mentioned?

19 A I think I mentioned the American Academy of Pediatrics  
20 and the American Psychiatric Association.

21 Q Do you hear about any other medical associations in the  
22 United States that support gender-affirming efforts?

23 A Yes. There are affirmative statements in support of this  
24 care by the American Medical Association, the American College  
25 of Obstetrics and Gynecology. There are others that I forget.

1 Q And when you say gender affirming, does that include  
2 hormone therapy?

3 A Yes.

4 Q In cross-examination, counsel for the Defendants talked a  
5 bit about systematic reviews.

6 Are systematic reviews intended to serve as clinical  
7 guidelines?

8 A No.

9 Q why not?

10 A Systematic review is simply reviewing a body of  
11 literature and then organizing the results.

12 Clinical guideline is intended to take the literature and  
13 then make treatment recommendations for clinicians reviewing  
14 that guidance.

15 Q Defense counsel also talked a bit about Randomized  
16 Controlled Trials. Can you elaborate or can you help us  
17 understand whether it would be possible to conduct a  
18 Randomized Controlled Trial to evaluate the efficacy of  
19 hormone treatment in the treatment of gender dysphoria.

20 A Yes. Randomized Controlled Trials have a lot of  
21 advantages. For complex systems of the treatment, they won't  
22 work. So for gender dysphoria treatments specifically, if I  
23 was to envision conducting a Randomized Controlled Trial of  
24 the process of being treated with puberal suppression followed  
25 by hormones, what that would look like would be recruiting

1 people at early puberty that have gender dysphoria and then  
2 randomly assigning them to treatment with GnRH agonist or no  
3 treatment and following them over the course of time and those  
4 same people that received the GnRH agonist then would receive  
5 hormones and the other people would continue to receive no  
6 treatment, and then the outcome presenting would be their  
7 quality of life as adults. So we're envisioning setting the  
8 study up, we would have to -- we would realize that number  
9 one, the patient would obviously know what they were assigned  
10 to, so it wouldn't be a blind study.

11 Second, I don't think patients would sign up for this  
12 study so that patients would come into gender clinics to talk  
13 to doctors about treatment options and make their own decision  
14 at the end of that conversation about what makes the most  
15 sense to them and their child.

16 That random assignment leads to one or the other groups  
17 wouldn't be tolerated because most families wouldn't believe,  
18 most families wouldn't think that getting assignment to either  
19 group has a relatively equal likelihood of a good outcome.  
20 And also providers in the field wouldn't believe because of  
21 the current evidence that exist. I would have a hard time  
22 writing the assignment for mental treatment that I would think  
23 would benefit.

24 Finally, if we are thinking about a study, we would say  
25 what is the outcome, right? So if the outcome is improved

1 mental health and quality of life over the course of one's  
2 life, which I think is the purpose of using the treatment  
3 options that we have been talking about, then, we would set up  
4 some way to measure that 10, 20 years later and continue to  
5 have some people receiving no treatment. And that, obviously,  
6 wouldn't be possible.

7       So, unfortunately, for gender dysphoria treatment also  
8 similar complex medical treatment issues that exist all over  
9 medicine, Randomized Controlled Trials are impossible, so we  
10 have to turn to other alternatives of study.

11 Q     You mentioned that the sample patients would not know  
12 which group they were assigned to.

13       Can you clarify why that's the case.

14 A     Well, if you are conducting a Randomized Controlled Trial  
15 where a group of patients is either put in a treatment group  
16 and a non-treatment group but the treatment we're talking  
17 about is first stopping puberty or inducing puberal changes,  
18 patients will readily know which group they are in by what  
19 happens to their body.

20 Q     Doctor, has Sweden completely prohibited the use of  
21 hormone treatment?

22       Has Sweden -- has the government completely prohibited  
23 the use of hormone therapy for the treatment of gender  
24 dysphoria throughout the age of 18?

25 A     No, they haven't.

1 Q what about Finland?

2 Has Finland completely prohibited the use of hormone  
3 treatment for the treatment of gender dysphoria for the age of  
4 the 18?

5 A No.

6 Q what about England?

7 Has England completely prohibited the use of hormone  
8 therapy for the treatment of gender dysphoria through the age  
9 of 18?

10 A They have not.

11 Q Now a few minutes ago the defense counsel looked at  
12 Exhibit 3. Do you still have the binder of Defendants'  
13 exhibits in front of you?

14 A Yes.

15 Q Can you please turn to Exhibit 2. I'm sorry I misstated  
16 that, Exhibit 2.

17 A I'm there.

18 Q This is the Cass Report, is it not?

19 A Yes.

20 Q Can you please turn to Page 23 of this document.

21 A 24?

22 Q Page 23, yes.

23 Do you see on the left-hand column there is a box with  
24 the Number 10 in it?

25 A Yes.

25 | A Yes.

4	A	Yes.
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6 THE COURT: All right. Thank you very much,  
7 Dr. Shumer.

9 MR. BRADSHAW: Yes, Your Honor.

11 THE COURT: Counsel, are you ready to call your next  
12 witness?

14 MEREDITH MCNAMARA.

17 COURTROOM DEPUTY: You may be seated.

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22         Can you please state and spell your first and last
23 name for the record.
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25 COURTROOM DEPUTY: Thank you.

2 BY MS. WEAVER:

4 || what is your profession?

6 Q Could you summarize your formal education and training to  
7 become a doctor?

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12 | Q    why are you here today?
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16 | Q what is clinical research?

21 | Q And what are the goals of clinical research?

25 | Q Can you talk about the different types of clinical



1 research that there are?

2 A So two broad categories of studies designs. One we've  
3 talked about a lot today, Randomized Controlled Trials and the  
4 other category would be observational study.

5 Q What's the main difference between the two different  
6 types of designs?

7 A So Randomized Controlled Trials as we've discussed,  
8 involve two study groups. One in which subjects are  
9 randomized to receive no treatment and one in which subjects  
10 are randomized to receive treatment. The idea is that  
11 everything else about them is the same and so their outcomes  
12 are followed over time. The idea in Randomized Controlled  
13 Trials is that they can identify as close as possible the  
14 independent effects of an intervention on an outcome.

15 Observational studies are different. So they encompass  
16 another kind of like wide variety of study designs but the  
17 idea is that subjects are observed naturalistically in  
18 settings that they would be in no matter what, whether or not  
19 there was clinical research going on and their outcomes are  
20 studied as well. The factors that contribute to those  
21 outcomes are analyzed with a variety of statistical methods.

22 Q Now is there a study design of the two that's considered  
23 one to yield the best results?

24 A Randomized Controlled Trials are acknowledged to produce  
25 high-quality evidence.

1 Q Is there a hierarchy of evidence quality as you  
2 understand there to be?

3 A There is a hierarchy. I would say that there is not a  
4 strict hierarchy that applies to every single command of  
5 clinical care equally, but the idea is that Randomized  
6 Controlled Trials are superior to observational study and  
7 below that are other types of research, like case reports,  
8 things that are not nearly as robust.

9 Q What situation, if any, are there that Randomized  
10 Controlled Trials study would not be appropriate -- would not  
11 be the appropriate design to use?

12 A There are many situations. So, first of all, if the  
13 disease state or other medical condition is quite rare, it  
14 would be really hard to recruit enough participants to achieve  
15 statistical power. You have to have enough participants in  
16 order to even notice a difference. If you have a hundred  
17 versus a hundred thousand, that contributes to the strength of  
18 the study and robustness of your findings. However, when it  
19 comes to rare conditions, that's sometimes prohibitively  
20 difficult to obtain.

21 If a condition is rare and treatment is highly sought  
22 after, if the condition is quite serious and timely  
23 interventions are needed, then a Randomized Controlled Trial  
24 would actually be considered unethical because it could be  
25 coercive. People might sign up for the study in the hopes

1 that they could obtain the treatment. But then what -- the  
2 problem with that is that research studies are never supposed  
3 to coerce their participants into engaging into that study.  
4 That's a pretty profound ethical violation.

5 And then, finally, if participants could easily become  
6 aware of the treatment that they were assigned to then the  
7 Randomized Controlled Trial design would simply be logically  
8 inappropriate.

9 For all of those reasons, institutional review constitute  
10 protocols and they decide whether or not the study design is  
11 appropriate or ethical.

12 Q Now what ethical concerns, if any, are there to use a  
13 Randomized Controlled Trial to study the relationship between  
14 the use of transitional medications for adolescents and  
15 patient outcomes?

16 A They're all the ones I just mentioned. So it would be  
17 highly unethical and impractical to conduct. Randomized  
18 Controlled Trials uses a lot of resources. It would be really  
19 hard to recruit participants. The participants that  
20 potentially did sign up might feel coerced or motivated to  
21 participate on the off chance that they could get a treatment.  
22 And, notably, you know, after a few months of participation,  
23 participants would know whether or not they were receiving  
24 active treatment. And once you know the inherent strength of  
25 the Randomized Controlled Trial, which is blinding, it's gone.

3 A we use clinical research. So we use research that  
4 informs guidelines. we look at best available evidence. we  
5 look at newly-published evidence. And that is all incredibly  
6 helpful in caring for the patient in front of us. But there  
7 is -- there is a really important individualized approach that  
8 we take with the patients sitting in front of us. So I would  
9 say it's a very significant part, and there are other factors,  
10 too.

13 A Yes, absolutely. About 85 percent of evidence that  
14 guides clinical care is not based on Randomized Controlled  
15 Trials at all. And I'm speaking across the board about all of  
16 medicine.

19 A Yes.

22 | what is a system review of literature?

23 A A systematic review kind of tells you what it is. It's a  
24 systematic approach to searching databases of clinical  
25 research and using specific terms to answer a research

1 question. A large number of studies are gathered. The number  
2 of studies that the investigator analyze and kind of collate  
3 results amongst is windled down using exclusion criteria and  
4 the results of the systematic review are essentially a  
5 function of the backgrounds of the authors who have conducted  
6 them, the search terms that they've used, the exclusion  
7 criteria they have applied to not analyze certain studies and  
8 the conclusions that they draw.

9 Q And Defendants cite to a systematic review published in  
10 the Littman Study. Are you aware of this systematic review?

11 A Yes, I have reviewed.

12 Q What is your assessment of that systematic review?

13 A So that single review, as best I can tell, it was  
14 performed by people with epidemiologic and biostatistic  
15 backgrounds. I did try to see if those authors had any  
16 experience, clinical experience, in treating gender dysphoria  
17 or produced research in the field, any subject matter  
18 expertise specifically. I couldn't detect any.

19 But, moreover, I have a couple of takeaways. So I felt  
20 that that review tried to answer a lot of different questions.  
21 And we have word counts with journal articles. So, you know,  
22 it's answering questions about psychosocial benefits, efficacy  
23 of treatments, safety. That's a lot of broad topics to cover  
24 within one systematic review. Some of them were robust ones  
25 and the more in-depth ones I have seen just handled one

1 research question.

2 I also felt that there search terms were a little bare.  
3 They didn't include, for instance, cross-sex hormones in order  
4 to search the literature. So that could have excluded  
5 important studies. Moreover, the study was published in the  
6 Spring of 2023, but the later bound of the date range that  
7 they searched for published studies within was in 2021, and  
8 more studies have come out since then that the review does not  
9 include. So, you know, systematic reviews are only able to  
10 reflect the time period that they search. And I would say  
11 that it does not reflect best available evidence.

12 Q What is your response, then, to allegations, the defense  
13 experts allegations, that this particular systematic review  
14 concluded does not have enough evidence showing benefits of  
15 hormone therapy for adolescent patients?

16 A I would say that those conclusions, kind of similar to  
17 what I said earlier, are a function more so of what I perceive  
18 to be the author's maybe inability to engage with the nuances  
19 of the observational studies that we have.

20 So systematic reviews that answer the exact same research  
21 question do produce very divergent results. They are subject  
22 to the same methodological biases and they can produce  
23 heterogeneous findings that can be a scientific debate, but  
24 looking at one or just a few is a very flawed way to assess  
25 all of the evidence about the literature.

1 I would also say that it's a little bit out of date.  
2 Like I said earlier and, you know, I've addressed systemic  
3 reviews that I feel are more methodologically sound, more able  
4 to engage with the nuance findings of observational studies.

5 Q What is the role of systematic reviews in creating  
6 clinical practice guidelines?

7 A Systematic reviews in general are commissioned by expert  
8 panels that produce clinical practice guidelines. So it is  
9 one of other things that these expert panels can use to  
10 produce their guidelines to inform their colleagues who  
11 provide clinical care on the ground.

12 Other things that these expert panels use include their  
13 expertise in considering the effects of not treating or not  
14 offering care. Their expertise on patients preferences and  
15 values. Resources that would be consumed by either not  
16 treating or treating, and then other real-world  
17 considerations. So it is one part of a larger machine and all  
18 of those parts are critical.

19 Q To your knowledge, what clinical studies, if any, are  
20 there that conclude transitional medications for gender  
21 dysphoria should be prohibited or not used?

22 A I have never read that conclusion in this study.

23 Q How about systematic reviews?

24 Have you read any systematic reviews that come to that  
25 same conclusion?

1 A No.

2 Q Now Dr. Cantor in his declaration report relies on what  
3 is a Pyramid of Evidence to say that systematic reviews are of  
4 the highest quality of evidence. Do you know what this  
5 Pyramid of Evidence is?

6 A Yes. I have seen the Pyramid of Evidence.

7 Q What is it?

8 A It is a pyramid with kind of a broad base and a narrower  
9 top and at the top of the pyramid are systematic reviews.  
10 Below that are Randomized Controlled Trials. Below that are  
11 observational studies. You know, the narrow base also -- the  
12 shape of the pyramid corresponds to the number of studies  
13 available in each of the tiers in the pyramid. And then below  
14 observational studies would be kind of like case reports and  
15 other types of studies that are considered to be less robust.

16 Q And how are clinicians to view this various types of  
17 evidence, if there is a gap between the results of, say, a  
18 systematic review and what is needed in clinical care for a  
19 patient?

20 A Well, you wouldn't use a systematic review to provide  
21 clinical care. A systematic review can inform the developers  
22 of the clinical practice guidelines. But in practice,  
23 physicians, clinicians of all disciplines rely on the  
24 guideline development processes that are quite sound and well  
25 respected and themselves built off of the guidelines. There



1 are guidelines for how you make guidelines. We don't use  
2 systematic reviews to guide clinical care.

3 Q I want to talk a little bit more about clinical practice  
4 guidelines. What guidelines or standards, if any, in the US  
5 are recognized within the medical and mental health field for  
6 treating transgender adolescents with gender dysphoria?

7 A So these are not specific to the United States. They are  
8 considered to be internationally used and respected, but the  
9 WPATH 8th Edition and the Endocrine Society Guidelines last  
10 issued in 2017.

11 Q What types of evidence or reviews are these guidelines  
12 based on?

13 A WPATH commissions systematic reviews that were performed  
14 by public health researchers and subject matter experts at  
15 Johns Hopkins. Those investigators at that School of Public  
16 Health used the Agency for Healthcare Research and Quality,  
17 the HRQ Guidelines, for performing systematic reviews, and the  
18 HRQs are part of the federal government and kind of like a  
19 large, impartial federal body that helps direct the analysis  
20 of clinical research, among other things.

21 Q Talk more about the Endocrine Society Guidelines.

22 What is the purpose of these guidelines?

23 A To support and inform and help endocrinologists  
24 throughout the world who care for transgender people to  
25 provide evidence-based care for their patients.

1 Q Are you aware of any studies out there showing that  
2 adherence to these guidelines fulfills this purpose?

3 A Yes. So just recently, a study was published by Gupta  
4 and colleagues from Emory which was a retrospective chart  
5 analysis of all the patients that have received care at their  
6 clinic over the preceding, I believe, it was ten years or so,  
7 but I'd have to look at it to refresh my follow-up period.  
8 But most importantly, what it showed is that all of the -- the  
9 vast majority of adolescents received care or continued care.  
10 Two discontinued care. One to pursue pregnancy options and  
11 one for another reason I can't remember. Most importantly  
12 what this really shows is that the vast majority of  
13 adolescents who receive care in accordance with the Endocrine  
14 Society's Clinical Practice Guidelines continue this care and  
15 none of the patients who paused treatment identified with  
16 their sex assigned at birth, meaning that they later  
17 determined that they weren't transgender. That was not  
18 observed.

19 Q And for these guidelines, what method was used to develop  
20 them?

21 A The Endocrine Society uses the GRADE approach to look at  
22 evidence and to make clinical practice recommendations for  
23 care.

24 Q And what does the GRADE methodology consist of?

25 A So under the GRADE model, Randomized Controlled Trials

1 are automatically considered high quality. Observational  
2 studies are automatically considered low quality and various  
3 aspects of those studies can be used to up or downgrade the  
4 quality of evidence.

5 The Endocrine Society used those guidelines for guideline  
6 development to issue strong or weak recommendations. And the  
7 strength of the recommendation depends on the quality of  
8 evidence and also on other factors that are incredibly  
9 pertinent to patient care. Some of the ones I have mentioned  
10 already.

11 Q Defendants' expert pointed out how the Endocrine Society  
12 Guidelines issued recommendations based on low-quality  
13 evidence.

14 what does it mean for clinicians treating patients with  
15 gender dysphoria with this low-quality evidence based  
16 recommendation?

17 A So the provision of gender-affirming care for transgender  
18 adolescents is based on low-quality evidence. That's a  
19 technical term that was assigned based on the study designs  
20 and determination of how the studies were conducted. That is  
21 not surprising or unusual at all.

22 As I mentioned before, 85 percent of clinical care is  
23 based -- is grounded on low-quality evidence. As a  
24 pediatrician and adolescent medicine physician, I look at  
25 low-quality evidence or very low-quality evidence all the time

1 to care for my patients and I'm very confident that I'm  
2 serving them with the best available care.

3 Just, you know, kind of some general examples, the use of  
4 hormonal treatments to treat heavy menstrual bleeding is  
5 direct from the low-quality evidence.

6 I recently prescribed a puberty blocker to a young female  
7 to preserve her fertility while she underwent chemotherapy.  
8 That was based on very low-quality evidence. Never -- no  
9 Randomized Controlled Trial was done there to my knowledge.

10 Other aspects of pediatric care, the treatment of croup  
11 with steroids can be lifesaving. I've definitely been there  
12 at the bedside when patients are crashing and they need those  
13 steroids. We give it to them and the quality of evidence is  
14 quite low. But the effects of the care are -- the benefits  
15 are tremendous.

16 Q And under the GRADE system, you talked about the strength  
17 of the recommendations.

18 What are the different types of strength of the  
19 recommendations?

20 A Yes. So we touched on this. There are strong and weak  
21 recommendations.

22 Q And would clinicians be able to rely on both strong and  
23 weak recommendations?

24 A Yes, absolutely.

25 Q And in the course of a doctor's practice, how would the

1 doctor change a patient's treatment path, based on whether a  
2 recommendation was strong or weak?

3 A I don't know that we would necessarily change the  
4 treatment path. We would certainly have a more in-depth  
5 discussion, more shared decision making. I would say that if  
6 the recommendation were weak, that would mean that we would  
7 have a long discussion about other options and take more time  
8 to elicit the patient's values and preference of those, of  
9 their medical decisions.

10 Q Let's turn to studies on transitioning medication such as  
11 blockers and hormone therapy.

12 what are the goals of transitioning medications?

13 A well, the goals of medical aspects of gender-affirming  
14 care are to help the patient achieve appearance congruence,  
15 meaning that their internal sense of self is aligned with how  
16 they look and present externally to the world.

17 Q So go into a little more detail.

18 what are the positive physical or mental health outcomes  
19 of taking these medications?

20 A Broadly speaking, the benefits of gender-affirming care  
21 on -- for trans adolescents are profound. You know,  
22 adolescence is a really pivotal period of development and to  
23 divert somebody from an adolescence of suffering and extreme  
24 distress, has positive impacts that pay off throughout  
25 adulthood.

1 A lot of my patients who have received medical aspects of  
2 gender-affirming care get to enjoy -- they get to thrive. You  
3 know, they get to perform their best at school. They get to  
4 develop their talents. They get a softer landing into  
5 adulthood. So that's kind of me speaking from my clinical  
6 experience.

7 From an evidentiary standpoint, the studies that  
8 demonstrate the gender-affirming care demonstrate significant  
9 improvements in depression and anxiety, non-suicidal self  
10 injury and suicidal ideation as well as improved body  
11 satisfaction and improved psychosocial functioning.

12 Q On mental health benefits, how are mental health benefit  
13 studied?

14 A There are a large variety of psychometric tools, long and  
15 validated questionnaires that mental health specialists and  
16 experts can use to quantify mental health so to speak and  
17 qualitative studies, too, that engage more with kind of the  
18 patient's experiences as they provide it.

19 Q And is one method preferable to another?

20 A I think it just depends on the context in which you are  
21 asking that question. But as a physician who cares for all  
22 adolescents and transgender adolescents, I find all of that  
23 evidence quite compelling.

24 Q Based on your review of available literature, what do the  
25 studies of youth on puberty blockers generally report?

1 A Generally, my assessment of those studies is a stability  
2 and psychosocial functioning of stability mental health that  
3 puberty pausing medication is in use.

4 Q So stability. why is stability important? what are the  
5 benefits of having stability in mental health?

6 A well, if somebody is on a downward trajectory or  
7 suffering, then, to put a pause on that suffering is  
8 incredibly therapeutic and profound.

9 In practice, that pause or that stability in mental  
10 health functioning allows that young person to engage  
11 productively with a mental health provider so that they can  
12 understand themselves. They can clarify their goals. They  
13 can learn more about that gender identity. They can  
14 participate in more discussion with their family members, and  
15 they can just function.

16 Q Now based on your review of available literature, what do  
17 studies on youth hormone therapy generally report?

18 A Youth who receive cross-sex hormones achieve appearance  
19 congruence, meaning that their -- I'm sorry. I already  
20 defined that. I shouldn't defined that again. I'm sorry.  
21 They achieve appearance congruence, which is the mediator and  
22 the causal pathway between treatment for gender dysphoria and  
23 mental health benefits. So any time you're kind of studying  
24 the effective intervention, it's important to understand the  
25 things that mediate that relationship and appearance

1 congruence is just that.

2 Q what evidence or studies support the fact that hormone  
3 therapy has beneficial impact on mental health for  
4 adolescents?

5 A what studies? There are many. I could summarize maybe  
6 three of the ones that I consider to be the most impactful.

7 So Dr. Chen and her colleagues published an article in  
8 the New England Journal of Medicine. It was the largest study  
9 to date with four different treatment cites throughout the  
10 country. The largest number of participants followed over two  
11 years. And what it demonstrated is that transgender  
12 adolescents experience relief in their mental health issues  
13 when their appearance aligns with their internal sense of  
14 self.

15 Diana Tordoff and her clients out of Seattle demonstrated  
16 that by controlling for psychotherapy, mental health support,  
17 that there is an independent effect of gender-forming  
18 medications on mental health and independent positive effect.

19 And then, Laura Kuper's group of the Genesis Clinic in  
20 Dallas, Texas, also conducted a study of their patients and  
21 they showed that gender-forming care leads to reduction in  
22 body dissatisfaction, which is a little bit of a double  
23 negative -- but I'm just trying to stay true to the literature  
24 itself -- and that reduction body satisfaction are also  
25 associated with improvement in mental health.



1 Q Now, can you talk about the harms that manifest if one  
2 waits until adulthood to take hormone therapy as medically  
3 necessary.

4 A Yes. In Dr. Shumer's testimony he described what happens  
5 when unwanted puberty progresses. That individual ends up  
6 with secondary sex characteristics that they did not want.  
7 The distress of that accumulates over time. These are people  
8 who are trying to live their lives. You know, they are trying  
9 to perform in school. Develop, you know, friendships, a sense  
10 of self, and it's really hard to do that when there's extreme  
11 distress going on.

12 what we also know, based on clinical research, is that  
13 adults who had desired care as adolescents but didn't receive  
14 it, report a higher rate of past years suicidality and we also  
15 know that even amongst older-presenting adolescents, that they  
16 tend to have worse mental health outcomes if they had gender  
17 dysphoria throughout their adolescent years than  
18 younger-presenting adolescents who received the intervention  
19 in a more timely way.

20 Q And you eluded to studies that support this positive  
21 relationships. Can you point to a couple that you are aware  
22 of.

23 A Yes. I think we've covered a few of them. There are, I  
24 think, you know, over 16 studies now that demonstrate the  
25 mental health benefits of care, but the ones that I just

1 described, the Seattle Study, the Dallas Study and then the  
2 Multicenter Study published in the New England Journal all  
3 demonstrate the mental health benefits of this care.

4 Q Now Defendants' experts in their declarations criticize  
5 the reports that you rely on in your own declaration.

6 what is your response to that?

7 A Well, you know, I -- I take my position as a clinical  
8 researcher, someone who is trained in evidence-based medicine  
9 and somebody who provides care for individuals every day very  
10 seriously. I was really surprised to see in their  
11 declarations inconsistent thresholds of what's acceptable for  
12 various types of evidence.

13 These experts seem to need the highest threshold of  
14 evidence possible to evaluate the benefits of care but the  
15 assertions that they make in seeking to describe knowledge  
16 about gender dysphoria are grounded in logic that wouldn't  
17 make it onto the evidence pyramid.

18 In the Chen Study that we've discussed, two participants  
19 committed suicide, and that finding has been used to claim  
20 that gender-affirming care causes suicide. And that's not  
21 even correlational. It's speculation. So I think the  
22 inconsistencies in their use of evidence-based medicine are  
23 quite concerning.

24 Q And in a more specific way, Dr. Cantor opines that some  
25 of the studies you cited are deficient because those studies

1 do not present a causal relationship between the medical care  
2 and the outcome.

3 what's your response to that allegation?

4 A well, in some ways, you know, you could swap out certain  
5 words or certain phrases. I mean, again, I feel like he's  
6 saying these studies didn't use Randomized Controlled Trial  
7 methodology. That's just a fact. We know that. You don't  
8 need Randomized Controlled Trials to uncover causal links. So  
9 I would say that that's far too simplistic of an assertion and  
10 the best evidence that we have suggests a causal link between  
11 medical treatment of gender dysphoria and improved well being  
12 of transgender youth.

13 Q Dr. Laidlaw and Dr. Cantor disagree with you that WPATH  
14 is a term of authoritativeness in the medical community. So,  
15 for example, they did bring up the Cass Report in the UK for  
16 this assertion that these medications are not safe.

17 what is your understanding of what that Cass Report says?

18 A You know, the Cass Report is -- it's a document that  
19 provides internal findings. As I understand it, it's based on  
20 the N-I-C-E the NICE reviews that were performed by unknown  
21 authors affiliated with the National Health Service. It's a  
22 little unusual for systematic reviews to not report their  
23 authorship. That's a level of transparency that's generally  
24 accepted but these reviews weren't really published in a  
25 journal or anything, so they weren't put to a peer-review

1 test.

2 I would not take those reviews, which informed Dr. Cass's  
3 report over the standards of care produced by hundreds of  
4 experts in this field who are wildly regarded in the  
5 international medical community.

6 Q Dr. Laidlaw characterizes this interim report as one that  
7 led to the closing down of a clinic in the UK.

8 what do you make of that assessment?

9 A well, that clinic wasn't closed and then care was ceased,  
10 but those clinical services were redirected to satellite sites  
11 throughout the United Kingdom to better serve their patients'  
12 needs. If the only gender clinic in the United States was in  
13 Georgia, it would be impossible to serve the vast majority of  
14 the people.

15 The wait list for receiving care was close to five years.  
16 So if you need to seek care when you are 11 years old, that's  
17 an intolerable time to wait. So I think that the situation  
18 that led to the production of her report and the redirection  
19 of services was really quite grave and like nothing that we've  
20 seen here in the United States.

21 Q In the countries cited by Dr. Laidlaw and Dr. Cantor in  
22 the declarations when they talk about care in their various  
23 healthcare systems, which one of them has banned hormone  
24 therapy for adolescents?

25 A None of them have banned care.

1 Q Are you aware of the Georgia law S.B. 140 and what it  
2 says?

3 A Yes, I am.

4 Q Defense experts talked a lot about this need for more  
5 research in this field of medicine, the area of inquiry. How  
6 would this law affect the ability of doctors and researchers  
7 in Georgia to conduct clinical research on the specific area?

8 A I know very well through my professional connections and  
9 my training and my formative years that this state and  
10 specifically this city is home to a great deal of intellectual  
11 talent and expertise and that a lot of compassionate care is  
12 provided, which serves as excellent substrate for real-world  
13 clinical research. The enactment of S.B. 140 would dismantle  
14 that completely.

15 MS. WEAVER: Thank you, doctor.

16 I have no further questions.

17 **CROSS-EXAMINATION**

18 BY MR. HARRIS:

19 Q Good morning, Dr. McNamara.

20 A Hi there.

21 Q Just a couple preliminary questions.

22 When were you retained by the Plaintiffs in this case?

23 A I think it was in June. Probably early June.

24 Q And you were retained to prepare a report and offer  
25 testimony, if called here; correct?

1 A Correct.

2 Q And you're being paid \$400 an hour for your work with the  
3 Plaintiffs?

4 A Yes.

5 Q And what's a ballpark estimate of how much time you spent  
6 writing the report you put in?

7 A You know, it's so -- I have been preparing for this so  
8 much that I haven't even had a chance to think about it. Any  
9 number I give you I hope is not binding, but maybe like 10 to  
10 15 hours, and then editing more and -- let's just say 15  
11 hours.

12 Q Thank you. And about how much time did you spend  
13 preparing your testimony in advance of the hearing?

14 A How many hours?

15 Q Um-hmm.

16 A Maybe another 10 to 15, probably. Feels like more.

17 Q And I see from your report you were retained in the  
18 Alabama case. Can you just discuss the nature of your work on  
19 that case.

20 A Yes. I mean the Alabama case, I actually don't know  
21 where it is right now. It is hard to follow these things but  
22 I prepared an expert report.

23 Q And were you paid the same there as you were here?

24 A No. I was a paid a little bit more.

25 Q Okay. Before we get into some specific things, you

1 offered some critiques of some of the European evidence and  
2 systematic review.

3 Can you tell us what you think is the single best study  
4 supporting the effectiveness of hormone therapy for  
5 adolescent?

6 A I can't tell you a single study. It's not quite like  
7 that because in my mind, there's no hierarchy of which is  
8 best. I think they all provide -- they all have their  
9 strengths and their weaknesses. They all give us information  
10 in one area and together as a whole. That's how I view the  
11 evidence.

12 Q Okay. You would view the -- you were in the courtroom  
13 while Dr. Shumer was testifying; right?

14 A Yes.

15 Q You would agree with me, then, that the five studies that  
16 my friend discussed with Dr. Shumer from Europe are part of  
17 that whole that's being considered?

18 A So when you say studies, what are you considering?

19 Q I asked you. I mean, I asked you to name the single  
20 study or published study, whether it's systematic review, an  
21 observational study, that you think is the best single study  
22 to show the effectiveness of cross-sex hormones for gender  
23 dysphoria.

24 A So that includes systematic reviews?

25 Q Sure.

1 A Okay. So --

2 Q Sorry. So now we are mixing questions. Let me just  
3 restate that.

4 A Sure.

5 Q Do you consider the studies you heard discussed with Dr.  
6 Shumer to be part of what you just described as that whole mix  
7 you considered all together to figure out the best answer.

8 A Can we review what those five studies were?

9 Q Sure. It's actually -- they are in your binder there  
10 Defendants' 1 through 5.

11 A I have not looked at the binder at all yet.

12 Q Should be one labeled --

13 A 1 through 5. Okay. The NICE Review and the Cass Report,  
14 the Finnish Health Authority, the Kaltiala Study and the  
15 Ludvigsson Systematic Review.

16 I would not consider the first three to be producing any  
17 new findings. So those are the kind of like the  
18 government-produced findings. I don't -- I -- I wouldn't  
19 count those -- the Kaltiala Study -- the Kaltiala Study isn't  
20 an original piece of clinical research and the Ludvigsson  
21 Study is a systematic review, so in and of itself, it is kind  
22 of an original piece of clinical research.

23 Q So your answer to that is when you said there's no single  
24 piece of evidence that you can look at the universe and weigh  
25 them -- so was your answer, yes, you would consider some of



1 these or all of these as part of that, just to be clear?

2 A I would consider the fourth and the fifth as original  
3 clinical research that should be considered in considering all  
4 of the evidence on gender-affirming care, but the three  
5 government-produced reports, you know, as -- I am not really  
6 in the habit of using government reports from other countries  
7 to consider the evidence on care.

8 Q Okay. Just, one other quick question on this. I think  
9 you suggested that you down weighted the Sweden Systematic  
10 Review a little bit because some of the searches that were  
11 conducted were too old maybe, I think you said. It was not as  
12 current as some other things.

13 A Yeah. There was about a two-year gap between publication  
14 and then the timing in which they stopped looking at the  
15 literature.

16 Q Okay. And just to confirm, what was -- do you remember  
17 what those dates were? Do you remember what the gap was?

18 A Well, let's look right here. I think it was  
19 November 2021. Do you want me to make sure?

20 Q Sure. You have got it in front of you.

21 A Yes. Like they started in 2014 and searched databases  
22 until November 9th of 2021.

23 Q And would you concede then that the Endocrine Society  
24 2017 Guidelines have the same critique? So I think those were  
25 published in 2017?

1 A Yeah. The Endocrine Society is definitely due to review  
2 their guidelines.

3 Q Okay. Moving on to some other topics.

4 So according to WPATH, transgender individuals may  
5 consider a range of identities and elements of gender  
6 presentations when they're exploring their gender identity.

7 Do you agree with that?

8 A Yes.

9 Q Okay. And do you agree that people may spend some time  
10 in a gender identity or presentation before they discover it  
11 does not feel comfortable and later adapt it or shift it to an  
12 earlier identity or presentation?

13 Do you agree with that?

14 A I'm sorry. Just read it one more time.

15 Q Sorry.

16 A It was long.

17 Q I don't want to make you keep flipping through things.

18 THE COURT: I'm asking you to slow down just a  
19 little bit. I can see our court reporter struggling here.

20 MR. HARRIS: Sorry.

21 BY MR. HARRIS:

22 Q People may spend some time in a gender identity or  
23 presentation before they discover it does not feel comfortable  
24 and later adapt it or shift to an earlier identity or  
25 presentation.

1 Do you agree with that?

2 A Yes. That can sometimes happen.

3 Q A little bit more on your background.

4 You said in your report that you provide full spectrum  
5 care for youth experiencing gender dysphoria.

6 Is that correct?

7 A I provide full spectrum care for adolescents and that  
8 includes youths who experience gender dysphoria.

9 Q Do you prescribe hormone therapy, puberty blockers, or  
10 hormones?

11 A I don't prescribe puberty blockers. I will review  
12 patients prescriptions for hormones, if they have received  
13 care in a gender clinic.

14 I take care of patients up to about age 25. My position  
15 at Yale is a little unique. I'm kind of their generalized  
16 medicine person and we have a gender clinic. So if I meet  
17 somebody who is experiencing gender dysphoria for the first  
18 time, I'll refer them there for comprehensive services.

19 Q Okay. So would it be your position that only a  
20 endocrinologist would initially prescribe puberty blockers or  
21 hormones?

22 A No. Adolescent medicine physicians do that, too.

23 Q Is there a reason you don't sort of do it in the first  
24 instance?

25 A Well, yeah. I only have 20 minutes per appointment and I

1 see a lot of other things. I see a lot of complex trauma,  
2 sexual reproduction health needs, sports medicine issues,  
3 other menstrual concerns, dermatology. I could go on and on  
4 but it's just where my institution needs me is to provide  
5 general adolescent care.

6 Q what percentage of your practice would you say is devoted  
7 to specifically treating gender dysphoria?

8 A You know, I provide -- let me back that up. I couldn't  
9 give you a specific percentage. I would say that right now, I  
10 probably have about 10 to 15 youths who are experiencing  
11 gender dysphoria in my care. I'm not prescribing their  
12 hormones or specifically managing their gender dysphoria.  
13 That's happening in a multidisciplinary clinic. But they also  
14 have other health needs. You know, they might also have Type  
15 1 diabetes or ADHD or really bad acne or need menstrual  
16 suppression. So that's what I do for them now.

17 Q Okay. But -- and you are here testifying as an expert  
18 and you are competent to testify about the treatment of  
19 adolescents with gender dysphoria. It's a large portion of  
20 your report; is that right?

21 A Yes, absolutely.

22 Q Okay. So under what you describe as the standard of care  
23 for gender dysphoria, what's the minimum age at which a child  
24 should receive cross-sex hormones?

25 A There is no hard and fast age.

1 Q Okay. what's the youngest age you have seen a child  
2 given cross-sex hormones?

3 A Fifteen, I think.

4 Q All right. Do you think that standard of practitioners  
5 in the area, that would be about the minimum age you would  
6 expect to see that?

7 A Not necessarily. I don't -- I'm not sure I have intimate  
8 acknowledge of the specific lower age that my colleagues have  
9 prescribed sex hormones at.

10 Q In Paragraph 44 of your report, you use the phrase  
11 psychological maturity. You say cross-sex hormones should  
12 only be given once the provider is ensured the child has the  
13 psychological maturity to proceed.

14 what do you mean by that?

15 A Well, that is a determination that's made by a mental  
16 health specialist who is competent in areas of gender. And  
17 it's made after a series of discussions between parents, the  
18 patient, and their providers. And at that point, we, you  
19 know, the clinicians endeavor to make sure the patient is  
20 concrete in their identity, and that they understand the risks  
21 and the benefits and the effects of care.

22 Q And you agree with Dr. Shumer, I assume, that giving  
23 opposite sex hormones based on someone's natal sex will induce  
24 physical characteristics that are different from what  
25 otherwise would have developed?

1 A Yes.

2 Q Please -- I promise I won't do this that much -- if you  
3 will turn to Plaintiffs' Exhibit's 9, which is the WPATH  
4 Standards, Appendix C which is on Page 254.

5 A 9?

6 Q Yeah. There are two binders. It might be in the other  
7 one.

8 A And then you said what?

9 Q Appendix C, Page 254.

10 A Is it 254.

11 Q Yes, it is.

12 A Okay.

13 Q Great. And I just want to confirm, do you agree Table 1  
14 lists --

15 A Oh, I'm sorry. I'm sorry. I am so sorry. Okay. Yes,  
16 okay.

17 Q Okay. Do you agree that Table 1 in this document lists  
18 the expected physical changes we'd expect to see from  
19 gender-affirming hormones?

20 A Yes, I do.

21 Q And you agree that that would be the expected, you know,  
22 that would be what one would expect from a testosterone-based  
23 regimen on top and estrogen-based regimen on the bottom?

24 A Yeah. Any variety of these, yes.

25 Q Okay. Now take a look at Table 2. And Table 2 says

1 Risks Associated With Gender-Affirming Hormone Therapy; right?

2 A Yes.

3 Q And what -- tell me what is the bold things -- what do  
4 the bold risks indicate?

5 A Under estrogen-based regimen of venous thromboembolism  
6 infertility and under the testosterone polycythemia  
7 infertility.

8 Q And what does it mean -- it says here bolded items are  
9 clinically significant. Tell me what that means.

10 A I would need to see if -- I don't know if they have like  
11 a footnote where they describe what clinically significant  
12 means. I would assume they are likely or deserved particular  
13 consideration.

14 Q Okay. Tell me what a venous thromboembolism is.

15 A It's a blood clot.

16 Q Is that dangerous?

17 A Yes.

18 Q Tell me what polycythemia is.

19 A It's the overproduction of red blood cells or it's a  
20 higher level of blood cells than the normal range.

21 Q Okay. So I just want to confirm -- so seeing the  
22 physical changes in the risks, so it's your opinion that a 15  
23 year old could have the psychological maturity to consent to  
24 treatments with this risk profile?

25 A Yes. You know, it's maturity. I do believe so, yes.

1 Q Okay. And it's also your opinion that someone of that  
2 age would have the psychological maturity to consent to  
3 interventions that could jeopardize their fertility?

4 A I do want to just introduce a little caveat. Adolescents  
5 or minors do not consent to treatment. They assent. They  
6 have medical decision makers that provide consent. So  
7 psychological maturity to understand, to assent, but they're  
8 joined by a medical decision maker who's often a parent or a  
9 guardian who has the kind of like highest expected ability to  
10 understand the risks and that benefits.

11 Q Okay. So because -- do you agree that, for example, on  
12 fertility, a 15 year old may not have fully thought through  
13 potential future things, like ability to have children?  
14 That's often not on a 15 year old's mind; right?

15 A Sometimes it is. I wouldn't say unilaterally. I have  
16 talked to many transgender adolescents who have been very  
17 thoughtful about their family-planning goals and taken steps  
18 to preserve their fertility or, you know, considered other  
19 ways that they might wish to become parents. So I wouldn't  
20 make a black and white determination like that.

21 Q Okay. WPATH -- we don't have to turn, but we can if you  
22 need the full quote. WPATH -- the same document we were  
23 reading says that there are only quote preliminary results  
24 from retrospective studies evaluating transgender adults in  
25 the decisions they made when they were young regarding the



1 consequences of medical-affirming treatment on reproductive  
2 capacity.

3 Does that sound accurate that they say preliminary  
4 results?

5 A Preliminary -- yes. There are new studies coming out all  
6 the time. But retrospective studies, as you mentioned, would  
7 be the only way you go back and ask people.

8 Q Georgia, like many other states, generally with very tiny  
9 exceptions, says that 18 is the minimum age for marriage.

10 Do you think children under the age of 18 can assent to  
11 marriage with parental approval?

12 A I remember being a medical student at CHOA Egleston  
13 Hospital and thinking through some of these things and being  
14 very kind of dialed into Georgia's laws and nuances of, you  
15 know, cultural backgrounds of the diverse patients that got  
16 health care there.

17 Specifically regarding marriage, I don't think that's for  
18 a doctor to make a determination on.

19 Q So you don't have an opinion about whether a 15 year old  
20 could assent with parental approval to marriage?

21 A As a physician, I do not.

22 Q Okay. Okay. So you mentioned a few minutes ago about  
23 parents, which I'd like to go back to. You say many times in  
24 your report, you know, they are in there. We'll need to look  
25 at one.

1 In Paragraph 34 of your report you say informed consent  
2 by parents is a foundational practice of adolescent medicine.

3 So you are of the view that hormones would be given  
4 without parental consent?

5 A That's correct.

6 Q Does that reflect the standard of care as you understand  
7 it that there would be parental involvement and consent on a  
8 decision like that?

9 A For cross-sex hormones, yes.

10 Q Then I'm confused about some of the WPATH statements.

11 Again, we can turn, if you would like, but WPATH says  
12 there should be parent/guardian involvement, unless their  
13 involvement is determined to be harmful or unnecessary.

14 Can you help me understand what that means.

15 A Where you are looking?

16 Q Sure. It's S114 right in the heading that carries over  
17 to 115. The bold heading that carries over from 114 to 115.  
18 Take a look at that.

19 A We recommend health care professionals prescribe sex  
20 hormone treatment regimens as part of gender-affirming  
21 treatment in eligible transgender and gender diverse  
22 adolescents who are at least Tanner stage 2, with  
23 parent/guardian involvement unless their involvement is  
24 determined to be harmful or unnecessary to the adolescent.

25 Well, I think that's a stipulation for protecting

1 adolescents who are emancipated or adolescents who are being  
2 physically harmed by their parents sometimes not infrequently  
3 with all adolescents but at least in my experience, you know,  
4 some child protective services body may be involved for  
5 various reasons. So I think they have to put that caveat in  
6 there.

7 Q Okay. So I want to be clear about your view. Your view  
8 in a scenario where say it's 15 year old who wants hormones  
9 and the parents say -- you know, completely on the same page  
10 with each other. We think the risks of this are just too  
11 great and, you know, you have got to wait until you are 18,  
12 that's a decision that you would respect and support?

13 A Absolutely. That patient would not receive care. I mean  
14 they wouldn't receive medical aspects of gender-affirming  
15 care. They would receive ongoing psychological support. It  
16 would be incredibly important to maintain the therapeutic  
17 relationship with that family. To maintain connections to the  
18 patient to ensure that they're safe and as well as possible.  
19 That is not an infrequent experience of mine.

20 Q Okay. And I guess I'll ask you one more question about  
21 the psychological maturity.

22 Do you think children at the age of 18 have the maturity  
23 to assent to surgical procedures for gender transitions?

24 A In some cases, yes. In some cases their dysphoria is so  
25 profound and not adequately relieved with other medical

1 treatment. I have known adolescents who have received  
2 gender-affirming surgery before the age of 18 and tremendously  
3 benefited from them.

4 Q So do you think there are any gender-affirming medical  
5 interventions, surgical, medical or otherwise, that shouldn't  
6 be done on children under 18?

7 A Do I think there are any interventions that shouldn't be  
8 done on adolescents?

9 | Q Adolescents, right.

10 A That is a question I -- no. I don't think that there is  
11 any hard and fast rules to that. I really -- I really do  
12 place stock in WPATH and not having hard and fast age limits  
13 because every individual is different. Every individual's  
14 experience with gender dysphoria is different and every  
15 individual needs different things.

16 Q Okay. And just going back to some of the studies for a  
17 bit. I know you addressed some of the European studies. Do  
18 you -- when you said you are familiar with those, do you have  
19 any reason to believe any of those studies were motivated by  
20 anti-trans animus or bias?

21 A I don't know and I'm not the right person to ask because  
22 I haven't done thorough inventory of the conflicts of interest  
23 or the potential thereof. It is a little concerning or it  
24 raises a red flag for bias that the NICE reviews from the UK  
25 don't have authors. We don't know who wrote them, so we can't

1 ascertain what their credentials might be.

2 Q And you -- I know you testified before about the  
3 difference between clinical guidelines and studies or  
4 research. If there were clinical guidelines that recommended  
5 treatments with minimal benefits and serious risks, would you  
6 think doctors should follow that guideline, just as a general  
7 matter?

8 A I can't answer that question. It's so hypothetical and  
9 so broad, I need --

10 Q I mean --

11 A It's impossible.

12 Q Do you think clinical guidelines should be followed in  
13 all circumstances?

14 A I can't think of a specific area in which a clinical  
15 guideline is not trustworthy or it's unreliable. The  
16 processes by which these guidelines are developed are so  
17 robust that I'm just kind of running through my head what the  
18 guidelines I'm familiar with.

19 Q well, let's --

20 THE COURT: Please don't interrupt. Please don't  
21 interrupt the witness.

22 BY MR. HARRIS:

23 Q Please finish.

24 A That I can't think of one that I know of. When we begin  
25 to think about hypotheticals, I simply can't do it without

1 concrete terms in reality. I'm not trying to not answer your  
2 question. It's just not how I think about medicine.

3 Q Okay. Or let's say if there were a guideline from ten  
4 years ago that was still out there and other research had come  
5 in since then that questioned the effectiveness or safety of  
6 that intervention, that might be a reason not to follow it;  
7 right?

8 A It might be a reason for that organization to issue a new  
9 set of guidelines and I don't think it's quite as black and  
10 white, so I don't follow those guidelines. It's a lot more  
11 nuance than that. You know, we use these guidelines and we  
12 also use new and best available evidence simultaneously.

13 The scenario you are describing is fairly unusual, at  
14 least to my knowledge. Of guidelines I use, I think, you  
15 know, they're updated with enough frequency, such that that  
16 has not happened and you may be eluding to the Endocrine  
17 Society Guidelines last updated about seven years ago.

18 Q I was just asking a hypothetical.

19 | A     Okay.

20 Q I have one last question. It's a longer passage so I'll  
21 just have you to turn to Page S46 of the WPATH Guidelines  
22 which is Plaintiffs' 9.

23	A	Okay.
----	---	-------

24 Q would you just read the two sentences beginning with the  
25 word despite starting in the middle of the top paragraph.

1 A I'm so sorry. what page is it?

2 Q I'm sorry S46. I might have said that wrong.

3 A You know you didn't -- I honestly might need glasses,  
4 S46.

5 Q And then the top left paragraph right in the middle there  
6 is the word despite and the two sentences starting right  
7 there. Actually would you mind reading them for the court  
8 reporter.

9 A I would, if I could find it. S46, top left.

10 Q About halfway through that paragraph.

11 A Oh, it's in the middle of the paragraph. The paragraph  
12 starts at the time of this chapter's writing.

13 Q The paragraph above that. The half one.

14 A Oh, there we go. Okay. Thank you. Thank you.

15 Despite the slowly growing body of evidence supporting  
16 the effectiveness of early medical intervention, the number of  
17 studies is still low, and there are few outcome studies that  
18 follow youth into adulthood. Therefore, a systematic review  
19 regarding outcomes of treatment in adolescents is not  
20 possible. A short narrative review is provided instead.

21 Q Okay. And the question I have is do you agree with WPATH  
22 that the number of studies is still low and there are few  
23 outcomes study that follow youth into adulthood?

24 A Yes. I agree with that.

25 MR. HARRIS: Thank you, doctor.

1 THE COURT: I have one question for our witness.

2 And this was a lingering question from the direct examine and  
3 I'll let you ask any follow up, if you would like after this.

4 BY THE COURT:

5 Q So one of your critique as I understand it of the expert  
6 declarations that were submitted by the State is that -- and  
7 correct me if I have gotten this wrong or this  
8 mischaracterizes any of your testimony -- but I think you said  
9 the State's experts were endorsing inconsistent thresholds as  
10 far as acceptable medical evidence in this sphere. And as I  
11 understand it, your testimony was that they were endorsing a  
12 high threshold as far as the effectiveness of hormone therapy  
13 for the treatment of gender dysphoria and a lower threshold as  
14 to certain other factors that they discussed. I did not grasp  
15 what those other factors were, so I was wondering if you might  
16 expand on that.

17 A Yes. So the example I gave was one of the State's  
18 experts made a statement in his declaration that in a study  
19 where two suicides among transgender youth were observed, that  
20 that indicates that gender-affirming care causes suicide.  
21 That statement is grounded in -- it relies on the causal  
22 evidence that doesn't exist.

23 If you think about the evidence pyramid as it was  
24 presented by the Defendants' experts, they want to live in the  
25 systematic review top of the pyramid to assess all the



1 | evidence of benefits, but when they try to describe other  
2 | phenomenon that exist in clinical research in this actual  
3 | care, they make a lot of speculation statements that are  
4 | grounded in no evidence.

5           There's been no evidence that demonstrates that  
6 gender-affirming care causes suicide. And to read a statement  
7 like that is fundamentally unscientific and wrong. There are  
8 other statements that are made in those declarations which I  
9 can recall for you, if you would like, but it's kind of one  
10 strong example of a significant inconsistency.

11 THE COURT: I appreciate the clarification.

12 BY MR. HARRIS:

13 Q So that same study that you mentioned I just want to  
14 confirm is it your position that Chen does not establish  
15 causation on a causal link between transitioning medications  
16 and well being?

17 A They establish a causal link between transitioning  
18 medications and appearance congruence and well being. A  
19 causal link is not a hundred percent causation but they're  
20 building the pathway for how you get from medical intervention  
21 to improved mental health. They showed with really sound  
22 statistical methods that this mediator of exposure to outcome  
23 is appearance congruence.

24 Q     okay.  Do you acknowledge -- I'm going to read it.  We  
25 don't have to turn there.  You can tell me if I misword it.

1 Chen says, finally, our study lacked a comparison group which  
2 limits our ability to establish causation?

3 A It's limited but it is there.

4 MR. HARRIS: Thank you.

5 THE COURT: Redirect?

6 MS. WEAVER: Just a few questions, Your Honor.

7 **REDIRECT EXAMINATION**

8 BY MS. WEAVER:

9 Q Dr. McNamara, you were asked on cross about the table in  
10 the WPATH Guidelines stating the risks of receiving hormone  
11 therapy treatment like blood clots. They are possible risks;  
12 is that correct?

13 A Blood clots are possible risk. The GnRH agonist example  
14 would be -- so I mean as Dr. Shumer mentioned when an  
15 individual receives estrogen, they do so in a way that's meant  
16 to mimic the physiologic state of a cisgender woman and every  
17 woman is at a high risk of blood clots, a higher risks than  
18 males and a higher risk than an aggregated risk of all people.  
19 So we are very careful about counseling and then that's a  
20 really important thing to highlight because there are certain  
21 medical conditions that can be co-occurring that would raise  
22 one's risk or, you know, certain behavior habits like smoking  
23 cigarettes.

24 Q And do all medical treatments have possible risks?

25 A Absolutely, yes. I spend a lot of time counseling around



1 MR. STRAWBRIDGE: The Defendant is going to call  
2 Dr. Paul Hruz.

3 THE COURT: Good afternoon, sir.

4 COURTROOM DEPUTY: Please raise your right hand.

5 PAUL HRUZ,

6 a witness herein, having been first duly sworn, was examined  
7 and testified as follows:

8 COURTROOM DEPUTY: You may be seated.

9 Sir, I want to remind you that your testimony today  
10 is very important for the entire court to hear, so please  
11 remember to speak directly into the microphone.

12 At this time, can you please state and spell your  
13 first and last name for the record.

14 THE WITNESS: Paul Hruz. P-a-u-l H-r-u-z.

15 DIRECT EXAMINATION

16 BY MR. STRAWBRIDGE:

17 Q Dr. Hruz, can you briefly describe your educational  
18 background.

19 A Certainly. I received my undergraduate degree in  
20 Chemistry at Maquette University. I then went to the Medical  
21 College of Wisconsin where I received my M.D. and Ph.D.  
22 degrees with --

23 Q I'm already going to have to stop to ask you to slow down  
24 just a little bit.

25 A Ph.D. in Biochemistry. I then completed my residency

1 | training at the University of Washington in Seattle and then  
2 | went to the University of Washington University in St. Louis,  
3 | where I received my training in pediatric endocrinology.

4 Q Okay. And can you explain your professional experience  
5 since your graduation from medical school.

6 A I have been a practicing pediatric endocrinologist since  
7 2000, joining the faculty at Washington University. I'm also  
8 a physician scientist involved in scholarly activity related  
9 to scientific research and have scientific duties related to  
10 education of the next generation of physicians.

11 Q I don't think we need a full list but have you worked on  
12 or published in academic journals, medical journals?

13 A During the course of my career, I have published over 60  
14 papers in established journal, yes.

15 || Q Do you serve as a reviewer for any professional journals?

16 A Yes. I routinely serve as a reviewer for a number of  
17 journals, including diabetes and the Endocrine Society.

18 Q Do you have a -- I believe you said you do have a  
19 clinical practice?

20 A That is correct.

21 | Q Can you give us a general idea what's involved in your  
22 | clinical practice?

23 A So as a practicing pediatric endocrinologist, I see  
24 patients with the full spectrum of pediatric endocrine disease  
25 beginning at birth all the way into the early 20s covering

1 growth issues, puberty issues, thyroid issues, issues in  
2 glucose metabolism. Anything that involves the endocrine or  
3 hormone system.

4 Q And are you familiar with the scientific literature  
5 regarding the administration of cross-sex hormones to children  
6 with gender dysphoria?

7 A Yes. I am very familiar with that scientific literature.

8 Q And how have you become familiar with that scientific  
9 literature and for how long?

10 A I began investigating the scientific evidence for the  
11 involvement of pediatric endocrinologist in the care of  
12 patients who experience gender dysphoria while I was serving  
13 as Chief of our division of gender endocrinology in 2012. At  
14 that time, one of my faculty members approached me desiring to  
15 start a age gender clinic. And in my due diligence, in  
16 responding to that request, it necessitated me looking at the  
17 scientific evidence for the relative risks versus benefit of  
18 that intervention and I have continued in the study of that  
19 literature since that time.

20 Q And before we get into the specifics of that literature,  
21 I thought it might be helpful if you would just talk a little  
22 bit about the Pyramid of Evidence that we heard described  
23 earlier today and how that informs your approach generally as  
24 a pediatric endocrinologist.

25 A So it's very important to recognize the basis for making

1 medical decisions, particularly in the area of pediatrics and  
2 in my specialty as a pediatric endocrinologist, it is  
3 acknowledged that there are varying levels of evidence that  
4 have already been discussed here today all the way from expert  
5 opinions in case reports all the way up to Randomized  
6 Controlled Trials and meta-analyses and systematic reviews of  
7 those higher quality studies. It's essential that one  
8 recognizes that when one is going to embark on any medical  
9 intervention, it involves an assessment of relative risk  
10 versus relative benefit.

11 For those interventions that carry higher levels of risk  
12 with lower expectations from benefit, the bar is very  
13 different than for interventions that carry low risk and have  
14 a high potential for benefit. So it's a risk benefit analysis  
15 and the need for higher quality studies is going to be  
16 proportionate to the intervention that is being proposed.

17 Q And could you just kind of describe briefly what the  
18 levels of Pyramid of Evidence are generally accepted to be.

19 A So, again, at the highest level of evidence usually is a  
20 meta-analysis or systematic review of high quality studies,  
21 including Randomized Controlled Trials. There are levels of  
22 evidence that include controlled longitudinal studies. Then  
23 there are studies that are retrospect and cross sectional in  
24 nature. And then there are categories of low level would be a  
25 case report and observation or a paper that is published based





1 studies that are done have significant limitations,  
2 weaknesses, and biases and do not allow one to be able to make  
3 conclusions about the causality of intervention versus  
4 response.

5 Many -- much of the literature at best, can show  
6 association. It is very important to recognize what these  
7 limitations and weaknesses are and the specifics whether there  
8 are biases in patient recruitment, there are biases in study  
9 design, in data collection and data analysis, whether patients  
10 that are lost to follow up, whether there is sufficient sample  
11 size to draw definitive or important conclusions. That we  
12 recognize the various potential and established confounding  
13 factors in the results that are observed.

14 All of this is a part of the normal practice of medicine.  
15 It's essential to aim for the highest quality evidence, and,  
16 again, in proportion to the risk versus benefit of the  
17 intervention that one is studying that question.

18 Q And before we get to the discussion of the literature on  
19 risks and the benefits, how many, if any, Randomized  
20 Controlled Trials have you found regarding the treatment of  
21 youth with gender dysphoria?

22 A So I think it's been addressed again earlier today that  
23 there are no Randomized Controlled Trials in the area of  
24 affirming-hormonal interventions in the treatment of gender  
25 dysphoria youth. They do not exist.

1 Q Did you hear the suggestion today that it's impossible to  
2 do a Randomized Controlled Trial with respect to the  
3 administration of hormones to gender dysphoria youth?

4 A I did, indeed, hear that claim. And it's based upon a  
5 problem that I've heard many times made. It's a false  
6 portrayal of how that study would be done. So it is often  
7 presented that it is unethical to do a Randomized Controlled  
8 Trial where one arm of the experimental group receives  
9 affirmative hormones and the control group receives no  
10 therapy. That, indeed, would be unethical. However, that is  
11 not the way that scientific investigation is done, in any  
12 randomized controlled trial.

13 In designing a Randomized Controlled Trial, one begins  
14 with a scientific premise. One postulates a hypothesis about  
15 a particular intervention and the outcome that would occur  
16 from that intervention and then one designs the scientific  
17 study to -- and we actually in the scientific world begin with  
18 a presumption of skepticism, meaning that we begin with the  
19 hypothesis that there is no difference in the control and the  
20 treatment group and then we seek evidence to disprove that  
21 so-called known hypothesis.

22 In designing a Randomized Controlled Trial, what is done  
23 is that both control and treatment groups receive identical  
24 interventions with the exception of the independent variable  
25 that is being investigated in that study. Meaning that one

1 does not receive one type of care and the control group  
2 receives nothing. So in a properly controlled randomized  
3 controlled study in assessing the question either of safety or  
4 of efficacy of affirming hormones, one would be providing all  
5 of the care to both groups with the exception of that  
6 intervention that one is investigating.

7 Q And is it your understanding that there are, in fact,  
8 some children with gender dysphoria who either by their own  
9 decision or their parents decision do not want to take  
10 cross-sex hormones?

11 A It is very well recognized that there do indeed exist  
12 individuals that have the condition of gender dysphoria that  
13 do not receive affirming hormones, yes.

14 Q Can you think of any other reason why the random  
15 controlled study that you just hypothesized could not be  
16 conducted?

17 A Quite to the contrary. I think I would say that it is  
18 absolutely necessary that one conceive, design, and implement  
19 the higher level of evidence within the confines of the  
20 current understanding of relative risk and benefit, so there's  
21 no reason why one would not be able to conduct that Randomized  
22 Controlled Trial in the proper manner that I described.

23 Q Other than a --

24 MR. BRADSHAW: I apologize, Your Honor. I have just  
25 learned that some of our lawyers are stuck in an elevator on

1 the way back from lunch. I don't -- I apologize for  
2 interrupting.

3 with the Court's indulgence, could we take a  
4 ten-minute break in order to get the lawyers out of the  
5 elevator.

6 THE COURT: We absolutely can. I'm sorry to hear  
7 that. I apologize to both sides for the interruption but I  
8 think that would be best. We'll see what we can do on our end  
9 to facilitate.

10 So we are going to adjourn for ten minutes.

11 MR. BRADSHAW: My apologies.

12 THE COURT: No problem.

13 (Whereupon, a recess was taken.)

14 THE COURT: I apologize to all for the numerous ways  
15 in which our building has malfunctioned today. I hope  
16 everyone has had time to regroup and I just assumed that  
17 Plaintiffs' counsel were preparing witnesses, so I apologize  
18 for starting without you all.

19 All right. We are back on the record and ready to  
20 proceed.

21 MR. STRAWBRIDGE: Thank you.

22 BY MR. STRAWBRIDGE:

23 Q Dr. Hruz, before you were telling us about RCTs. You  
24 mentioned there are other types of enhanced studies or  
25 evidence at the higher pyramid besides Randomized Controlled

1 || Trials.

2 A That is correct. And one of the examples I mentioned of  
3 that is a controlled longitudinal study where one can make  
4 some conclusions, provided that in the design of the  
5 experiments, that one adequately recognizes any potential  
6 compounding variables and looks at every effort to minimize  
7 bias.

8 Q And when you say confounding variable, what do you mean?

9 A Confounding variable, which means that very frequently in  
10 scientific study, if one is not aware, for example, if one  
11 sees and this is what is seen in the less rigorous studies  
12 where one sees an association between intervention and an  
13 outcome, it is not possible to conclude that the intervention  
14 itself led to the conclusion and it's very possible that there  
15 is another factor that co-segregated the experimental  
16 intervention that itself was responsible for the outcome.  
17 That would be considered a confounder.

18 Q And just to put that into specific context with respect  
19 to gender-affirming therapy, is there an issue with  
20 confounding variables in the studies that are available?

21 A There absolutely are very significant confounding  
22 variables. Perhaps the most significant is that in most of  
23 the studies that are showing associations that the  
24 intervention group is also receiving psychotherapy, and it is  
25 not possible when -- even if one sees a benefit, that one can

1 conclude that, for example, it's the hormone intervention  
2 versus the psychotherapy, if the study is not properly  
3 controlled and designed to address that confounder.

4 Q Based on your experience and your review of the  
5 literature, do you have an assessment as to what the study  
6 says regarding the risks of cross-sex hormones being  
7 administered to gender dysphoria children?

8 A I have many observations in my review of the literature  
9 about the risks. Many of them are known, many of them are  
10 likely and some of them are unknown, because they've not been  
11 investigated. In reviewing the data that is currently  
12 available, much of it pertains to the underlying molecular  
13 mechanism in which affirming hormones have on the body. So  
14 some of them are known.

15 For example, it was mentioned previously about increased  
16 red blood cell count, polycythemia and venous thromboembolism  
17 or stroke with estrogen. The side effects go far beyond that.  
18 It includes differences in metabolism, which includes lipid  
19 effects, effects on lean body mass versus fat mass, things  
20 that increase the risk for cardiovascular disease later in  
21 life from the prospective of a endocrinologist, and there are  
22 already other types of risks and the intervention that pertain  
23 to how it actually will affect the natural outcome and  
24 trajectory of an individual. For example, the intervention  
25 itself may lead to a different effect long term because of the

1 intervention itself.

2 Q Can you give us an example of that.

3 A One of the most concerning aspects is that, for example,  
4 the data showing that the vast majority of individuals that  
5 begin on puberty blockers or GnRH agonist many proceed on to  
6 cross -- to hormonal interventions. That is in stark contrast  
7 to prior data where we saw this high risk of that condition  
8 and it certainly is something that has not been rigorously  
9 studied but very valid hypothesis is that by giving an  
10 individual the puberty blocker followed by the cross-sex  
11 hormones, that you're actually influencing that rate of  
12 realignment of gender identity to biological sex that would  
13 have that outcome, if not receiving that intervention.

14 Q But to be clear, that's just a hypothesis. That's not a  
15 study?

16 A Absolutely.

17 Q What other known risks are associated with the treatment  
18 of cross-sex or gender-affirming hormones to children?

19 A So there are many concerns. One relates the literature  
20 on -- and I want to emphasize that the concern about giving  
21 for example, testosterone to a female is not the same as  
22 giving that same hormone to a male. And that it is erroneous  
23 to make a claim that the expected outcome is going to be the  
24 same for achieving hormone levels that are in accord with the  
25 opposite sex.

1       There's a molecular basis for that. It is the whole  
2 reason why our National Institute of Health requires when new  
3 drugs or new interventions are being investigated that one  
4 studies both males and females, recognizing that the affect of  
5 that intervention is not going to be the same. It's because  
6 of sex-determined differences that are present in every single  
7 cell of the body, that lead to modifications of DNA, we call  
8 epigenetic changes, that will influence the downstream effects  
9 of that intervention. So giving estrogen to a male is not the  
10 same as giving it to a female.

11       So in relation to cardiovascular risk, there are many  
12 questions because many of the changes in lipids, in blood  
13 pressure, in insulin sensitivity that have been observed with  
14 existing studies often can take decades to manifest as a heart  
15 attack.

16       The same questions occur in relation to cancer risk.  
17 Many of those outcomes that related to cancer can only be  
18 observed with longer-term follow up. We are already seeing  
19 evidence that in many cases that tumors are developing within  
20 one-sexed individuals that are usually only seen in the  
21 opposite sex, and much of that needs to be investigated as to  
22 the specific role of that hormonal intervention in that  
23 outcome.

24       Another example related to body mass and obesity. It is  
25 very-well documented that the hormone exposure has significant



1 changes. Again, that has very serious health effects that are  
2 well recognized outside of the question of gender-affirming  
3 interventions. We know the effect of having high antigen  
4 levels or having increased apstate.

5 I can give you one example in relation to females that  
6 have abnormally high-level of androgens. Aside from the  
7 question of gender dysphoria, that condition often occurs  
8 after -- observation occurs in individuals that have  
9 Polycystic Ovarian Syndrome. It is a disease that we  
10 recognize the medical risks associated with excess androgen  
11 exposure and we aim to lower androgen levels to prevent those  
12 adverse effects.

13 It is also important to recognize that we are talking  
14 about androgen levels that are observed frequently in that  
15 condition of Polycystic Ovarian Syndrome are much lower than  
16 are observed and aimed to be achieved in the affirmative  
17 approach.

18 In fact, the levels of testosterone that are achieved by  
19 the affirmative intervention of giving testosterone to females  
20 are generally in the range that would be seen with endocrine  
21 secreting tumors and so it's erroneous to say that there is  
22 not a significant risk by that hormone administration.

23 Q Did you hear Dr. Shumer testify earlier today about the  
24 risk of infertility arising in the treatment of cross-sex  
25 hormones?

1 A It was claimed in his declaration and in his testimony  
2 today to minimize the effects of the hormone intervention on  
3 fertility. And the claim that one can arrest development at  
4 an immature state and then sews it to cross-sex hormones has  
5 never -- that -- I have never seen, that successful pregnancy  
6 occurred after that course of events.

7 The studies that Dr. Shumer is referencing are generally  
8 studies in which the cross-sex hormones were administered  
9 after gonad maturation. And in those circumstances, there are  
10 still concerns about fertility but it's entirely different to  
11 use that data to make a claim that one can achieve fertility,  
12 when one administers these cross-sex hormones to the immature  
13 gonad.

14 Q I want to just ask you to talk a little bit about what  
15 your view of the literature indicates as to the case for the  
16 benefits of providing cross sex hormones for gender dysphoria.

17 A So this, again, in the analysis it requires both  
18 assessment of risks and purported benefit. And, again, there  
19 is a calculation that occurs in all areas of medicine that is  
20 dependent upon the condition that one is addressing.

21 As I have read the literature, the main justification for  
22 embarking upon a medical intervention that introduces what we  
23 would call I pathogenic disease, meaning that we take an  
24 individual that has normally-formed and functioning sexual  
25 anatomy and giving an intervention that disrupts that normal

1 function, essentially making that individual dependent upon  
2 the medical establishment really long term, if not lifelong,  
3 had been justified by purported benefits in preventing  
4 suicides.

5       It's very important to recognize what the literature that  
6 is currently available says and does not say about that  
7 outcome. There are many different measures of changes in  
8 psychological health and well being. Body perception is only  
9 one of them. Since the high risk is being justified with the  
10 purported high benefit of preventing suicide, it's  
11 particularly important to be very rigorous in studying that as  
12 an outcome in the studies that have been conducted in this  
13 area.

14       Of note, that the studies where we look at that potential  
15 benefit, in the studies themselves, fail to show that benefit,  
16 or if they do show that, it is in a manner that is misleading  
17 in the context by which it is being presented.

18 Q     And what specifically do you think the studies indicate  
19 regarding the basis for assuming that cross-gender hormone  
20 treatment supports a finding of decreased risk of suicide?

21 A     This is where coming back to your previous question about  
22 quality of evidence becomes very, very important. That the  
23 absence of the higher quality data, one needs to look at  
24 things that are associations that are done often on very small  
25 sample sizes with significant biases in patient recruitment.

1 | Subjects that are lost to follow up and most notably,  
2 | short-term follow up.

3        Given all of that, when one looks at the studies, many of  
4        them that are even cited as evidence by the Plaintiffs'  
5        experts when one looks at the data itself, that that claim is  
6        not supported by the actual data. Meaning that the rates of  
7        suicidal ideation currently remains markedly elevated and  
8        frequently in the studies, they are not statistically  
9        different from the pretreatment level.

10 Q There was some discussion, in particular of the Chen  
11 Study earlier today.

12 | Are you familiar with that Study?

13 A I am very familiar with the Chen Study.

14 Q what is your view as to what information we can take from  
15 that study for purposes of treating youth with gender  
16 dysphoria?

17 A So I think it's important before answering the question  
18 just to present very briefly what that study -- how it was  
19 designed. And it was -- it's a longitudinal study that was  
20 done at four different centers and the Chen paper presented  
21 the two-year follow-up data.

22 It has about 350 patients that were enrolled in that  
23 study. It was -- like I mentioned earlier, it is not a  
24 controlled study. All of the patients that were enrolled in  
25 this longitudinal study also received psychological support.

1 By its design, it cannot make the conclusion contrary to the  
2 Plaintiffs' experts, that there is a causal relationship  
3 between access to gender-affirming intervention and any of the  
4 psychological outcomes.

5 Q We were --

6 A Of note, that Study purported that it was going to  
7 exclude patients that had significant psychological  
8 difficulties. Yet at baseline in that Study, a very  
9 substantial proportion of the individuals that were recruited  
10 had severe depression at the time they were enrolled.

11 The outcomes themselves -- this is another important  
12 point, being a larger study one can see sometimes statistical  
13 difference that has no clinical significance. So we have to  
14 look at the question of is the difference that one sees --  
15 this is one of the criteria in the GRADE system -- that will  
16 influence the strength of the study? Is the magnitude of the  
17 effect that one sees and when one sees a very minimal effect  
18 that even if one accepts as statistically significant, it is  
19 not clinically significant?

20 Another factor in that Study is that there was quite a  
21 bit of variability in looking at the data itself that there  
22 were some patients that had improvement of the measurement  
23 outcomes. There were others that had no changes and others  
24 that had actually worsening of that outcome. And because of  
25 the way that study is being conducted without a control group

1 that we're only looking at not even two-year data because most  
2 of the patients in that study did not have the full two years  
3 of follow up, one cannot use that data to make the claim that  
4 is being made this is demonstration of the benefits of the  
5 gender-affirming hormonal intervention.

6 Q Were you in here when Dr. McNamara suggested that experts  
7 for the Defendants had made the claim that that study  
8 demonstrated that gender-affirming treatment causes suicide?

9 A I noted that and I -- that statement has not been made.  
10 As far as a cause and effect there -- when I mentioned it in  
11 my declaration, I merely noted that it was important to  
12 recognize that there were two deaths. And the reason why  
13 that's important is because in any other trial, when you have  
14 an outcome that leads to death, the Institutional Review Board  
15 or the IRB, normally will investigate the circumstances that  
16 led to that very, very serious outcome. One cannot make a  
17 statement about whether the intervention caused that or not.

18 In many of the associative studies that I am talking  
19 about here, at best, one can say that at least by the outcome  
20 measure, it didn't solve the problem. When you have, for  
21 example, in some of the studies up to 50 percent that have  
22 suicidal ideation at the beginning of the study and nearly  
23 50 percent at the end of the study that still have suicidal  
24 ideation, one can, I think, very confidentially say it didn't  
25 fix the problem. What one cannot say is what would have

1 happened without that intervention to that follow-up measure.

2 Q Are you persuaded by the recommendations that are set  
3 forth the WPATH Standards of Care?

4 A So WPATH has -- I'm very familiar with their  
5 recommendations, both in the earlier iterations and in the  
6 current iterations in the Eighth Version of their Clinical  
7 Practice Guidelines. So I would say that the concerns I have  
8 about the lack of quality evidence that has been shared by  
9 others is reflected in their attempt to gather information in  
10 that document, but it's not properly acknowledged about the  
11 poor quality of evidence.

12 One of the major concerns I have about that document,  
13 just to summarize, essentially they acknowledge that we don't  
14 have good evidence but they follow up that lack of evidence  
15 with a very definitive statement about what needs to be done.  
16 In the scientific and medical profession, that disconnect is  
17 highly problematic.

18 Q Is that what GRADE intended to help assess, whether the  
19 evidence supports a particularly strong recommendation or not?

20 A That's exactly -- so the GRADE system is designed to  
21 allow one to know that the recommendations that are being made  
22 are based on low quality evidence. I would say that it's not  
23 unique to this area, where recommendations are made on low  
24 quality evidence, but almost always, when that is done, there  
25 is the utmost of caution, recognizing limitations and very

1 explicitly the directive of that -- those knowledge gaps need  
2 to be filled in. And, again, as I said earlier, it's  
3 proportionate to relative risks versus relative benefit.

4 Q Do you think the clinical guidelines should take into  
5 account systematic reviews of the literature?

6 A Most certainly. And I think that, in fact, what I heard  
7 earlier today was really quite the opposite of the way the  
8 scientific and medical establishment normally looks at  
9 evidence. What essentially is necessary -- so the whole  
10 purpose of systematic reviews is to acknowledge that when one  
11 looks at a group, a whole cohort, not the individual patient  
12 in front of you about the health of that individual and the  
13 effect of intervention, there is a high potential for bias,  
14 both in the patient and in the provider.

15 The systematic review is designed to be able to mitigate  
16 underlying biases, to be comprehensive in the literature that  
17 one looks at with very rigorous criteria for studying  
18 inclusion and outcomes that are going to be measured. The  
19 whole purpose of that is to be able to gain information that  
20 one may be misled by relying on clinical seriousness.

21 Q Are there examples you can think of, just one or two, of  
22 times when recommendations made by clinical guidelines in your  
23 field were reversed, based on development in the literature?

24 A Yes. I can draw to the Court's attention that there were  
25 a whole series of articles in the BMJ Journal several years



1 ago that really outlined the benefits and the risks of  
2 clinical practice guidelines.

3 Clinical practice guidelines can be useful in that they  
4 allow one to synthesize a large amount of data for a busy  
5 clinician that does not have the time to be able to delve in  
6 detail into the literature, but it's only as good as the data  
7 that's available in the low quality data that's being used  
8 that may lead to problems.

9 For example, there is a long history of clinical practice  
10 guidelines that when new data becomes available the  
11 recommendations themselves have completely changed and  
12 sometimes in a very drastic way.

13 For the example of giving hormones to post-menopausal  
14 women, giving steroids to posttraumatic men, those are two  
15 examples that come to mind, you know, at the top of my head  
16 here.

17 Q In those cases, the clinical guidelines used to recommend  
18 a treatment that is now not recommended?

19 A That is correct and it's based upon new evidence that  
20 became available.

21 Q We heard some discussion earlier today about recent  
22 developments in some of the European countries and some  
23 reviews that have been done by the governments of England,  
24 Sweden and Finland.

25 Can you just briefly describe your view as to what the

1 relative persuasiveness of those reviews are.

2 A Most certainly. I can begin with the conclusions reached  
3 in each of those reviews, both the two UK and ICE Studies, the  
4 Finland Review and the Swedish Systematic Review were  
5 generally in alignment with my investigation over the last  
6 decade of quality of research, being more comprehensive and  
7 more thorough than I would have the means to do alone.

8 In each of those situations, it was recognized that there  
9 is an absence of high quality evidence that not only was there  
10 not high quality evidence, that there were significant  
11 concerns that the relative risk versus benefit is not being  
12 met. And in responses to that, in general, these European  
13 countries have changed the way that they are recommending that  
14 one approaches this problem of gender dysphoria in youth.  
15 Prioritizing psychological intervention, recognizing that  
16 there is significant risks in potentially irreversible  
17 hormonal intervention and most notably, moving toward if one  
18 is going to receive that care, it needs to be done within the  
19 setting of a properly-designed experimental protocol which is  
20 what one would normally do in other areas, when you are  
21 dealing with an intervention with high risk with very low  
22 quality data.

23 Q Have you ever had occasion in your clinical practice to  
24 treat patients with gender dysphoria?

25 A I have in my career treated dozens of patients who have

1 gender dysphoria. I see them routinely with glucose  
2 intolerance, diabetes and possibly thyroid disease,  
3 hypertension. All of the endocrine diseases that I normally  
4 treat can be observed in patients that also experience gender  
5 dysphoria.

6 Q Have you ever recommended that a patient with gender  
7 dysphoria accept cross-sex hormones as a treatment?

8 A As I do in all areas of medicine, I do not recommend  
9 interventions that I have not seen that they are sufficient to  
10 benefit in relation to risk. It is a standard practice that  
11 all physicians generally apply to and because of my extensive  
12 review of the literature and my conclusion of the current  
13 state of knowledge, there is not sufficient evidence of the  
14 benefit that outweighs the risk, it would be unethical for me  
15 to do so.

16 Q If new evidence were to come to light that were to change  
17 your mind with respect to the state of evidence, would you  
18 reconsider the advice that you give patients in that area?

19 A In the decade, over a decade that I have been involved in  
20 this discussion, I have been advocating for the quality  
21 studies that need to be done. I've offered in my own  
22 institution to participate in the design of studies. And as a  
23 physician scientist, one has to be very, very aware that the  
24 whole reason we do science is to gain knowledge. We want to  
25 maximize benefit and minimize risk.

1           So the answer to that question is unequivocally, yes,  
2           that we need higher quality data. If that were present to  
3           change that assessment of risk versus benefit, it would  
4           influence my approach.

5                   MR. STRAWBRIDGE: I don't have any further  
6           questions.

7                   THE COURT: Cross.

8                                   **CROSS-EXAMINATION**

9           BY MR. MCINTYRE:

10          Q       Good morning, Dr. Hruz. My name is Steve McIntyre. I  
11          represent the Plaintiffs in this litigation.

12                 A moment ago you testified that you have treated patients  
13          who have gender dysphoria. Isn't that right?

14          A       I have treated patients who present that they have --  
15          they are being cared for in other settings, correct.

16          Q       But you have not treated patients for gender dysphoria.  
17          Isn't that right?

18          A       I am a pediatric endocrinologist. I treat endocrine  
19          diseases using the same criteria for all of the endocrine  
20          disorders that I treat, weighing relative risk and benefit and  
21          I have already testified that in the area of administering  
22          puberty blockers and cross-sex hormones to individuals is not  
23          justified based upon the current level of evidence.

24          Q       So that's a no; correct? You have not treated patients  
25          for gender dysphoria?

1 A As I stated, it would be unethical for me to engage in  
2 intervention like the administration of those hormones for --  
3 that is not justified by a risk benefit analysis.

4 Q Dr. Hruz, you testified in the Brandt trial; isn't that  
5 right?

6 A That is correct.

7 Q And counsel there on cross-examination asked you whether  
8 you had ever treated a patient for gender dysphoria. Do you  
9 recall how you answered?

10 A The question was asked in relation to the -- to the  
11 treatment of gender dysphoria itself. And as I testified, my  
12 involvement and care of individuals that have a sex identity  
13 has been limited to those that have other underlying endocrine  
14 disorders.

15 Q Dr. Hruz, why don't we look at your testimony.

16 This is Tab A. This should appear on the screen for you  
17 momentarily. The first page do you see the caption of this  
18 case is Brandt v. Rutledge?

19 A I do.

20 Q This is a case in which you testified; correct?

21 A Correct.

22 Q We are going to go to Page 1317 of the transcript. And,  
23 Dr. Hruz, do you recognize this to be a transcript of your  
24 cross-examination testimony from that case?

25 A It appears to be so, yes.

1 Q And I direct your attention to Lines 21 through 23.

2 Do you see that?

3 A Yes, I do.

4 Q The question was asked and you have never treated a  
5 patient for gender dysphoria; correct?

6 Do you see that?

7 A I do see that, yes.

8 Q How did you answer?

9 A Just as I have today. Not for gender dysphoria.

10 Q And, Dr. Hruz, you have not diagnosed anyone with gender  
11 dysphoria; is that correct?

12 A That is correct. I'm a pediatric endocrinologist.

13 Q You can put that exhibit down.

14 And, in fact, Dr. Hruz, you have never been in the room  
15 with a transgender patient while a doctor was discussing  
16 treatment options for that patient with gender dysphoria.  
17 Isn't that right?

18 A I have not directly participated in the gender center at  
19 my institution, that is correct.

20 Q And you have never relied on the diagnostic criteria in  
21 the DSM to diagnosis a patient with gender dysphoria; isn't  
22 that right?

23 A Again, as a pediatric endocrinologist, that is not my  
24 task.

25 Q Dr. Hruz, one of your credentials is a certification in

1 healthcare ethics from the National Catholic Bioethic Center;  
2 isn't that right?

3 A That is correct.

4 Q And I take it you pursued that certification voluntarily?

5 A That is correct.

6 Q And the certification required you to complete a  
7 year-long study, didn't it?

8 A It did, indeed. And it was directly related to my  
9 involvement in this question of ethics that -- to have a more  
10 rigorous training in ethical principles to be able to more  
11 clearly think through the questions that were being posed to  
12 me, as I was serving in my leadership role, yes.

13 Q Thank you. And you wrote a paper as part of the  
14 certification program; isn't that right?

15 A That is correct.

16 Q And what was the name of that paper?

17 A Something to the effect of the use of cross -- it was the  
18 use of cross-sex hormones in gender dysphoria.

19 Q Dr. Hruz, you are familiar with the National Catholic  
20 Bioethic Center's brief statement on transgenderism, aren't  
21 you?

22 A I'm familiar they do have a statement, yes.

23 Q And you -- I'm sorry. Are you finished?

24 A The context is within prior litigation where similar to  
25 what you are doing right now, somebody put up a screen showing

1 a position statement and I have been able to read that in the  
2 past, and I'm happy to do that again for you.

3 Q Dr. Hruz, that statement includes the following line,  
4 does it not, quote: Gender transitioning consists on  
5 affirming a false identity and in many cases mutilating the  
6 body in support of that falsehood; is that correct?

7 A If that's what you are reading, it's similar to what I  
8 have heard read previously.

9 Q And that's consistent with your understanding of the  
10 NCBC's position on transgenderism; isn't that correct?

11 A I would say that there is a very narrow portrayal of  
12 that. I think that my knowledge of that particular  
13 organization is much broader and much deeper, and so that's a  
14 very narrow characterization of what that particular  
15 organization to my knowledge, has put forward.

16 Q Thank you, Dr. Hruz.

17 But respectfully that was not my question. I read a line  
18 from the NCBC's brief statement on transgenderism, which you  
19 testified you are familiar with.

20 My question is: That is consistent with your  
21 understanding of NCBC's position on people who identify as  
22 transgender; is that correct?

23 A As I stated, their understanding is much more deep and  
24 comprehensive than you are portraying but components of that  
25 has been written by that institution, yes.





1 his or her false belief that he or she is the opposite sex.  
2 These treatments would help the child to maintain his or her  
3 delusion but with less distress by other aspects requiring  
4 others in the child's life to go along with the charade.

5 Isn't that right?

6 A Again, I'm happy to share with you the basis  
7 scientifically for that statement regarding sexual identity  
8 and how it pertains to that satisfactory. But, as again I  
9 don't have it front of me right now, but assuming you are  
10 reading directly from that amicus brief, I can accept that is  
11 correct as far as it was portrayed.

12 Q Thank you. In that same brief, the Doe brief, you  
13 describe transitioning as quoted impersonation of the opposite  
14 sex. Isn't that right?

15 A Again, you're taking quotes out of context, without the  
16 proper portrayal of the discussion that was being made. And,  
17 again, I'm happy to share with you the scientific basis for  
18 which that is based upon.

19 Q I don't believe you answered my question, which was  
20 simply whether you used that language in the brief. I can  
21 repeat the question, if you would like.

22 A That language is used in the context of a much broader  
23 discussion that you are not reading.

24 Q So that language does appear in the brief; correct?

25 A Those words are in the brief, yes.

1 Q Dr. Hruz, you also submitted a brief in a case called  
2 Gloucester County v. Grimm; correct?

3 | A Correct.

4 Q And this was another brief that you submitted to the  
5 United States Supreme Court; correct?

6 A Yes.

7 ||Q And you did so voluntarily; correct?

8 | A Yes.

9 || Q No one forced you to write your name on that brief?

10 || A No.

11 Q That brief ended with the following language quote:  
12 Conditioning children into believing that a lifetime of  
13 impersonating someone of the opposite sex achievable only  
14 through chemical and surgical intervention is a form of child  
15 abuse; is that correct?

16 A That is contained in that document, yes.

17 Q Dr. Hruz, you are aware that some of the Plaintiffs in  
18 this case are parents of transgender children, are you not?

19 A Yes.

20 Q You understand that these are parents who have sought out  
21 gender-affirming care for their children; correct?

22 A That is my understanding.

23 Q According to what you told the United States Supreme  
24 Court in your brief in the Gloucester County case, these  
25 parents were engaged in a form of child abuse; isn't that

1 right?

2 A I believe that you are stating this out of context.  
3 There are different circumstances where one uses different  
4 languages for different purposes. And, again, I'm happy to  
5 explain in great detail the basis for that statement.

6 Q You didn't answer my question.

7 My question is according to what you told the United  
8 States Supreme Court in the Gloucester County case, you think  
9 these parents are engaged in a form of child abuse; isn't that  
10 right?

11 A So I would say that my understanding, again, is based  
12 upon assessments of the relative risk versus benefit. Now in  
13 that statement, it doesn't convey what the parents were being  
14 told by the providing physicians and not accurately presenting  
15 the deficiency of the scientific evidence of the relative  
16 risks and benefits. And, therefore, there is much more and  
17 actually since that was first penned, there has been many  
18 developments that have been made in that discussion about  
19 whether this is a prudent course of action.

20 Q You obviously felt that using the term child abuse was  
21 appropriate to put in a brief to the United States Supreme  
22 Court; isn't that right?

23 A To the extent that I signed my name to that document,  
24 that can be accepted. I -- again, many authors of that and --  
25 who choose to use different language. The general principle

1 of the fact that when one goes through gender-affirming  
2 medical interventions that one does nothing to change the  
3 biological sex of that individual is a factually-correct  
4 scientific statement.

5 Q Dr. Hruz, this is not the first case in which you have  
6 testified as an expert witness; isn't that right?

7 A That is correct.

8 Q You've testified as an expert witness in more than ten  
9 cases; am I correct in that understanding?

10 A That is correct.

11 Q We mentioned earlier today you testified in the Brandt  
12 versus Rutledge case; correct?

13 A Correct.

14 Q That was a case in Arkansas. Do I have it right?

15 A They start to blend together after a while, but yes.

16 Q The district judge in that case ultimately did not credit  
17 your opinions concerning your research on the benefits of  
18 gender-affirming care for adolescents; is that right?

19 A Again, my role as an expert witness is to present the  
20 scientific evidence, and it is to others to make conclusions  
21 about how they're going to use that information.

22 Q So in other words, the judge did not credit the testimony  
23 that you offered in that case; isn't that right?

24 A I don't know that that's exactly what's said. I haven't  
25 read the actual decision.

1 Q Okay. You also testified in a case called Kadel versus  
2 Falwell in North Carolina. Isn't that right?

3 A That is correct.

4 Q And you submitted a written expert report in that case.  
5 Isn't that right?

6 A That is correct.

7 Q Now in that report, you opined that the DSM is compiled  
8 through quote an often controversial consensus-seeking not  
9 scientific evidence-seeking political voting process; correct?

10 A That is correct.

11 Q Now in that report, you also criticized the Plaintiffs'  
12 experts for failing to properly discuss and disclose what you  
13 described as alternative theories/hypothesis or quote the  
14 rapid and merely exponential increase of transgender cases;  
15 isn't that right?

16 A Again, addressing the question of changing demographics  
17 in what we do and do not know about that, that's correct.

18 Q Okay. And you opined in that case that one of the  
19 alternative theories/hypothesis was social contagion; is that  
20 right?

21 A That hypothesis that remains in discussion within various  
22 scientific communities.

23 Q And you opined that social contagion was being driven by,  
24 among other things, YouTube influencers; isn't that right?

25 A Again, as a physician scientist, I impose many different

1 hypothesis that require extensive and rigorous scientific  
2 investigation and that is one of them.

3 Q In that report, you also allege that quote social media  
4 influencers are purportedly training patients to fabricate  
5 symptoms to gain rapid access to transition interventions; is  
6 that right?

7 A It is correct that many have put forward that as a  
8 hypothesis to the effect that we are seeing.

9 Q And in that report, you suggested that quote the gender  
10 transition industry is engaged in a form of hazardous consumer  
11 fraud, resulting in harm to many venerable patients; isn't  
12 that right?

13 A Again, in the context of what is being offered to these  
14 individuals with the degree of scientific evidence regarding  
15 relative risks and benefits and other factors that one can  
16 hypothesize, are motivating that approach to care.

17 Q In other words, yes, you did offer the suggestion that  
18 the quote gender transition industry is engaged in what you  
19 describe as a hazardous consumer fraud. Am I mistaken in  
20 that?

21 A It's based upon my knowledge of the individuals that  
22 actually code for diagnosis to get insurance coverages that  
23 are not accurate as far as what's going on in a particular  
24 individual. And I could go on and on about the other elements  
25 that led to that being proposed as a hypothesis. Correct.

1 Q So you believe that the quote the gender transition  
2 industry at large is engaged in quote hazardous consumer  
3 fraud. Am I mistaken in that?

4 A What I conveyed in that declaration that's a hypothesis  
5 based upon potential etiologies. So one of the questions that  
6 I wrestled with and I continue to is what is driving the  
7 current medical establishment within the United States to  
8 jettison the normal approach to develop effective therapies by  
9 careful evaluation of risk versus benefit. And because it's  
10 completely at odds with the way we treat other conditions and  
11 trying to come to some understanding about what might be  
12 driving that to be accepted based upon the quality of the  
13 evidence that is present.

14 Q Dr. Hruz, in that same report that you offered in the  
15 Kadel case, you also characterized people in what you  
16 described as the transgender industry as quote cancel culture  
17 political activists; isn't that right?

18 A So my experience is that those that raised valid  
19 scientific questions and concerns related to the way that  
20 medicine is being practiced and science is being conducted,  
21 have most certainly experienced a response that is quite  
22 atypical from what we do in other areas of scientific  
23 investigation and medicine. A succinct way to describe that  
24 is to try to silence these individuals. So that statement is  
25 reflecting that reality.



1 Q So the term used is, in fact, cancel political activist?

2 A Again, there are many hypothesis that can be raised as to  
3 why one is viewing this particular condition in a way that is  
4 quite contrary that we -- to the way that we approach medical  
5 practice in all other areas.

6 Q The district judge in the Kadel case determined that you  
7 were not qualified to offer expert opinions on the diagnosis  
8 of gender dysphoria, the DSM, gender dysphoria potential  
9 causes, the likelihood that a patient will desist or the  
10 efficacy of mental health treatment; isn't that right?

11 A In that particular declaration, I was asked to opine on  
12 much broader topics than I am in this case here and I have not  
13 made any attempt of declaration within that regard in this  
14 case here.

15 Q Is there any inaccuracy in what I just said, that the  
16 district judge found that you were not qualified to address  
17 the topics I just described?

18 A I would say your line of questioning is not reflective of  
19 the entire document and the purpose of the document and the  
20 reasons those statements were made. But the content, as  
21 you've read them, is accurately portraying what was in that  
22 declaration.

23 Q Dr. Hruz, I want to talk a bit about your practice as a  
24 endocrinologist. In your practice, you do prescribe GnRH  
25 agonist, otherwise known as puberty blockers, to children.

1 Isn't that right?

2 A I do, indeed, for those that have severe precocious  
3 puberty.

4 Q And, in fact, you have prescribed puberty blockers for  
5 patients as young as three years old; is that right?

6 A That is correct.

7 Q You prescribe puberty blockers for patients, despite the  
8 fact this medication has risks, just like any other medical  
9 intervention; isn't that right?

10 A As I have stated earlier, it is a different condition  
11 with a different risk benefit analysis and, therefore, the  
12 decision to treat or not to treat is based upon an entirely  
13 different condition.

14 Q In the report that you submitted in this case in  
15 Paragraph 43, you point out that quote puberty blockers have  
16 recently been recognized to carry a risk of increased brain  
17 pressure that can adversely affect vision and cause severe  
18 headaches; isn't that right?

19 A You are referring to the literature on the condition  
20 known as Pseudotumor cerebri that was issued by the FDA in  
21 patients that have been exposed to that medication, correct.

22 Q To be clear, puberty blockers carry that risk regardless  
23 of whether they are prescribed to treat puberty or gender  
24 dysphoria; isn't that right?

25 A That is correct.

1 Q In your practice, you also prescribe testosterone to  
2 adolescent patients. Isn't that right?

3 A That is correct.

4 Q And you prescribe estrogen to adolescent patient as well;  
5 correct?

6 A Let me clarify. I administer testosterone to males and  
7 estrogen to females.

8 Q What you mean by that are to patients assigned male at  
9 birth and patients assigned female at birth; isn't that right?

10 A I would go further than that. Sex is not assigned at  
11 birth. It's recognized by objective criteria.

12 Q And in your practice as a endocrinologist, you sometimes  
13 prescribe medication off label; isn't that right?

14 A Again, it is common in medicine in general in pediatrics  
15 in particular to prescribe medicines off label always with  
16 proper assessment of relative risks versus relative benefit.

17 Q I believe you just said just to be clear prescribing  
18 medication off label is very common in the area of pediatrics,  
19 isn't it?

20 A It is, with careful assessment of the relative risks  
21 versus relative benefits.

22 Q And as a doctor, when you are deciding whether to  
23 recommend a particular medication to a patient, you consider  
24 both the risks and the benefits; isn't that right?

25 A That's correct.

1 Q And as a doctor, you inform your minor patients and their  
2 families of those risks and benefits; isn't that right?

3 A That is correct.

4 Q And you obtain informed consent; isn't that right?

5 A We have long sessions about what informed consent is and  
6 how that can be given, given the level of evidence, but, yes,  
7 it is a standard practice in medicine to explain to a patient  
8 or a parent the relative risks and benefits in obtaining  
9 consent for a particular intervention.

10 Q And when you prescribe puberty blockers for a  
11 three-year-old patient, I take it you also obtain the informed  
12 consent; isn't that right?

13 A In all medicines that I give, I have that discussion,  
14 yes.

15 Q And when you prescribe estrogen or testosterone to your  
16 adolescent patients, you also obtain informed consent; isn't  
17 that right?

18 A As I stated in all areas of medicine, as a standard  
19 practice, we will inform patients of relative risks and  
20 benefits and get their consent.

21 Q Dr. Hruz, you would agree that delaying puberty blockers  
22 to delay puberty for too long can lead to adverse affects,  
23 wouldn't you?

24 A Most certainly. That is one of the concerns with  
25 suppressing normally-timed puberty, particularly in the

1 affects in mental health.

2 Q So as a endocrinologist, you would not advise that a  
3 patient take puberty blockers to the age of 18, would you?

4 A I would not. It would be equivalent to a patient that I  
5 failed to diagnosis and they had the affect from that. That  
6 is correct.

7 Q Dr. Hruz, you are aware that the American Medical  
8 Association supports providing gender-affirming care,  
9 including hormone therapy, to adolescents with gender  
10 dysphoria, aren't you?

11 A Well, as I stated many times, that there are certain  
12 members of each of the organizations that have put forward  
13 these endorsements that do not necessarily include all of the  
14 members of that organization. So I would say there is a  
15 committee subset of that organization that has put forward  
16 those recommendations.

17 Q They have put forward those recommendations on behalf of  
18 the association itself; isn't that right?

19 A I'm sorry. I didn't hear.

20 Q They have put forward those recommendations on behalf of  
21 the association itself. Is that not correct?

22 A Well, again, I would say that to my knowledge these  
23 organizations have never brought it to the attention of the  
24 entire membership to allow them to weigh in to that question.

25 Q Dr. Hruz, are you aware that over 20 medical

1 associations, including the American Medical Association and  
2 the America Academy of Pediatric Endocrinologists submitted an  
3 amicus brief in this case?

4 A I wasn't aware of the number of organizations.

5 Q Are you aware that certain medical organizations filed  
6 amicus briefs in this case?

7 A I'm aware of many medical associations similar to the  
8 ones we just discussed that have put forward those  
9 recommendations.

10 Q And just to be clear, you think that those associations  
11 that have put forward these recommendations supporting  
12 gender-affirming care for adolescent patients, you believe  
13 they are misled or they are incorrect in putting forward those  
14 recommendations; isn't that right?

15 A Well, since I was not on the committee when decisions  
16 were made, I can't state what was discussed at those points in  
17 time. I can only state that my opinions in this area are in  
18 alignment with the various scientific reviews. Those position  
19 statements that have been made have never been -- risen to the  
20 same degree of examination of the scientific literature, and I  
21 would say they are based upon the lower quality expert opinion  
22 and -- as opposed to systematic reviews that we have.

23 Q In other words, your position is that these major medical  
24 associations, including the AMA and the AAP are wrong in how  
25 they are reading the medical literature; isn't that right?

1 A That is not what I've said. Again, I will reiterate that  
2 we need to talk about the individuals that put forward these  
3 recommendations or these position statements. I would say  
4 that by reading the documents and looking at what evidence  
5 they're citing, they have not acknowledged the serious  
6 limitations and weaknesses of the studies and have made  
7 conclusions that fall short of the standards we see in other  
8 areas of medicine.

9 Q At the outset of your testimony today, Dr. Hruz, I  
10 believe you mentioned that you first began studying gender  
11 dysphoria about a decade ago; isn't that right?

12 A That is correct.

13 Q That was when a colleague approached you about opening a  
14 gender clinic at Washington University. Do I have that right?

15 A That is correct.

16 Q Do you still work at Washington University?

17 A I do.

18 Q And Washington University did, in fact, open a gender  
19 clinic, did it not?

20 A They did, indeed.

21 Q It's known as the Transgender Center at Washington  
22 University. Do I have that right?

23 A I believe so.

24 Q The Transgender Center at Washington University follows  
25 the WPATH Guidelines, doesn't it?

1 A So they claim to do so, yes.

2 Q Okay. And when pediatric patients are referred to the  
3 Transgender Center at Washington University for the evaluation  
4 and treatment of gender dysphoria, they're cared for by a  
5 interdisciplinary team of providers that include a  
6 psychologist and a pediatric endocrinologist; isn't that  
7 right?

8 A Those individuals, to my knowledge, are part of that  
9 center.

10 Q I take it that you disagree with the approach to  
11 transgender medicine as practiced at the Transgender Center.

12 A I have made it very clear to my colleagues, including  
13 those that are participating in that center, my concerns that  
14 I have expressed here in this case about the quality of  
15 evidence that we need for higher quality of evidence and, in  
16 fact, have advocated for the conduct of research that needs to  
17 be done, particularly since I work at one of the most  
18 prestigious research institutions in the country.

19 Q We've talked a lot today about Randomized Controlled  
20 Trials or RTCs. Now in the context of a trial where some  
21 subjects are given hormone therapy and some subjects are not,  
22 that could not possibly be blind; correct?

23 A I would say that that is correct. And I would also say  
24 that, again, I didn't mention this earlier that blinding is  
25 not an absolute requirement for high quality studies with a



1 Randomized Controlled Trial and there are many other examples  
2 that are behind the study.

3 Q And when it comes to designing Randomized Controlled  
4 Trials, before conducting this, an IRB would have to approve  
5 the study; correct?

6 A If it's done properly, that is correct.

7 Q And you would need patients who are actually willing to  
8 sign up for this study; right?

9 A You would need to have patients that were properly  
10 presented with the scientific question that's being  
11 investigated in that trial, acknowledging the deficiency of  
12 the knowledge that is present for them to be able to  
13 adequately consent to participating in that trial. So it  
14 would require one to share with them the scientific hypotheses  
15 the questions that's going to be addressed and why it's  
16 important questions to be addressed in that manner.

17 Q So in order to conduct one of these studies, you would  
18 need patients who are willing to participate in this study;  
19 correct?

20 A It's difficult or impossible to do a study if you don't  
21 have study subjects.

22 Q And to be perfectly clear, it would be virtually  
23 impossible to conduct a placebo controlled trial where one  
24 group of subjects received gender-affirming medical  
25 intervention and the control group did not. Isn't that right?

1 A I think I have already testified that that is not the way  
2 the trial would be conducted.

3 Q In other words, you agree with me it's virtually  
4 impossible to construct a placebo controlled trial where one  
5 group of subjects receive a gender-affirming medical  
6 intervention and the controlled group did not; isn't that  
7 correct?

8 A As I stated previously, one needs to have interventions  
9 identical in both treatment and control groups except for the  
10 independent variable.

11 A very simple example of that could be both groups get  
12 affirmative care, one getting psychotherapy in a very rigorous  
13 way and one receiving a standard-of-care approach that does  
14 not involve that.

15 Again, you probably would get patients that would sign up  
16 for that. Again, that's hypothetical. There are many other  
17 ways and there is actually existing scientific data that  
18 actually would support that trial being conducted, including,  
19 for example, the Costa Study in 2015 where they looked at  
20 puberty blockers with -- both groups had psychological care.  
21 One with puberty blockers; one without. That study showed  
22 that there was benefit in both of the control groups.  
23 Limitations in that study, including sample size allowed one  
24 not to look at significance at the end of the study.

25 Again, there are many different ways that this can be

1 conceived in a way that we can actually get answers to the  
2 casual relationship between intervention and response to fill  
3 in these, very notable gaps. And one at least initially would  
4 need to be very focused in the hypothesis, be very clear in  
5 the intervention, and I would say initially very short-term in  
6 the follow up to assure the safety of these individuals.

7 It's very possible. IRB's do this all the time. That  
8 when one is engaged in a Randomized Controlled Trial that  
9 there is an interim analysis to see if there is potential harm  
10 that's being done during that study.

11 Again, there are many, many, aspects of this that can be  
12 done in an ethical way and I would add in a feasible way, if  
13 one does not portray this in the erroneous way the Plaintiffs'  
14 experts have presented this scientific question.

15 Q Dr. Hruz, I want to go back to this hypothetical you  
16 posed a minute ago where there are two groups, they both  
17 receive, I think what you described as standard care and then  
18 one of the groups received psychotherapy and the other did  
19 not.

20 Am I understanding that hypothetical correctly?

21 A The hypothetical is that you have a group that receives  
22 the intervention immediately that was conducted with a delay  
23 of a certain period of time before these patients were being  
24 offered that intervention.

25 Now that was not a randomized trial and there were many

1 limitations in the conclusions that were reached both on  
2 sample size and its non-randomized nature, but it provides a  
3 basis for which one can rationally design an experiment that  
4 addresses the fundamentally important question that has not  
5 been investigated in this area, that allows us, one, to begin  
6 to get these answers of risk relative to benefit.

7       So, again, in every -- hypotheticals are going to include  
8 many different variables, not all of which can be discussed  
9 very succinctly, and there would be many of that particular  
10 intervention that would be in other aspects that would be  
11 necessary to make sure that it was done in a safe and ethical  
12 manner.

13 Q     Dr. Hruz, you didn't answer my question. My question was  
14 about the hypothetical you posed. Two groups received  
15 standard care. One received psychotherapy. The other did  
16 not. Do you recall that?

17 A     I recall the question and my answer reflected the fact  
18 that in that study to make that statement about standard of  
19 care, is I think somewhat misleading.

20 Q     You say standard of care. Would that refer to hormone  
21 therapy treatment of gender dysphoria?

22 A     The reason I disagree with that as being the standard of  
23 care, at the time that that study was done, there was  
24 stipulation about psychological intervention in psychological  
25 health. That was what was being addressed for these -- again,

1 many of these studies being done currently are not using the  
2 model of, for example, you know, that disallow patients that  
3 have been diagnosed other psychiatric morbidities.

4 Q Dr. Hruz, I'm going to try this one more time. In this  
5 hypothetical with two groups, they both received standard care  
6 and one group received psychotherapy and the other does not,  
7 in that study the thing you would be studying is the efficacy  
8 of psychotherapy on top of the standard of care; correct?

9 A I would -- again, you are using the term standard of care  
10 and I'm trying to point out for the Court that that portrayal  
11 is not accurately reflecting what is being done in that  
12 situation. I would acknowledge that the comparator would be  
13 psychotherapy and puberty blocking. So the independent  
14 variable would be whether one received puberty blocking or not  
15 and they were identical in all aspects of that intervention.

16 Q Dr. Hruz, I want to shift gears a bit.

17 In your written report in this case, you walked through  
18 about 18 studies that describe the beneficial effects of  
19 gender-affirming care. I understand you disagree with how  
20 some of the studies were conducted, but are you familiar with  
21 the part of your report that I'm referring to?

22 A Yes, I am.

23 Q Can you point to any of those studies that is not  
24 published -- that is not peer reviewed?

25 A My understanding is that the ones that I included in

1 there were peer reviewed. If I'm recalling correctly the  
2 papers that I'm referring to were published in peer-reviewed  
3 journals.

4 Q One of those studies you wrote about is the Chen Study  
5 from 2023, correct?

6 A That is correct.

7 Q Published in the New England Journal of Medicine;  
8 correct?

9 A Correct.

10 Q You would agree that the New England Journal of Medicine  
11 is a well-respected medical journal?

12 A Yes, I do.

13 Q One of the other studies you looked at was published in  
14 Asset Child and Adolescent Health.

15 Do you recall that?

16 A Again, I'm trying to find where the -- you know,  
17 references are all included in my declarations.

18 Q That would be in 2022 published in Asset Child and  
19 Adolescent Health; correct.

20 A Correct.

21 Q You would agree that is a well-respected medical journal,  
22 wouldn't you?

23 A Again, all journals have varying levels of hierarchy as  
24 far as their impact, but it is a respected journal, yes.

25 Q And one of the other studies you looked at was the Turban

1 and colleague study from 2022 that was published in PLOS ONE  
2 P-L-O-S O-N-E; correct?

3 A That is correct.

4 Q You would agree that's a well-respected medical journal,  
5 wouldn't you?

6 A It's a journal that is very-widely cited, yes.

7 Q In fact, you have served as reviewer for that journal,  
8 have you not?

9 A Correct. And I would add in all of these journals that  
10 you are mentioning, not every single paper that is published  
11 in this journal, in these journals is of the same quality.  
12 It's only as good at the peer review that is done and the way  
13 the study is -- again, it's only as good as the peer reviewers  
14 and there is actually much in the literature of studies that  
15 have be published including top-tier journals where they have  
16 analyzed the way the studies were done and made very serious  
17 observations about misuse of statistical methods, conclusions  
18 that were supported by the documents. So just being published  
19 in high-quality journal doesn't guarantee the veracity. Yes  
20 in the higher-tier journals, there is more rigor, usually that  
21 is present in the review.

22 Q Thank you, Dr. Hruz.

23 In your report that you submitted in this case, you  
24 described PLOS ONE as a leading science journal; correct?

25 A Correct. Again, acknowledging not every paper published

1 in a journal is of the same quality or reliability.

2 Q Dr. Hruz, you testified that you have been studying  
3 gender dysphoria for about a decade; isn't that right?

4 A As I stated, yes, a little bit over a decade, now.

5 Q You have written various pieces on gender dysphoria;  
6 correct?

7 A That is correct.

8 Q To date, you have not published a peer-reviewed article  
9 on gender dysphoria in a scientific journal; isn't that right?

10 A As I mentioned previously, I have a paper that was  
11 published in an ethics journal. It has to do with the nature  
12 of papers that I've written, which are not of the high quality  
13 science that needs to be done as we're talking about here.

14 Q That was an ethics journal you said?

15 A Correct.

16 Q What was the name of that journal?

17 A Elsevier.

18 Q That's not a medical journal; correct?

19 A As I said, it an ethics journal. In fact, it's the  
20 longest standing publishing ethics journal in the United  
21 States.

22 Q Just to be clear, you have not published any other  
23 peer-reviewed articles on gender dysphoria; correct?

24 A That gets to the question of the papers that I have  
25 published. All of them have undergone review. The degree of



1 review as far as whether they were sent out to external  
2 reviewers versus editorial review depends upon the journal and  
3 their policies. I know that in every single case that I have  
4 published, that I have received reviews that have required  
5 revision of the paper. Many times, the editors themselves are  
6 the peers. So in that respect, they are peer reviewed. But  
7 there is a difference in a paper that I'm asked to write for a  
8 particular purpose versus a paper that I submit to the journal  
9 for consideration of publication.

10 Q I understand that some of your papers have received  
11 editorial review. My question is this: You have not  
12 published a peer-reviewed article on gender dysphoria in a  
13 scientific journal; isn't that right?

14 A Well, again, as you defined --

15 Q Setting aside the ethics journal.

16 A So my publications are very readily apparent in my CV and  
17 I have listed them for the Court that they are able to look at  
18 relative to the literature.

19 Q In your report, Dr. Hruz, you purport to describe  
20 international responses from certain countries; isn't that  
21 right?

22 A That is correct.

23 Q You are not an expert on European health care law or  
24 policies; correct?

25 A I'm referring to the scientific analysis through

1 systematic review from those countries.

2 Q Okay. In your report, you address four countries:  
3 Finland, Sweden, the United Kingdom and Norway.

4 Does that sound right?

5 A That's correct.

6 Q To your knowledge, has any of those countries completely  
7 prohibited hormone therapy for the treatment of gender  
8 dysphoria through the age of 18?

9 A My understanding is because the movement in those  
10 countries are to use the normal mechanisms that are used  
11 within the medical establishments, it's not been necessary to  
12 have legislative effort because the proper safeguards are now  
13 occurring in those countries, so they have actually been --  
14 they have psychology as stated previously, they are -- some to  
15 varying degrees -- requiring versus recommending that any type  
16 of hormone as intervention be done in the setting of a  
17 experimental trial.

18 Q Let me put it this way: In any of those countries, is  
19 hormone therapy completely unavailable to adolescent patients  
20 through the age of 18?

21 A As I said before, because the medical establishment is  
22 now providing proper safeguards, it's not necessary to go to  
23 that extent in those countries, to my knowledge.

24 MR. MCINTYRE: No further questions at this time.

25 Thank you.



1 educational history.

2 A I received my undergraduate degree at Rensselaer  
3 Polytechnic Institute. I majored -- concentrated in  
4 mathematics and physics.

5 I obtained my Masters degree in Psychology from Boston  
6 University and my doctoral degree in Clinical Psychology at  
7 McGill University with a dissertation in the biological basis  
8 of sex in the brain.

9 Q And please briefly describe your work history.

10 A I worked first as a post-doctoral fellow, again, studying  
11 in the role of the brain, especially atypical sexual behaviors  
12 at what is now called the Center for Addiction and Mental  
13 Health in Canada. I continued there as a research scientist  
14 and clinician. Then I became the head of research and of the  
15 mental health program.

16 Q Have you published peer-reviewed research?

17 A Yes, I have.

18 Q And have you served as a reviewer or editor of research  
19 studies regarding mental health?

20 A Yes. Quite a few. I sit on several editorial boards of  
21 various journals specializing in sex research and I served as  
22 Editor in Chief of the Journal of Sexual Abuse.

23 Q In your professional capacity, have you studied and  
24 encountered issues regarding the diagnosis and treatment of  
25 gender dysphoria?

1 A Yes, quite often.

2 Q And are you familiar with how to evaluate published  
3 studies regarding how an intervention may affect mental  
4 health?

5 A Yes, I have. That's the primary basis of a great deal of  
6 my reviewing research as a peer scientist, as an editor of the  
7 journal, as a member of other boards and as a member of the  
8 editorial team and review materials on various granting  
9 agencies. I was -- especially because of my background in  
10 mathematics, I was in charge of helping people evaluate  
11 studies, according to their research designs.

12 Q Dr. Cantor, can you please give us an overview of some of  
13 the different types of scientific studies, maybe beginning  
14 with some of the ones that you would find to be more reliable  
15 or valid.

16 A Starting with the ones that are most reliable would  
17 actually be the reviews of lower types of research. Again  
18 referring to the Pyramid of Evidence that we've been talking  
19 about, the highest, the most reliable type are indeed the  
20 systematic reviews of research. The primary purpose of  
21 systematic reviews is that they do their best to exclude  
22 opportunities for bias. Those major opportunities that  
23 systematic reviews exclude are, of course, cherrypicking, just  
24 picking the study that seem to favor one side while ignoring  
25 the study that favors the other.

1       The other primary source of bias is using an unlevel  
2 playing field, holding some studies to a higher bar than other  
3 studies.

4       In a systematic review, because it's entirely transparent  
5 listing exactly which studies it included, exactly which  
6 studies it did not include and explicitly indicating why,  
7 there is much less room for the cherrypicking of studies.

8       I also make them publicly available, typically  
9 registering them in publicly-available databases with criteria  
10 that they're used for evaluating the studies within them.  
11 Again, to make sure that each of the studies are evaluated on  
12 an even playing field.

13       Beneath the systematic reviews, would be what we call the  
14 experimental studies. These are the proper experiments. The  
15 differences between a experimental treatment and a  
16 non-experimental treatment is that the experimental treatments  
17 have past the experimental bar. They have been tested with  
18 the people in them, either in a experimental group receiving  
19 the treatment or in some sort of control group, receiving  
20 either no treatment or more typically some other kind of  
21 treatment that's used as a comparison. So once a treatment  
22 has gone through the experimental process, that's when a  
23 treatment can then be called established.

24       Beneath that would be the observational studies. Those  
25 are the studies where we are not actually doing anything

1 active with the people in them. We're just looking for  
2 patterns. People with one kind of feature also have another  
3 kind of feature. That tends to tell us which clusters goes  
4 with which clusters and that's usually what we use in order to  
5 decide what might be potential treatment to then experiment  
6 with.

7 Q In what -- tell us about what weight you give a survey or  
8 cross-sectional studies.

9 A Surveys and cross-sectional studies really don't fall on  
10 the Pyramid of Evidence at all. They are not sufficiently  
11 systematic, especially surveys that are conducted on the  
12 internet. Anybody who wants to answer the questionnaire can  
13 answer the questionnaire. It can give us a pretty good idea  
14 of where we should then go to with more systematic research,  
15 but it, itself, doesn't represent either experiment or  
16 systematic evidence of any sort.

17 Q Can you tell us is the Pyramid of Evidence well accepted  
18 in your field?

19 A Yes, it's quite universal.

20 Q Can you tell us what the pyramid says about how lower or  
21 very low-quality evidence should be used.

22 A It depends on the context. The decision for what to use  
23 as evidence for the treatments also as was said earlier is  
24 assessment of the risk-to-benefit ratio. You can't decide  
25 whether -- which of the alternatives to use unless you are

1 | assessing both.

2       The third variable that hasn't been mentioned yet is that  
3 both of those have to be assessed in the context of their  
4 uncertainty.

5        There are some diagnoses which can be diagnosed with  
6 great accuracy. Especially as has been discussed so far  
7 today, the medical disorders. When we are talking about  
8 tumors. When we are talking about endocrine disorders. We  
9 can give somebody a blood test and we can tell with very  
10 strong accuracy and very great certainty whether the person  
11 has it or not.

12 That's very different from what really gender identity  
13 and gender dysphoria should be getting compared to, which are  
14 the mental health disorders which are diagnosed with very low  
15 certainty.

16 In mental health, we don't have an objective physical  
17 test to tell us if our diagnosis is correct or not. In those,  
18 it is often very up to debate and we don't have an objective  
19 way to tell when somebody is in that threshold or not.

20 Q Do you have an opinion about whether a systematic review  
21 or clinical experience heavily weighing those, which would you  
22 follow as an expert in your field?

23 | A Always necessarily the systematic review.

24 Q And are systematic reviews in your field sometimes used  
25 to evaluate or reconsider or modify existing conventional



1 | wisdom about treatment?

2 A Regularly. In fact, that's their purpose. It is exactly  
3 because they're systematic and removing opportunities for bias  
4 is what makes them superior to just clinical experience. In  
5 fact, clinical experience doesn't even make it into the  
6 Pyramid of Evidence. We would usually start it and the low  
7 rung of the Pyramid is expert opinion, which is even above  
8 clinical experience.

9 Q Turning to some of the more specific issues we've seen,  
10 you have been in the courtroom today; right?

11 A Yes.

12 Q And you heard some of the Plaintiffs' experts opine that  
13 medical gender transitions are effective and, indeed,  
14 necessary to improve mental health for minors suffering from  
15 gender dysphoria.

16 Do you, as a general matter, believe there is a sound  
17 basis in evidence to show transitioning medications improve  
18 mental health?

19 A I would have to answer differently for the word effective  
20 and for the word necessary.

21 | Q All right.

22 A Necessary means that we run the experiments on the  
23 experimental level in order to know what will happen and what  
24 will not happen. No such research has been done. We cannot  
25 know what's necessary.

1 For effective, there have been 13 studies that have tried  
2 to determine whether the -- whether gender transition is  
3 effective and they have been one after another inconclusive  
4 and ambiguous. The changes that have been detected, nobody  
5 can tell if those changes are due to any of the medical  
6 treatments that the person was getting or to the psychotherapy  
7 that they were getting at the same time or were, as I also  
8 listed all 15 and summarized all 15 of the studies in my  
9 report, four the studies show that there were no changes. No  
10 improvements at all. Several of the studies also indicated  
11 that on certain variables, people continue to get worse.

12 Q And specifically on the question -- and I know they are  
13 distinct questions -- but completed suicide and suicidality.

14 Can you explain to the Court the state of the evidence on  
15 whether transitioning medications are effective at preventing  
16 suicide or suicidality and maybe explain the difference  
17 between those.

18 A First for the difference between the two, it's  
19 unfortunate, again as a psychologist, to watch so much of the  
20 public misuse each of those terms really for the rhetorical  
21 purposes, rather than for figuring out what's going on and  
22 helping these kids.

23 Suicide is a relatively rare phenomenon. It's the one  
24 that gets everybody's attention but as I said rare. It's  
25 usually impulsive. It's usually a surprise to the person's

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1 environment, and it's -- by far, it's most common in men in
2 middle age.
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3        Suicidality are the suicidal ideations. Several reports  
4 of suicide attempts. These are indicators that a person is in  
5 great distress, but it actually very, very rarely translates  
6 into actual suicide. People have the idea understandable but  
7 it's not true that suicidality is just a preliminary form of  
8 actual suicide but it's not.

9           Suicidality is much more common in youth. Much more  
10 common in biological females and much more likely to be  
11 repetitive. It simply represents a different phenomenon of  
12 the actual, as I said, impulsive intent to die. And because  
13 it's a different phenomenon, we need different ways to address  
14 it. One is not just an earlier form of the other.

15 Q And what -- on -- and then taking those in turn, can you  
16 offer your opinion about the state of the evidence on whether  
17 gender-affirming medications have any meaningful impact on  
18 suicide or suicidality?

19 A The studies repeatedly find that there is either no  
20 effect, sometimes there have been some reports that maybe it's  
21 going down and then there have been other studies that found  
22 people reporting even greater rates of suicidality.

23 || Q Are you familiar with the Baker Study?

24 A Yes, I am. That was the systematic review that WPATH  
25 conducted before producing its most recent version of its

1 edits.

2 Q Do you recall what that concluded about the affects of  
3 hormonal therapy on death by suicide?

4 A It says it was inconclusive.

5 Q I think it would be helpful for the Court, just a couple,  
6 to hear your specific analysis of the quality of a few of the  
7 studies that have been pretty heavily cited here.

8 We have the binders, if it's helpful but -- or if you  
9 don't need them no need, but are you familiar with the Turban  
10 2022 Study?

11 A I'm roughly familiar with his set of studies. He  
12 published a bunch of them, all based on the same survey and  
13 it's easy for me to mix up which.

14 Q It's in the binder, if you need to take a look.

15 Can you offer your views of the validity of those?

16 A Roughly it was a surveillance where people were simply  
17 asked do they ever feel suicidal in their lives. And so, he  
18 reported that the people who said that they had received  
19 gender-affirming care of some sort were less likely to report  
20 that they had felt suicidal. But really all of that is a side  
21 effect of essentially the process that people have to go  
22 through in order to get gender-affirming care in the first  
23 place. Many of the existing standards require mental health  
24 screening, that they be screened, and the worse of mental  
25 illnesses be ruled out first.

1       So if you just take a general survey, you're comparing  
2 people who made it through that screening versus people who  
3 did not. So even if there is absolutely zero effect, you  
4 would still find on average the people who got the care or the  
5 people who made it through the screenings, so the people with  
6 the poorest mental health, didn't get it. There was no -- we  
7 can't find from that, conclude that the treatment had the  
8 effect. We're just seeing the effect of not permitting the  
9 people in the worse mental health to get that treatment in the  
10 first place.

11 Q     And tell us a little more, again, about why surveys are  
12 uniquely unreliable. I don't want to put words in your mouth  
13 but I think you said something to that affect.

14 A     I would hesitate to use the word unreliable. It's that  
15 they can tell us some stuff and not tell us other stuff,  
16 especially in a highly-politically fraught discussion. People  
17 are using survey data to mean things that they really don't  
18 mean.

19       As I say, at best, it can tell us what gets clustered  
20 with what. People with one characteristic are more likely to  
21 have another characteristic. That's all they can tell us. Or  
22 people in one group report one way on a survey. People in  
23 another group report another way in a survey. It gives us  
24 what we call correlation evidence.

25       So, of course, if we're talking about some conclusions

1 | where that's all we need to know, they're perfectly fine. If  
2 | we're going to use them because we now think some otherwise  
3 | dangerous treatment is going the cause certain affects,  
4 | they're not reliable for that kind of conclusion.

5 Q I'm going to read to you -- are you familiar with the  
6 Chen Study?

7 | A Yes, I am.

8 Q Okay. So reading Paragraph 54 of Dr. McNamara's report  
9 says in a 2023 study by Chen et al, the investigators found  
10 that appearance congruence achieved by hormone therapy was  
11 strongly associated with improvement in various measures of  
12 mental health and psychosocial functioning.

13           Do you -- what weight -- I guess do you agree with that  
14 description of Chen? And what, if any, weight would you give  
15 the Chen Study in the Pyramid?

16 A The placement of the Study in the Pyramid depends on how  
17 the Study was designed. But it doesn't exist in a perfect  
18 study.

19 The conduct of a study can be done improperly. The  
20 biggest problem with the Chen Study is that 40 percent of the  
21 people in it dropped out. So, again, if somebody starts a  
22 treatment, finds it's not helping them and leaves it, well,  
23 then we are only looking at the people who stayed in and their  
24 scores after the study are going to look higher because the  
25 people who were doing poorly dropped out.

1           So once again, we're in a situation where it's just kind  
2 of a statistical illusion that there was improvement, even  
3 when there was no change. When we are talking that kind of  
4 attrition, we can't make the conclusion that there was any  
5 affect of the benefit.

6 Q     Do you think a surveillance with that design could  
7 establish --

8 A     Are we talking about the Chen Study?

9 Q     Do you think a study of that design could show that  
10 hormone therapy causes improvements in mental health or  
11 psychosocial function?

12 A     No. The Chen Study was what we call a cohort study which  
13 is to take one group of people, they all received the  
14 treatment, and in that particular kind of cohort study,  
15 they're compared -- the scores before the treatment are  
16 compared with the scores after the treatment. And as I said,  
17 40 percent of the people dropped out in between. You can't  
18 get a reliable result from it.

19 Q     And I just want to clear something up to make sure  
20 there's no misperception at all.

21           Did you opine in your report or elsewhere that Chen found  
22 that transitioning drugs were causing people to commit  
23 suicide?

24 A     No. Apparently they knew better in the document itself.  
25 They said that such a conclusion could not be made.

1 Q Okay. Last one of these, the Kuper, K-u-p-e-r, 2020  
2 Study, are you familiar with that?

3 A Yes.

4 Q Can you tell us your assessment of where that falls in  
5 the hierarchy?

6 A That was also a cohort study. In fact, the cohort  
7 studies are the highest level of study that's ever been  
8 attempted so far with treatments of gender dysphoria. There  
9 have been exactly 13 of them, and my report lists and  
10 summarizes the conduct of each of those.

11 The Kuper Study used I think it was nine different mental  
12 health measures. Measures of depression, measures of anxiety  
13 measures of suicidality and so.

14 what they found was that on one of those nine measures,  
15 there was some improvement. On three of the measures of  
16 suicidality, they found that people were more likely to report  
17 feeling suicidal after treatment. And on the -- I forgot --  
18 of the five other variables in between, there was no change at  
19 all. And then the Study had the other, you know, I want say  
20 ubiquitous problems. 20 to 25 percent of the people dropping  
21 out entirely.

22 Q We don't need to cover them in exhaustive detail because  
23 they are in the record, but can you talk a little bit about  
24 some of the European studies. I know there was criticism  
25 earlier today which you have heard of the study in Sweden.



1 Can you address what happened in that study and how you  
2 assessed its validity or evidentiary weight?

3 A I assume you mean the systematic --

4 Q The 2023 -- yes.

5 A Ludvigsson. I have to make a joke. Every time I try to  
6 pronounce it, I think of Betty White in the Golden Girls. It  
7 was a proper systematic review that ran itself the way that,  
8 you know, the medical establishment and the clinical  
9 establishment runs systematic reviews. They selected the  
10 questions that they wanted answered. They established the  
11 criteria for which studies were going to be in and out of its  
12 review and they made available the criteria by which they were  
13 going to evaluate the studies.

14 The government itself just, you know, as ubiquitous. I  
15 have lived in Canada myself for 30 years. We have a health  
16 care system very similar to Europe. Each of those systems ran  
17 the systematic review of the existing -- evidence as I cited  
18 in 2021, and it was only just a few months ago now that that  
19 same study was republished in English.

20 Their results came out with exactly the same results as  
21 the English systematic review did, which came out with exactly  
22 the same results that the Finnish Systematic Review did, which  
23 came out with exactly the same results that essentially I  
24 describe in my report reviewing what are essentially the same  
25 body of studies.

1 I should add because they searched for the existing  
2 studies in 2021, there were only 11 cohorts studies. There  
3 are now 15. So my report now covers the two extra studied  
4 that have been published since then.

5 Q Did you -- you said you reviewed a lot of studies. In  
6 reviewing the Sweden Study, did you find any concern with the  
7 dates of when the survey was conducted? Did you find anything  
8 inappropriate about anything like that? I guess you heard the  
9 critique earlier today.

10 A I did hear the critique. Whether it's appropriate or not  
11 would depend on if anything came out in the past two years  
12 which makes any difference. But two recent studies reported  
13 exactly the same thing as the 11 studies beforehand.

14 Q So do you agree -- we've heard words like consensus and  
15 standards of care about the WPATH Standards. Do you think  
16 that's an accurate assessment of that, in light of what we've  
17 been talking about?

18 A No. Not at all. In fact, it is been pointed out over  
19 and over again by many of the professional associations  
20 themselves that they were unable to find a consensus that was  
21 explicitly by the UK review. The American Psychological  
22 Association when they wrote their policies found the same  
23 thing. They were unable to identify a consensus.

24 Q And just to be clear as -- as someone evaluating the  
25 evidence about mental health -- so a professional in your

1 field would consider these European things, these European  
2 studies just like they would consider Turban and Chen and  
3 Kuper; is that correct.

4 A The systematic reviews above?

5 Q Of course, yes.

6 A That's the point of the systematic review.

7 Q Sure. But the studies we've discussed which you heard my  
8 friend talk about with Dr. Shumer did a lot of the discussion,  
9 all of those are meaningful contributions to the scientific  
10 body of evidence.

11 A Oh, because they were produced by the health care systems  
12 of those countries, they are held at the same weight, if not  
13 higher actually, than a peer reviewed journal would be.

14 Again, this is one of the distinctions between what  
15 people are accustomed to in the U.S. where medicine is run by  
16 medical professional associations as opposed to really just  
17 about the rest of the world, where medicine is run by the  
18 medical industries of the national public health care system.

19 Q would you have any reason to discount a study if it was  
20 issued by the US CDC or STEM, I think a mental health agency?  
21 would you discount those?

22 A Again because, the US system works a little bit different  
23 I would love to see what's done. You know, habitually  
24 scratched the surface, but it would be perfectly appropriate  
25 to give those documents the same kind of weight as the

1 document coming from NIH.

2 Q Okay. Just a couple of more things.

3 Can you tell me historically about the demographics of  
4 the individuals who suffered from or sought treatment for  
5 gender dysphoria.

6 A Sure. An upshot is that it is more than just  
7 demographics. This isn't just a shift from urban to rural or  
8 one socioeconomic class to another.

9 The study of gender dysphoria goes back more than a  
10 century. And what's been shown and has been true up until the  
11 social media age actually is that there are two completely  
12 independent unrelated phenomenon that can lead a person to  
13 feel gender dysphoria.

14 People with childhood onset gender dysphoria are not  
15 experiencing the same thing as adult-onset gender dysphoria.  
16 They are both feeling dysphoric. They both feel like they  
17 could be living as the other sex, but for completely unrelated  
18 reasons. That's metaphoric and I'll offer to explain it.

19 Somebody comes in, doc, I have a headache. Okay. But we  
20 don't then diagnose headache disorder and send you to our, you  
21 know, headache pill factory. We figure out what's causing the  
22 headache. A head injury is not the same as a tumor. It's not  
23 the same as an aneurysm. It's not the same as a migraine. We  
24 find out what the cause is and we treat the cause, even though  
25 the person is describing the same symptom.

1 For childhood-onset gender dysphoria, the large majority  
2 of those kids not evidence single one but the large majority  
3 of those kids just turn out to be gay or adolescent by the  
4 time puberty hits but for adult it's very rare.

5 Also for the children they're roughly two-thirds,  
6 roughly, three quarters biological male. Some females.  
7 Mostly they're biological boys. And as I say, by the time  
8 puberty hits, sex drive kicks in, they start experiencing  
9 their sexual attractions, which then is their indicator oh, I  
10 understand now, and that's when they understand that they're  
11 gay or adolescent.

12 For adult onset, it's a completely different phenomenon.  
13 Much more closely related to just an erotic interest in --  
14 practically it only happens in biological males. They tend to  
15 come into the clinic in middle age. They tend to -- they  
16 experience an erotic attraction to looking female, to feeling  
17 female. They will masturbate, cross dress. I don't want -- I  
18 hate to use the word fetish because that belittles them. It's  
19 quite, quite profound to their experience, such that some of  
20 them that are otherwise mentally healthy do perfectly fine  
21 with the other sex. But it is unrelated to the phenomenon.  
22 Right down to brain scans, it is a different phenomenon from  
23 childhood-onset gender dysphoria. So those are the two  
24 nonoverlapping cluster that have been known for decades.

25 Q How has that changed in your experience in the last --

1 can you tell us when you might have seen the changes?

2 A As I said, it corresponds with the onset of social media.  
3 Beginning with social media in society, a completely  
4 independent different group of sex ratio, different age group,  
5 different set of mental health concerns with them. Sometimes  
6 we call them the adolescence-onset gender dysphoria cases  
7 because it starts after puberty, usually in the mid-teens.

8 Others have referred to it as rapid-onset gender  
9 dysphoria because they lack the history of experiencing this  
10 in childhood. It only started in adolescence. That group is  
11 not always but primarily biological female, they're different  
12 in age and they have a different mental health profile.

13 These are people who usually have, for example, autism  
14 spectrum disorder. Other subtle neurological signs. They  
15 often have borderline personality disorder. A different set  
16 of phenomenon that we didn't exactly see either in the  
17 childhood-onset cases or in adult-onset cases. There was  
18 some. That breakdown isn't perfect, but because the profile  
19 is so different and what's in common across all of these or as  
20 I say it started in the social media age.

21 The other mental health issues that these people have are  
22 as I said autism spectrum disorder and borderline personality  
23 which are deficit in social functioning, usually occurring in  
24 clusters in friendship, which suggests social contagion. And  
25 there are people whom -- for whom their fundamental desire is

1 to be treated different socially. It seems to be mediated by  
2 feelings of not fitting in with the people around them and the  
3 belief that if they lived as -- and it's not only, in fact,  
4 it's only a minority of the cases that actually want to live  
5 as the other sex -- instead, these people are reporting some  
6 ambiguousness in between status like fluid or nonbinary. Most  
7 of them are expressing discomfort with becoming an adult of  
8 whichever sex biologically their body is going to send them  
9 to. So they seem to be showing a much, much, more socially  
10 related problem where the kids -- where the prepubescent  
11 children are showing a much more sexual orientation related  
12 problem. Where the adults are showing, as I said, this  
13 atypical erotic interest with a long funny name but also a  
14 completely independent outcome.

15 Q Do you have -- I think we've seen in maybe some of the  
16 previous cases -- do you think this new spike can fairly be  
17 attributed to the decreased stigma about being transgender?

18 A There is no evidence to suggest that.

19 For example, you know gay groups -- I'm openly gay  
20 myself -- it's been associated usually with depression and  
21 anxiety but stigma doesn't cause autism. Stigma doesn't cause  
22 borderline personality disorder. So although it increases  
23 distress in general, it just doesn't fit the demographic or  
24 epidemiological pattern associated with it if it were just  
25 simple -- I shouldn't say simple -- a simple idea such as

1 saying stigma.

2 Q And you are not aware of any comparable spikes in older  
3 adults of either sex that would match what you have seen among  
4 adolescents?

5 A Exactly. It seems to be restricted to adolescent females  
6 who demographically are the most vulnerable to social  
7 contagion and to social influence. It's a particularly  
8 vulnerable time of life among people who, as I said, usually  
9 have a greater challenge in order to fit in socially.

10 Q You've been involved in academic research of mental  
11 health for several decades. Do you think it would be  
12 unethical to do Randomized Controlled Trials about the  
13 efficacy of treatments for gender dysphoria?

14 A No. I hesitate to say a blanket statement only because  
15 of the specific examples that were volunteered this morning.  
16 But if one wanted to, one could come up with an unethical RCT.  
17 But, of course, one can also come up with a perfectly ethical  
18 RCT. But we -- in order to make biological interventions for  
19 gender transition in order for that to be a viable option, we  
20 need to, as I keep pointing out, be able to assess it with a  
21 risk-to-benefit ratio. And the only way to do that would be  
22 with higher level, more reliable causal evidence that we don't  
23 yet have. In the US especially we've jumped the gun.

24 Q And what would you consider an ethical RTC as one  
25 example, for example, on cross-sex hormones?



1 A For cross-sex hormones, I would recommend one group  
2 getting psychotherapy only and the other group getting  
3 psychotherapy plus the medications to see if the medications  
4 added anything beyond just the psychotherapy.

5 Q And, in fact, would you agree it sounds like that sort of  
6 study is exactly what is being contemplated in some of the  
7 European countries or may be not exactly but that --

8 A They haven't yet released the designs that they're going  
9 to, and the UK has also announced it's also going to be trying  
10 puberty suppressing.

11 The other aspect that -- again, if this was being done  
12 properly from the beginning, we wouldn't be starting with  
13 nine and ten year olds. Because it's perfectly legitimate for  
14 people to transition at 18, the first experiment would be to  
15 say, okay, what if you could transition at 17 and we could  
16 randomly assign half of you going to transition at 16? See  
17 how that goes. If we find, you know, a workable dose response  
18 to that, okay, if that works, now let's try 14 and 16. Or if  
19 that doesn't work, our job is done and we know to keep with  
20 18.

21 Q Last question. You have publicly spoken and written and  
22 testified about some of the issues in this case and have faced  
23 some personal attacks.

24 Why are you engaged in this testimony and writing and  
25 speaking?

1 A Oh, goodness. I'm a sex researcher. You can't do sex  
2 research without, you know, everything -- well, me especially  
3 because I do research in atypical sexuality, what my  
4 conclusion is with any of these issues, somebody on one side  
5 or the other is going to be upset. But my motivation is I'm  
6 just curious. I want to know what the right answer is. I  
7 appreciate people's discomfort with this or, you know, I have  
8 also been working on other even more controversial issues.  
9 It's just what's popular and not popular.

10 If we as scientists, if I as a scientist allow myself to  
11 just go with what popular or what's liked, nobody is going to  
12 get helped. Opinion has to follow the science. Not vice  
13 versa.

14 MR. BRADSHAW: Thank you, Dr. Cantor.

15 Nothing further from us.

16 THE COURT: All right. Thank you, Doctor.

17 Is there anything else you need to take up before we  
18 take a short afternoon break?

19 MR. BRADSHAW: No, Your Honor.

20 THE COURT: All right. Let's take ten minutes.

21 (Whereupon, a break was taken.)

22 THE COURT: Good after. Are you ready to begin?

23 MS. ISAASCON: I am.

24 Before I do, Ms. Pittman can you check on the time?

25 I want to know where we are in our time allocation, if you

1 have it.

2 COURTROOM DEPUTY: I have that you've been talking  
3 for two hours 17 minutes. I told you, you were going to have  
4 to keep up with the time as well.

5 MS. ISAASCON: Thank you. I am ready.

6 CROSS-EXAMINATION

7 BY MS. ISAASCON:

8 Q Good afternoon, Dr. Cantor.

9 A Good afternoon.

10 Q Can you hear me okay?

11 A Yes, fine.

12 Q My name is Cory Isaacson. I'm one of the attorneys for  
13 the Plaintiffs.

14 Dr. Cantor, I'm going to start just by asking you some  
15 questions about your professional experience.

16 Am I right that you are a adult psychologist? Is that  
17 correct?

18 A That's correct.

19 Q And you have a private practice; is that right?

20 A I do now, yes.

21 Q Okay. And is it right that your private practice focuses  
22 on providing sex and couples therapy?

23 A That's correct.

24 Q And you see primarily adults?

25 A Ages 16 and up.

1 Q Ages 16 and up.

2 Have you ever provided clinical care to transgender  
3 children who are prepuberty?

4 A Prepuberty, no.

5 Q Have you ever provided clinical care to transgender  
6 adolescents under the age of 18?

7 A Yes. The bridge between 16 and 18.

8 Q And about how many patients would you estimate that you  
9 have treated in that age range?

10 A About two dozen. If that were a substantial source of my  
11 income, that would put me in a conflict of interest for  
12 assessing the research on it.

13 Q About two dozen transgender adolescents between 16 and  
14 18?

15 A To call them already transgender is to assume what the  
16 correct answer is when you are usually coming in with concerns  
17 and questions and it's not clear.

18 Also, to say that they're transgender is to assume  
19 what -- that we're -- we and they are using transgender to use  
20 the same term, which isn't exactly accurate. It would be much  
21 fairer to say that these are kids who are confused. They are  
22 not sure where they fit or what would make them happy.

23 The more typical situation is that these are kids in  
24 distress. Something is wrong. They're often coming in  
25 already attributing it to gender or when they try, you know,

1 on the internet or hearing what their friends are talking  
2 about, you know, it becomes an explanation for them. But to  
3 say that they are transgender, again, is to assume the answer  
4 as well as to assume that everything that follows from that  
5 label would be true, that transition is the way the only way  
6 or the best way for them to be happy. And we can't help them  
7 figure that out by already assuming what the answer is.

8       The same problem happens if somebody just attends a  
9 gender-affirming clinic. If they're calling themselves a  
10 gender-affirming clinic, they have already decided what the  
11 treatment is before they've seen the patient.

12 Q     So, Dr. Cantor, I just want to be clear. I'm not talking  
13 about in that question a hypothetical group of patients. I'm  
14 asking you when you say that you have treated about two dozen  
15 adolescents in that 16 to 18 age range, are you saying that  
16 you have treated those approximately two dozen patients for --  
17 I see that you take issue with me using the word transgender.  
18 would you describe those patients as having had come to you  
19 for issues related to gender identity? In other words, what  
20 I'm asking you is whether you treated those 16 to 18 year olds  
21 for other reasons outside of reasons related to their gender?

22 A     That was kind of long. I don't so much take issue with  
23 your use of the word transgender because so many people use  
24 the words to mean so many different things. I can't take for  
25 granted without having said what we mean to take for granted

1 we are using the word in the same way.

2       These words -- mostly kids in distress, they had  
3 questions wondering if their issue was about whether they  
4 would be happier living -- they were mostly biological female.  
5 Questions about what would resolve their distress. Are they  
6 really female or as is typical in that age group, they weren't  
7 identifying as male. They were unsure. Am I fluid? Am I  
8 nonbinary? Or they had other kinds of issue and didn't  
9 initially get it and automatically assumed that the other  
10 discomforts and distresses that they were experiencing, they  
11 either -- I'm hearing a feedback. Is that just me?

12 Q I don't hear it.

13 A Tell me if that's not loud enough.

14       Now I'm getting it again. I'm sorry. I think I'm making  
15 it worse.

16 Q Now I hear it.

17 A I don't think I can tune it out from here.

18       Some of them are assuming that the source of their  
19 distress was about their gender identity and some were  
20 assuming that it wasn't.

21       So usually people come in with some concern over sex one  
22 way or another and they have had questions about it.

23       For some of them, yep, they continue down the path of  
24 medically transitioning. Others didn't. Others, you know,  
25 changed the labels that they used to describe themselves, you

1 know, and then resolve whatever the distress was and check in  
2 to have a good time. And I hadn't seen them -- one or two I  
3 have heard from since. Does that --

4 Q A little bit. I just want to make sure that I'm getting  
5 a clear answer. So what I'm trying to ask you is about the  
6 extent of your clinical experience relating to adolescents who  
7 are presenting with issues related to gender identity.

8 So tell me if I'm hearing you correctly. What I hear is  
9 you have clinically treated roughly two dozen adolescents  
10 exclusively from the age of 16 to 18 who have presented with  
11 issues related to gender.

12 Is that accurate?

13 A The number is accurate. It's the characterization of  
14 patients. As I said, the trans term makes the assumptions  
15 about what they are coming in with, what they're self labeling  
16 with.

17 For example, a lot of them, as I was saying before  
18 consistent with the research for lot of these people what  
19 they're calling a gender identity issue is actually a sexual  
20 orientation issue.

21 Biological female who's, you know, kind of a Tom girl,  
22 kind of masculine and feels insecure. Doesn't feel very  
23 womanly, so she is referring to herself as having gender  
24 issues, but that's more discomfort with her just being who she  
25 is and then her trying to figure out, you know, goes through

1 the decision-making process. Should she use, you know, should  
2 she transition socially? When or how much? Should she try  
3 going through physiological changes or not? But to say that,  
4 you know, she was transgender, well, that's the question she  
5 had walking in with.

6 Q And I think I had asked if they presented with issues  
7 related to gender. But let's move on a little bit.

8 Do you recall testifying in a case in Alabama --

9 A Yes.

10 Q -- recently. Tucker I believe?

11 A That was the name of it then. It's been renamed since  
12 then.

13 Q And do you recall testifying in that case that the extent  
14 of your experience working with transgender adolescents -- and  
15 I understand you take issue with that phrase but that's the  
16 phrase that was used there -- that the extent of your  
17 experience working with transgender adolescents consisted of  
18 counseling six to eight transgender patients between the age  
19 of 16 and 18?

20 A Sounds about right.

21 Q So you remember giving that testimony?

22 A Yes.

23 Q That sounds accurate?

24 A Yes. At that time, yes.

25 Q Okay. And that was in 2022. Is that correct?



1 A I think it was about a year ago, yes.

2 Q Okay. Thank you.

3 One other question related to that. Your licensing  
4 doesn't allow you to treat young people under the age of 16;  
5 is that correct?

6 A Correct. It's because my intent was always to be a sex  
7 and couples therapist and until recently, as I said until  
8 recently until the social media age for children that was  
9 irrelevant, so I never pursued the extra, you know, couple of  
10 months training, couple months of practical experience that it  
11 would take to extend my license, because my career and the  
12 intent for my career was primarily research. It just never --  
13 it was worth it to me in order to do the extra to start seeing  
14 the kids.

15 Q And, Dr. Cantor, as you eluded to in your direct  
16 testimony, gender dysphoria in children and adolescents does  
17 not necessarily present the same as gender dysphoria in  
18 adults; is that correct?

19 A Yes. All of the research is very -- not all the research  
20 that but -- you know, acknowledge that there exists a  
21 difference and has been able to demonstrate that these are  
22 different phenomenon that look the same, really very  
23 superficially.

24 Q Have you ever diagnosed a child or adolescent with gender  
25 dysphoria?

1 A By child, I assuming prepubescent adolescent.

2 It's never been relevant in the context I've been in.

3 The method of insurance payments that's covered, you know, in  
4 my clinic was covered just for an hour of psychotherapy. It  
5 didn't require a diagnosis for their insurance coverage. And  
6 when they came to me, it was still a question of whether they  
7 wanted to go through physiological changes, so they didn't  
8 need a letter from me or a formal diagnosis from me in order  
9 to receive it.

10 Q So the answer is no you have never diagnosed adolescents  
11 with gender dysphoria?

12 A Correct.

13 Q Or a child?

14 A Correct.

15 Q Have you ever treated a child or an adolescent for gender  
16 dysphoria specifically?

17 A Again, most of my practice is helping these kids work  
18 through the related issues in order for them to be able to  
19 make a decision about what to do about it. I'm not sure if  
20 that counts as treating them for it. You know, I never had a  
21 conclusion such that we have to get them to the physician so  
22 you can transition. Nor have I ever been in a position where  
23 oh, okay, we have to do something to kind of make you go the  
24 other direction either. It was let's go through your  
25 thinking, how your experiences are, you know, talk about other

1 kinds of issues that are going on so that when you make a  
2 decision for yourself, you can feel confident that, you know,  
3 this is, you know, we have tried all the alternatives and this  
4 is the next right step for you. So I guess it's actually the  
5 phrase treatment for. I'm not sure that that counts as  
6 treatment for. I'm treating for their distress or the thing  
7 I'm trying to treat is their distress.

8 Q Well, it seems like if you have never diagnosed a child  
9 or adolescent with gender dysphoria, then you would not be  
10 treating them for gender dysphoria; is that right?

11 A No, I don't think that's true. As I said, there are kids  
12 coming in upset, unhappy, depressed, anxious. So then we  
13 start talking about things that make them anxious. The things  
14 that make them depressed. The things that they tried for self  
15 soothing. The way that they think about themselves in life.  
16 The comfort that they have introverted, extroverted. Things  
17 in their lives, relationships with their parents and the rest  
18 of their family. All of which relate to their living and  
19 their lives but none of that is in any direct way we're going  
20 to get you transitioned. We are going to take of you so you  
21 can go through transition. Nor is it saying we have to take  
22 care of these issues so you don't feel gender dysphoric. The  
23 kid's in distress, so let's work on the distress and see if  
24 they still feel dysphoric after they, you know, no longer feel  
25 anxious or profoundly distressed.

1 Q Again, Dr. Cantor, do you recall testifying in the  
2 Alabama case?

3 A Yes.

4 Q Do you recall in that case that you testified that you  
5 had not ever treated a child or an adolescent for gender  
6 dysphoria?

7 A As I recall the context around that question, it was more  
8 specifically about whether the kid would be prepared for and  
9 qualified for transition. So I have done it in that kind of  
10 context. As I said, usually it's in distress and we're trying  
11 to figure out how to get those unhappy kids to become a happy  
12 kid.

13 Q Just one moment.

14 If you would, Dr. Cantor, I want to make sure that we get  
15 the context clear around the question from the Alabama case.  
16 And I'm going to read from the transcript. And I'm happy to  
17 show you a copy, if you'd like to see it. We can put it up.  
18 I have a hard copy, but it may be easier to put it up so that  
19 everyone can see.

20 This is Cantor 1 and we're looking at Page 2. And we are  
21 at Line 16.

22 And, Dr. Cantor, please let me know if I'm reading this  
23 correctly.

24 The question posed to you was: You never treated a child  
25 or an adolescent for gender dysphoria?

1 And you answered on Line 18: Correct.

2 Did I read that accurately?

3 A Yeah.

4 Q Okay. Thank you. We can take that down.

5 Dr. Cantor, do you have any experience in monitoring  
6 minor patients who are undergoing gender-affirming medical  
7 care?

8 A No.

9 Q Okay. So, Dr. Cantor, despite your limited experience  
10 with gender dysphoria and adolescents, you did opine a lot  
11 about adolescents and gender dysphoria in your testimony?

12 A On the science of it, yes.

13 Q So that was not based in your clinical experience but on  
14 the science as you say?

15 A That is correct.

16 Q Okay. Dr. Cantor, you also testified about social media  
17 having an impact on gender dysphoria and adolescents; is that  
18 correct?

19 A I don't know if I used the word impact. It's hard to  
20 avoid that -- the pattern is exactly overlapping. This isn't  
21 a mere correlation. It's identical. Youth today -- and the  
22 studies and over and over again this really started roughly  
23 2010, 2012, rights of anxiety in general in adolescents today,  
24 rights of depression in general, suicidality skyrocketing,  
25 although especially in this context people talk about those

1 rights being high in transgender kids. They're high today in  
2 all kids. And gender dysphoria, the exploding rates of gender  
3 dysphoria. The frequency of them have been, as I say, you  
4 could put the graphs on top of each other. Identical. So  
5 it's really hard to avoid the hypothesis that, you know it's  
6 all been a result of social media, but just like with  
7 everything else, you know, I can't make a casual conclusion  
8 but we sure have to give that some very, very serious thought.

9 Q So just to be clear, that is a hypothesis?

10 A The word impact is. It's -- the correlation is, as I  
11 said, you know, extremely strong. We have to take that idea  
12 seriously but I can't necessarily conclude it. It is still  
13 just a correlation.

14 Q And the studies and research you just referred to are  
15 related to mental health generally and the rise of social  
16 media not to gender dysphoria specifically; is that right?

17 A There are existing studies on the timelines of mental  
18 health issues in general, which are the ones that show the  
19 anxieties and the depressions being strongest.

20 The studies on gender dysphoria have been in -- the  
21 studies on gender dysphoria have also included depression and  
22 anxiety. But I don't recall offhand an epidemiological study  
23 looking broadly at mental health in general in adolescents  
24 today that also included gender dysphoria. So they overlap  
25 but I don't know if there is one study, one broad scale,

1 | epidemiological study that included gender dysphoria with it.

2 Q And I'm asking specifically about studies dealing with  
3 the relationship, if any, between social media and gender  
4 dysphoria.

5 A Those studies primarily are the Littman interviews with  
6 the parents who have indicated regularly that the parents  
7 noted that it was during the period of furious almost  
8 obsessive involvement of these kids with social media. But --  
9 it's, as I said, interviews with parents and so it's  
10 hypothesis perfectly legitimate, perfectly logical and so it  
11 takes -- so it requires some very serious thought. It  
12 certainly explains all of the observations we're making. But  
13 just as I said, we can't randomly assign kids on the internet  
14 versus not in order to come up with a causal conclusion.

15 Q Okay. Dr. Cantor, is it right that until pretty recently  
16 you never published anything related to gender dysphoria in  
17 adolescents?

18 A Not as a single -- it was never the object of any of the  
19 studies that I have done, but it was included in other studies  
20 or relevant aspects were included within other relevant  
21 aspects I was studying.

22 For example, human development over the course of  
23 puberty. I have done studies on, you know, different aspects  
24 of human appearance, facial features and so on and how those  
25 develop over puberty, but I didn't do it with the intent to

1 apply it to the people with gender identity disorder.

2 The much more explicit question such as my peer-reviewed  
3 fact check of the AAP policy, the more directly relevant ones  
4 are more -- I guess it's about five years ago now -- sorry  
5 about five years ago now, I started.

6 Q Okay. That fact check that you just referred to about  
7 the AAP policy, that wasn't a research study, was that, that  
8 you published?

9 A I didn't collect data in order to do it. I simply  
10 took -- when the AAP policy came out, I was floored. You  
11 know, so I read that research. When all of the research was  
12 originally published, I had been following it. I know the  
13 people who wrote those studies for many, many years.

14 When I saw the AAP policy, I immediately saw that the  
15 studies it was quoting -- not quoting -- summarizing those  
16 papers didn't say what the AAP policy said they said. So all  
17 I did is go through their own reference list, said what AAP  
18 said and I quoted the original paper, which said not only did  
19 it not say what it was said to, they often said the exact  
20 opposite. So they both ignored all of the existing research  
21 at the time and not merely twisted or misrepresented. As I  
22 say, it said the opposite of the very papers they were relying  
23 on. I was stunned.

24 Q So that piece is reflected in your opinion of the --  
25 based on your review of the research policy?



1 A No. It was not an opinion. As I say, I was able to  
2 quote and I submitted it together with my report here,  
3 reference after reference, showing each one quoting exactly  
4 what the original one said that there was no opinion. My  
5 views had nothing to do it with. It's their sources simply  
6 didn't say what the AAP said they said.

7 Q So it's a dissolution of your personal review of the  
8 studies that had been cited; is that right?

9 A I don't want to oversimplify -- well, I guess I do want  
10 to oversimplify it. When AAP said that Jones et al said the  
11 answer was 3 and then I just pulled out Jones et al. and I  
12 quoted and I said, no, the answer was 5.7. So all I did is  
13 one after another, show this is what AAP said and here is the  
14 original reference. There is no -- my opinion didn't -- I  
15 didn't express any motivation, attribute any motivation to  
16 AAP. I didn't suggest what their policy should be. There was  
17 no judgment on -- there was no room for opinion. It was a  
18 pure, pure fact check.

19 Q So just to be clear, Dr. Cantor, that piece did not  
20 reflect your -- any clinical research on your part?

21 A I didn't conduct any research in order to produce that  
22 paper. That's correct.

23 Q Okay. Thank you.

24 Is it also true, Dr. Cantor, that until recently -- is it  
25 also true like your list of publications, you have a very long

1 list of presentations is it also true that until pretty  
2 recently you had not presented anything related to gender  
3 dysphoria, particularly gender dysphoria in adolescents?

4 A Correct. Gender dysphoria in adolescents -- well,  
5 adolescent-onset gender dysphoria as I say, didn't exist until  
6 relatively recently.

7 Q well, had you presented on gender dysphoria as the focus  
8 of any presentation beyond recent years?

9 A Not that I recall. I mean now and then it's relevant to  
10 mention, you know, when I was giving a relatively broad  
11 overview but it was never the subject of any specific  
12 presentation.

13 Q Okay. Thank you.

14 Dr. Cantor, while we are talking about your presentation,  
15 I do want to take a look at Page 12 of your CV that you  
16 submitted in this case. The header is Keynote and it provides  
17 addresses. So you list your recent speaking engagements  
18 there.

19 A Okay.

20 Q I don't see a presentation on this list for Alliance  
21 Defending Freedom. You have presented to Alliance Defending  
22 Freedom; right?

23 A Yes. They wanted me to participate in a Q&A session at a  
24 conference they had.

25 Q Is there a reason you didn't include that in your

1 reference?

2 A Yes. Because I didn't author it. I didn't write it. It  
3 was a question-and-answer session interview. It wasn't the  
4 kind of presentation -- it wasn't an academic presentation  
5 where I'm presenting research results or I'm presenting my  
6 opinions or my pre-prepared comments on a particular topic  
7 with Power Point slides showing, you know, whatever research  
8 or summary of research. To me, it was much more -- I'm also  
9 interviewed very often in the media, asking questions or  
10 podcasts that want to interview me with whatever question. I  
11 don't list those either.

12 Q Did you not include other question-and-answer sessions on  
13 other panels in your list of these presentations?

14 A I have a vague memory of there being an academic panel  
15 that had a Q&A as part of the title and as I say it was kind  
16 of a -- those were prepared comments in an academic forum as  
17 opposed to a regular -- as opposed to somebody else picked the  
18 questions.

19 Q Okay. Because I'm looking here and it looks like the  
20 second presentation titled No Topic Too Tough For This Expert  
21 Panel, A Year In Review, that was a Q&A session.

22 A That's right.

23 Q When was the presentation for Alliance Defending Freedom?

24 A I guess about a year ago.

25 Q And is my understanding correct that Alliance Defending

1 Freedom is a religious legal organization that takes a variety  
2 of positions that have been characterized as anti-LGBT and  
3 that they have, among other positions, fought against same-sex  
4 marriage.

5 A That's my understanding. And I said before, as a gay  
6 person myself, I had to do some serious thinking about whether  
7 I wanted to participate and in which way. And my ultimate  
8 decision was I'm a scientist and professor. I will answer  
9 questions to anybody who asks me. It's not my science. I  
10 know of it. I know the science thoroughly and I will present  
11 it to whoever it is who asks me. If I only presented, you  
12 know, science, which was created on public money, if I only  
13 gave it to people I like or people I agree with, well, I've  
14 now lost the objectivity that really to me is the most  
15 important part. You know, it's not up to me to be assessing,  
16 you know, other people's intent. It's been a very strange  
17 experience to me, essentially crossing the aisle. It's they  
18 did what -- I'm liberal, but to me that means being able to  
19 work with people who are different from me. Being able and  
20 being willing to work with people who don't think the same  
21 things that I do.

22 And they started the conversation with, Dr. Cantor, we  
23 probably disagree on every other issue but this one, so we're  
24 going to -- how about we work together on this one. To me  
25 that's what a liberal is supposed to do.

1 Q Thank you, Dr. Cantor.

2 Okay. Now I'm going to go through and ask you some  
3 questions about some of the studies that you talked about in  
4 your declaration.

5 A Sure.

6 Q I wanted to start with one authored by Schumann Crawford.  
7 I'm not sure if I'm pronouncing that right, but I assume it's  
8 S-c-h-u-m-a-n-n.

9 A I think so, yes.

10 Q Okay. And that's a study that you cite to as essentially  
11 rebutting the Olson et al. study?

12 A Correct. Schumann colleagues obtained and reanalyzed the  
13 original paper demonstrated that, again that original -- the  
14 data in that original paper did not say what they claimed it  
15 said but it analyzed improperly. And when analyzed properly  
16 actually said, well, resulted in some cases the opposite.

17 Now that does sometimes happen but it's inappropriate and  
18 what happened very, very often. Again, this is a highly,  
19 highly politicized environment. People were citing one and  
20 not the others. That's just not a legitimate way to tell  
21 anyone what the science is. If it's mixed, it's mix. If it's  
22 one way, if it's the other way, present that. But what I have  
23 seen over and over again in the media or in other as I say  
24 politicized environments, people are citing one and not citing  
25 that first. That that was a correction published to the

1 original.

2 Q well, are you aware that the Shumann Crawford authors has  
3 been criticized from peers in the past for taking some  
4 controversial stances?

5 A I would not be at all surprised.

6 Q Okay. And you are aware that Schumann Crawford, the same  
7 authors in this study that you cite as you essentially  
8 rebutting the Olson Study, that they previously wrote an  
9 article in which they claimed there is a great deal of  
10 evidence that homosexuality is strongly associated with having  
11 been sexually abused as a child?

12 A I don't remember that particular claim, but I have no  
13 reason to deny it -- to deny it either. My concern -- my sole  
14 concern is on the data. When the data are analyzed properly,  
15 the data are analyzed properly. If I only believed or I'm  
16 only willing to entertain the analysis from people whose  
17 politics I liked, I've stopped being a scientist and I've  
18 started to be an activist. Somebody I don't like can have the  
19 right answer.

20 Q well, the quotation that I quoted was not a political  
21 position and it may also reflect that personal political  
22 position but they presented that conclusion as a research  
23 finding.

24 A Same story. If there is analysis that somebody did and  
25 it's proper in one paper, it doesn't mean that they didn't

1 make a mistake in another analysis on another topic on another  
2 paper. I evaluate and all anyone should do when evaluating a  
3 particular analysis is on the basis of that analysis. That's  
4 why blind review is blind.

5 Q Okay. One more questions about that Schumann Crawford  
6 Study. So we heard a little bit earlier about Linacre.  
7 Please tell me if I'm pronouncing that accurately.

8 A Yeah. I think it's Linacre but I couldn't -- again,  
9 it's -- I don't circulate regularly in that world either. I  
10 know of -- I remember typing it out as I was listening to the  
11 citation.

12 Q Well, I'm going to defer to you. Linacre. It sounds  
13 better to me. So are you aware that the Schumann Crawford  
14 piece was published in the Linacre Quarterly?

15 A I would have to check my notes to doublecheck. That  
16 sounds about right.

17 Q And as we heard in earlier testimony that's a ethical  
18 journal, not a medical journal?

19 A Again, that would not surprise me. My concern is with  
20 the contents of the analysis. Unless somebody can present me  
21 with, you know, reasonable evidence of out and out fraud,  
22 that's one thing you, but, you know, I don't like the  
23 politics. I don't like the group. I don't like other  
24 statements they had. My job is to be -- my job is or the job  
25 of a scientist is to ignore all of that and look at the

1 evidence.

2 Q Thank you, Dr. Cantor.

3 Let's move on to another study you cite in your report.

4 Achille?

5 A Achille.

6 Q I was really sure that I got that one right. I guess

7 Achilles heal does not apply in this.

8 A I wouldn't put anything past anybody.

9 Q Okay. So, you cite Achille et al under the header in  
10 your report, a study showing that there was no advantage of  
11 the medicalization over psychotherapy. Does that sound  
12 accurate?

13 A My classification sounds correct. It's just because I'm  
14 actually no good with names myself and it's easy for me to mix  
15 up studies. Could you tell me what tab it's under.

16 Q The study I don't think it's in any exhibit list but I do  
17 have a copy and I can point you first to where in your  
18 declaration you talk about it. It's on Page 111, believe.

19 A Does that mean one of these books? I have a copy of my  
20 own report.

21 Q You should have an expert report binder. I think it's  
22 111 is what I have.

23 A Start me with which tab I'm in.

24 Q On that one, I'm not sure. It should be a table of  
25 contents at the beginning that says which report is under



1 which tab.

2 A This notebooks says Plaintiffs' Exhibit list.

3 Q That was not the right binder.

4 MS. ISAASCON: Can I help him find it?

5 THE COURT: Sure.

6 A You said paragraph was that 111?

7 Q Page 111.

8 A Page 111.

9 Q And, actually you can look first at Page 110 for the  
10 header I was referring to before, Header C.

11 A Oh, yes.

12 Q So the header says two studies, I assume?

13 A Yes.

14 Q No advantage of medicalization of physiotherapy and then  
15 111 is your --

16 A Yes, I remember.

17 Q -- discussion of --

18 A As I said, usually it's just names and from the name of  
19 the study, I can't always -- now I remember.

20 Q Very, very reasonable.

21 Okay. So in your declaration you say that this study --  
22 and again I'm looking at Page 116 -- you say that the study  
23 found medicalized transition was not associated with improved  
24 mental health beyond improvement associated with mental health  
25 care received.

1 A Yes. Further after that, you know, again saying  
2 specifically that more specific they used 12 different ways to  
3 try to assess the mental health of kids and out of them 11  
4 showed no difference. And of the other one, again, it's  
5 statistics. Every time you roll the dice, you know, there's a  
6 greater chance of showing whatever it is you want. So if you  
7 don't specifically control for how many times you've tried  
8 getting the answer you want, just getting one positive answer  
9 out of a large body of them essentially doesn't count.

10 So I feel like I have to say that with more statistical  
11 ease. There is statistical ways to control for how many  
12 times, how many different ways you have tried looking for one  
13 thing. Because none of this is -- because this isn't physics  
14 where we can just say, you know, the ball dropped or not to  
15 see if gravity still works. This is statistics.

16 We call the difference between two groups significant if  
17 the difference between them would be unlikely to occur just by  
18 chance. But the more often you do it, sooner or later, you're  
19 going to get a difference just by chance. And so what you're  
20 supposed to do in a proper study is control for how many of  
21 these comparisons you've run.

22 This study didn't. So because it ran 12, just finding  
23 the one that was statistically different, as I say, doesn't  
24 count as that's, you know, much more plausibly attributed to  
25 just how many analyses they ran.

1           And so one can no longer statistically and properly come  
2 to the conclusion that, you know, they didn't come to this  
3 just by chance because I tried it so many times and this one  
4 just happened to have come out. So, therefore, I put it in  
5 that description of how I classified the studies goes.

6 Q       So I think I heard you say 11 of the 12 predictors came  
7 out as showing no effect; is that right?

8 A       No significant.

9 Q       No significant effect?

10 A       Not statistically -- there was no statistical association  
11 between the change, post scores and treatment.

12 Q       Okay. I just want to make sure we get this right. So as  
13 I understand your testimony and as I understood your  
14 declaration, you seem to be discounting the results of the  
15 study because the majority of the findings were not  
16 statistically significant. Is that right?

17 A       It's fairer to say, again, because it is statistics and  
18 it's not going be black and white, you know, it comes down to  
19 probability. And the way that they just kept rolling the  
20 dice, rolling the dice, and came out with a result that is  
21 distinguishable from random, we can't call that a reliable  
22 finding.

23 Q       And that was just exclusively the test for statistical  
24 significance and not to test for whether there was an effect  
25 in the studied group; is that right?

1 A In research design. Those are synonyms.

2 Q Effect size and statistical significance are synonyms  
3 research?

4 A Statistical significance is the test for whether the  
5 effect size could have emerged purely randomly. I don't know  
6 if I can remember the formula but the translation between  
7 effect size and statistical significance are related by sample  
8 size.

9 Q Um-hmm.

10 A So if you have a large effect size, if you have a very  
11 big difference between the groups, then you don't need a very  
12 large sample in order to be able to show it. If you have a  
13 very, very small sample or said the other way, if you have a  
14 small sample, you will only be able to detect large  
15 differences.

16 The flip side, if there is only a teeny tiny difference  
17 between them, you need a very, very -- you need a large sample  
18 in order to be able to detect it at all.

19 When I teach statistics, usually I compare this to a  
20 telescope. The more powerful the telescope, the greater my  
21 ability to see teeny tiny things that are far away. So if I  
22 have a large sample, I can see very small effects, but when  
23 we're talking about medical outcomes, what we are looking for  
24 is large effect. If there is a -- whatever. If there is a  
25 depression score, people scores can go from zero to a hundred.

1 so I find that people scores went from 52 to 54. well, if I  
2 have a very large sample, statistically, I can say that's  
3 significant because it's reliable. It's unlikely to have  
4 emerged from chance. But if I'm going to say this person is  
5 going to undergo medical treatments and, you know, go through  
6 the risks of harm that might come from, well, that two point  
7 difference isn't clinically meaningful, even though  
8 statistically it would be reliable.

9 Q so it sounds like statistical significance is pretty  
10 closely correlated to sample size; is that right?

11 A One is a function of the other, yeah. Statistical  
12 significance is a function of two main factors, the effect  
13 size and the sample size.

14 Q And, Dr. Cantor, what is effect size?

15 A Again, I feel like I need a chalk board.

16 Q In the layperson's terms.

17 A That's the hard part of the translation. If I can do a  
18 formula I can explain it. Like I said, concentrated in math.  
19 I can say in calculus. Effect size is a way that measures the  
20 amount of difference between two distributions. By  
21 distribution I mean if I talk about actually height, human  
22 height would be a good example. If I just say that on average  
23 a biological men, biological women, that's not particularly  
24 controversial. But in order to do statistics, I need some  
25 kind of unit which is universal. It can't just be inches or

1 centimeters or seconds or points of depression. I need -- for  
2 running the statistical test, I'm comparing the actual normal  
3 curve that one would presents versus another group presents.  
4 And it doesn't matter what I'm measuring. I'm just looking at  
5 that distribution of the curve. So an effect size is that  
6 universal way of measuring the distribution of absolutely  
7 anything, whether it's height or weight or seconds or whatever  
8 the unit is.

9       So an effect size usually over -- under .3 would be  
10 called generally small. Between .3 and .5 medium. Generally  
11 above that we would usually call a large effect size in  
12 general. And when I say that, I'm limiting that to the mental  
13 health world where we are giving somebody, for example, a  
14 questionnaire about depression. One questionnaire might have  
15 ten questions. Another questionnaire might have 50 questions.  
16 They have different kinds of questions. So they come up with  
17 different scores. But by translating all of that into this  
18 universal unit less measure is how we are able to compare no  
19 matter what the test was, no matter what the depression test  
20 was, we can compare them test to test to test, study to study  
21 to study.

22       But if we're talking physics, you know, now we can talk  
23 teeny, teeny, teeny tiny things where we can measure them  
24 accurately. So when I say .3 .5 and above .5 those are the  
25 usual cutoffs for mental health research.

1 Q Is effect size essentially how big the effect is?

2 A It's a way to measure how big of a difference in the  
3 distributions between two different groups.

4 Q Okay. Great. And let's actually -- actually, I want to  
5 ask you, you were sitting in here earlier when your colleague  
6 Dr. Hruz testified; correct?

7 A Yes, I was.

8 Q And he talked a little bit about effect size and  
9 statistical significance. Do you recall that?

10 A Yes, I did.

11 Q And do you recall him saying that if a study -- something  
12 to the effect -- I'm sure I didn't capture verbatim --  
13 something to the effect that if a study shows minimal effect  
14 but high statistical power, statistical significance, then  
15 it's not clinically significant?

16 A The way you phrased it doesn't sound quite correct. If  
17 it's a very, very large effect, it will be statistically  
18 significant. And will -- can also be clinically significant.  
19 But a teeny tiny effect can be statistically significant  
20 without being clinically significant.

21 As, I say if somebody just gets a two-point difference on  
22 a hundred point scale, it could be statistically significant  
23 that is reliable we would expect to see the same thing on --  
24 in another study -- but it wouldn't be clinically significant  
25 because it's not large enough for them to make a difference in

1 the person's life for them to be able to notice.

2 I guess I'll use metaphoric would be to say, if I have a  
3 microscope, I can say, yep, there are three bacteria on this  
4 slide, but to the naked eye, it's not going to make a  
5 difference to anything.

6 Q Okay. Dr. Cantor, I would actually like to show you a  
7 journal article about statistical significance and effect  
8 size. If I can ask you a couple of questions about the  
9 findings in that journal article or the conclusions and  
10 explanation this that journal article.

11 So this is Cantor 9. we can start at Page 1. We can  
12 scroll to the top just to see. This is the Journal of  
13 Graduate Medical Education and it seems their intent is to try  
14 to explain these very complicated concepts as you demonstrated  
15 in more straightforward terms.

16 So if we can scroll down to the bottom of this page  
17 please, I have these highlighted just to help point me to  
18 them, but I don't mean to distract from that. It looks like  
19 they may define effect size of that magnitude of the  
20 differences between groups. Does that sound right?

21 A Sure. That will work.

22 Q And if we could go down to the second page. So at least  
23 according to these authors findings, they state that the  
24 effect size is the main finding of a quantitative study.  
25 would you agree that's what they state?



1 A That's what this says, yes.

2 Q Okay. And then if we scroll down a little bit more, of  
3 course, under the header why Isn't The P Value Enough, am I  
4 correct that P value stands for statistical significance  
5 essentially?

6 A A measure of statistical significance, yes.

7 Q Okay. Great. And they define statistical significance  
8 here as the -- similar to how you to describe it, the  
9 probability, the observed difference between two groups is due  
10 to chance?

11 A Yes, that's correct.

12 Q Okay. I think we can pull that one down.

13 Actually so now that we've spent a lot of time on  
14 statistical significance and effect, I'm actually going to go  
15 back to the Achille Study, if we can.

16 So, again, to return to one of my first questions about  
17 your statements regarding the Achille Study, you concluded  
18 that the Study found and I quote from your declaration that  
19 medicalized transition was not associated with improved mental  
20 health beyond improvement associated with the mental health  
21 care received.

22 Is that accurate what your conclusion was?

23 A Yes, roughly.

24 Q Is that actually what the Achille Study found? Did they  
25 have a similarly-worded conclusion in that study?

1 A I don't know. That's one of the problem with it is  
2 they -- that's become -- I don't know if I want to say  
3 ubiquitous but very, very common in a lot of these studies.  
4 They will do something inappropriate statistically or  
5 scientifically inappropriate, show that -- find results  
6 ambiguous or inconclusive but then describe them in the  
7 publicly available abstract, describe them as if they are very  
8 strong or they'll define them as I said very ambiguous results  
9 and only give a piece of them.

10 One of the studies that was being discussed earlier, the  
11 Chen Study for example, set out to examine eight different  
12 variables of mental health but only reported two of them. The  
13 WPATH Standards throughout the document itself keeps  
14 concluding over and over and over again not enough studies,  
15 we're not sure. This is ambiguous. This is unclear. But  
16 then, assert a very strong conclusion, which is the only part  
17 that people read when somebody is going through with what we  
18 often call motivated reasoning. Lift out a quote, ignore  
19 everything else around it and without the rest of the context,  
20 say something very strong when the evidence just isn't there.

21 Q Well, this is where our understanding statistical  
22 significance and effect size may be helpful. So looking at  
23 the Achille Study -- I am on Page 3 of the Achille Study --  
24 does it sound right?

25 A Hang on. I had my report. The Achille Study.

1 Q I can -- I can pull that up. I have that with me. It's  
2 not one of the submitted exhibits. It's one being used for  
3 impeachment, so we have not submitted it. We have Cantor 10,  
4 and I'm on Page 3. I am on the left-hand column under the  
5 header Regression Analysis. Okay. And I am on the fourth  
6 line in that paragraph, and I'm going to read and you can let  
7 me know if I'm reading accurately.

8 So they concluded that given our modest sample size,  
9 particularly when stratified by gender, most predictors did  
10 not reach statistical significance.

11 Did I read that correctly?

12 A That's what that says, yes.

13 Q Okay.

14 And then I'm on the next sentence. It says this being  
15 said, effect size is valuable where notably large in many  
16 models. Is that also correct?

17 A That's what that says, yes.

18 Q Okay. And so, again, you concluded that this study  
19 demonstrated no improved mental health outcomes, based on the  
20 lack of statistical significance; is that right?

21 A In general for the relevant ones, yes.

22 Q Okay. And so let's actually go to Page 4 of this same  
23 study and the Conclusion section.

24 It reads our preliminary results show negative  
25 associations between depression scores, suicidal ideation and

1 endocrine intervention while showing positive association with  
2 intervention and transgender use over time.

3 Did I read that accurately that was their conclusion?

4 A I'm sorry where? You lost me.

5 Q I'm in the Conclusion header on Page 4. The paragraph  
6 starts transgender children -- I was reading the second  
7 sentence in that paragraph.

8 A That's what those words say but they are engaging in  
9 exactly that kind of -- it doesn't -- in saying that, those  
10 are the non-significant results. They're saying what's above  
11 zero and what's below zero but none of those were reliably  
12 different from zero. That's what made them non significant.

13 Q But they did note large effect sizes. Is that correct?

14 A That's what they said. They just did an analysis where  
15 those -- the size of the effect sizes is exactly what's in  
16 doubt. Because the samples were relatively small, they don't  
17 have a reliable estimate of the effect size in the first  
18 place.

19 Q Okay. Thank you, Dr. Cantor.

20 Okay. Let's move on to another study you put under this  
21 same header, No Advantage of Medicalization Over  
22 Psychotherapy. That's the Tordoff et al. Study. I'm looking  
23 at page -- I have it as Page 117 of your declaration. It's  
24 actually Page 112 of your declaration.

25 A Yes.

1 Q Okay. So this study actually found that their conclusion  
2 was that gender-affirming medical care was associated with  
3 mental health improvement; is that right?

4 A That's what they said and that was -- as a matter of  
5 fact, this particular study is one of the most glaring  
6 examples of people describing their study that's showing  
7 something that it doesn't. I don't remember if they put it in  
8 the graph within their study. Their study didn't show any  
9 improvement at all. It was a flat line. It was that their  
10 control group got worse.

11 Q I understand that you take issue with their conclusion,  
12 but what I'm asking now is are those the conclusions that they  
13 made in the report?

14 A That's not the description that they gave of their  
15 conclusions, no.

16 Q They did not give a description that said that they found  
17 that medical care, gender-affirming medical care was  
18 associated with mental health?

19 A Did I say it backward? What you read on the page was  
20 correct.

21 Q Okay. Great. But you did not mention in your report  
22 that they had -- the authors themselves made that conclusion,  
23 did you?

24 A Correct.

25 Q Okay. Great. And then I actually want to ask you a

1 | question about Chen, which you had talked about in your direct  
2 | testimony. I think I heard you that you said people dropped  
3 | out because they weren't being helped by the treatment.

4 A Oh, I didn't say because. They didn't pursue, they  
5 didn't try to find out why. They reported only that I think  
6 they said a third of them dropped out. So what I'm pointing  
7 out is that with dropout rates that high, that right there can  
8 create this statistical illusion of improvement because the  
9 people doing poorly left. Well, when the people at the bottom  
10 half of the curve leave, well, the average goes up, even  
11 though there was no effect of the treatment, which is why we  
12 cannot conclude from their analyses that there was  
13 improvement. What we're seeing is just as easily attributable  
14 to the people not improving dropping out.

15 Q So I just wanted to clarify. That's your speculation as  
16 to why they dropped out, but I just want to clarify the study  
17 itself does not say that's why people dropped out?

18 || A Correct.

19 | Q     Okay. Great. Let's move on to surveys.

20           You talked a good amount about survey studies in your  
21 report and in your direct testimony. In your direct  
22 testimony, I think I heard you say that survey studies don't  
23 fall on the Pyramid of Evidence at all.

24 | A That's correct. They are not systematic.

25 || Q Yet, you rely on survey studies in your declaration,

1 don't you?

2 A Depending on the context they can yield some information,  
3 but not -- they don't give treatment outcomes.

4 Q Okay. But you do rely on, for instance, the Littman  
5 survey that I also heard you reference earlier in your  
6 testimony; is that right?

7 A Correct. It's not a outcome study.

8 Q Okay. It is a survey?

9 A A survey, yes.

10 Q Okay. And you relied on that survey in your declaration  
11 to explain the term rapid-onset gender dysphoria; is that  
12 right?

13 A To explain it was, you know, in the presentation of that  
14 paper that Littman suggested that term, which very well  
15 captured what we were observing, so the term caught on very  
16 quickly.

17 Q Okay. And you cited that survey to conclude that what is  
18 called rapid-onset gender dysphoria is associated with  
19 increased social media use; correct?

20 A That's what the parents in the survey were saying, yes.

21 Q Okay. And the survey, like you just referenced, it did  
22 only survey parents; right?

23 A Correct.

24 Q Not young people or clinicians?

25 A Correct.

1 Q And you acknowledge in a footnote in your report that the  
2 Littman Study faced criticisms and was republished with  
3 additional details; is that right?

4 A That's correct.

5 Q Okay. Are you aware that it was actually republished as  
6 a correction?

7 A That's standard in a editorial process that changes are  
8 just automatically called corrections, but it doesn't indicate  
9 that anything -- none of the conclusions changed, none of the  
10 data changed. It was -- the only change was that they added  
11 more detail. The only criticisms that were ever given was,  
12 well, what if this sort of happened with the other thing. So  
13 she added to her report, well, this is the answer to this.  
14 This is the answer to the other and everything else was the  
15 same.

16 Q Let's pull up that correction. That's Cantor 11. So I'm  
17 looking on the first page. So right Under Notice of  
18 Republication it says after publication of this article,  
19 questions were raised that prompted the generals to conduct a  
20 post publication of the assessment of the article and then it  
21 goes on and we can scroll down a little bit and slowly we're  
22 under emphasis that this is a study of parental observations.  
23 So it looks like we're four lines down from that and you can  
24 let me know if I'm reading this correctly. Rapid-onset gender  
25 dysphoria is not a formal mental health diagnosis at this



1 time. This report did not collect data, from any adolescents  
2 or clinicians and therefore does not valid the phenomenon.

3 Did I read that correctly?

4 A Yes, that's what that says.

5 Q And if we can go to Page 3. Again, I'm sorry for the  
6 highlights. I hope that's not distracting.

7 okay. If we can scroll down a little bit more. So this  
8 is under the header Updated Information About Recruitment. So  
9 I'm looking at the highlighted portion at the bottom. I'm  
10 going to start where it says specifically. Do you see that?

11 A Yes.

12 Q It says specifically three of the cites that posted  
13 recruitment information expressed cautious or negative views  
14 about medical and surgical interventions for gender dysphoric  
15 adolescents and young adults and cautious or negative views  
16 about categorizing gender dysphoric youth as transgender. And  
17 one of the cites that posted recruitment information is  
18 perceived to be pro gender affirming.

19 Did I read that correctly?

20 A Yes. That's what that says.

21 Q Okay. Okay. Great.

22 And to be clear, it says earlier in the paragraph that  
23 they identified four websites where the survey was  
24 distributed, and so these sentences are saying three of the  
25 four were later revealed to be from cites that had expressed

1 cautious or negative views about medical interventions and one  
2 was revealed to be a cite that was perceived to be pro gender  
3 affirming; is that right?

4 A You used the word revealed but there was never a secret  
5 it wasn't going to be uncovered. People just wanted more  
6 details, so she added the details or added the details that  
7 were being asked for.

8 Q But this was not added until the correction was --

9 A Correct. As I said, it was nothing wrong. The  
10 conclusions weren't changed. The data didn't change. There  
11 was a request for detail so that was one of the details that  
12 was added.

13 Q Okay. And I think I heard you say in your direct  
14 testimony earlier that survey studies are particularly suspect  
15 when they're online surveys. Did I hear you say that?

16 A For outcomes research, yes.

17 Q Okay. Great. I'm just checking my time. I have ten  
18 minutes?

19 THE COURT: I think you have been going for just  
20 over an hour, if I'm not mistaken. Is that correct?

21 COURTROOM DEPUTY: Yes, it is.

22 MS. ISAASCON: We're stopping at 5:30?

23 THE COURT: I don't have a hard stop but I'd like to  
24 be mindful of our court security. I would ask you to wrap it  
25 up.

1 MS. ISAASCON: I'm towards the end.

2 Thank you, Your Honor.

3 BY MS. ISAASCON:

4 Q Okay. I will skip to your testimony about other cases.  
5 So I'm looking at the last page of the CV that you submitted.  
6 And according to last page of the CV, I think we are at  
7 Page 32.

8 So am I right that in the past two years you have  
9 testified or been an expert in quite a number of cases related  
10 to either issues related to transgenderism if you want to use  
11 that term or related to gender dysphoria? Am I right?

12 A The answer to those these days, those are the questions  
13 I'm usually getting, yes.

14 Q And can you estimate about how many of the most recent 20  
15 are cases related to those issues?

16 A The past year and a half, it's been the majority. So of  
17 those 20, probably would be 17 or 18.

18 Q Okay. Now I'm going to ask you a couple of questions  
19 about your opinion about treatment options and what should be  
20 available. Do you believe that medical intervention can  
21 sometimes be appropriate for gender dysphoria in adolescents?

22 A In theory, it is possible. It's not like we have  
23 research that specifically rules it out. But the decision is  
24 not a dichotomy. The decision is a risk-versus-benefit  
25 analysis, given an uncertainty of the available data. The

1 risks are very specific objective, you know, and identifiable.  
2 The benefits, ambiguous, inconclusive and we're not so sure.  
3 And that's exactly what all of the systemic reviews have  
4 unanimously revealed. But that's -- I can't say and I have no  
5 reason to say that there's proof that they will never work and  
6 we will never discover an accurate way of identifying which  
7 kids would benefit and which kids would not. But given the  
8 risks and given the unbridled assumption that the kid is  
9 always right when it's a kid struggling to figure out  
10 something they don't quite understand themselves, the US has  
11 gone in a very different, very dangerous direction. Unlike  
12 the rest of the world, it's -- rather than assuming that the  
13 kid is always right and doing everything we can to say this  
14 eight year old knows what it's going to want when they're a  
15 particular age later, this is -- that's just not how one  
16 assesses risk-to-benefit ratio.

17 If we had solid evidence, if we could be more confident  
18 in our diagnoses -- as I said, I have no ideal logical  
19 opposition to it. I just want to apply to this the same level  
20 of questioning that we apply to everything else. But in the  
21 US, it's been skipped. The largest difference between the  
22 American system and the National Public Health Care Systems as  
23 I say, which has been unanimous, every one reviewing this  
24 evidence coming up with the same conclusion, the differences  
25 between the American system and the National Public Medical

1 system is in public health care systems, they owe their  
2 allegiance to the public. Their job is to protect the public.  
3 Medical professional associations, their job is to protect the  
4 medical profession. The oppositions coming from them don't  
5 resist -- are not about protecting the patient. They are  
6 about opposing government regulations of medicine. This just  
7 happens to be the issue.

8 But the job of those associations is to not let  
9 government tell doctors what to do. In many particular case,  
10 the professional associations, the medical associations by  
11 jumping the gun and engaging in risky interventions without  
12 sufficient evidence, they're not doing what they usually do  
13 and what they're supposed to do to the extent where government  
14 have stepped in and say, nope, our government is overreacting.  
15 That's a legitimate question. But if the medical professional  
16 associations were doing what they should been doing in the  
17 first place, we wouldn't be here at all.

18 Q So, Dr. Cantor, let me ask you, you have a website;  
19 correct, where you blog posts?

20 A Yes. I very rarely use it anymore but yes.

21 Q Can we pull up Cantor 12.

22 And this is an article of a blog post that you posted on  
23 July 8th, 2020. Does that look like your piece?

24 A Yes, it looks like it.

25 Q If we can scroll down to Page 2. No, actually a little

1 bit up. Yeah. Perfect. The top of Page 2.

2 So please let me know if I'm reading in correctly.

3 Relatedly, there also exists debate over the age at which a  
4 youth could be permitted to begin to transition socially  
5 and/or medically and then you list different ages where the  
6 debate exist.

7 Next paragraph. I support age 12. Not for any  
8 ideological reason because that is what the current evidence  
9 supports. The majority of prepubescent kids cease to be trans  
10 during puberty. The majority of kids would feel tran after  
11 puberty rarely sees.

12 Did I read that correctly?

13 A Yes, you did.

14 Q Thank you.

15 MS. ISAASCON: Thank you very much.

16 No further questions.

17 THE COURT: Do you have any redirect?

18 MR. HARRIS: Sixty seconds.

19 THE COURT: Yes.

20 **REDIRECT EXAMINATION**

21 BY MR. HARRIS:

22 Q Just a very small number of questions, Dr. Cantor, just  
23 to give you a chance to clarify.

24 You haven't opined here that social media is causing any  
25 changes in the profile of transgender patients, are you?

1 A That's correct. It's the most legitimate explanation we  
2 have so far but we have no proof of it.

3 Q You have testified, and correct me if I am misstating  
4 this, that there has been a rise in presentation of gender  
5 dysphoria in certain populations and we're still figuring out  
6 why. Is that accurate?

7 A Yes. It's an explosion and it coincides exactly with the  
8 onset of social media.

9 Q And then can the quality of scientific literature ever be  
10 reviewed by a non practitioner of intervention being study?

11 A In fact, that's the usual process. If it were only --  
12 you can't tell the fortunate teller's validity if you are only  
13 asking the fortune tellers.

14 The way the systematic review process works is  
15 specifically to use only the people who are close enough to  
16 understand the material, but not actually invested in the  
17 outcome not the heads of the clinics.

18 Q Is the peer review editing of scientific journals ever  
19 done by people who don't perform the practice-based studies?

20 A That's usually -- journals are meant to be broad. And  
21 what the editors are reviewing is the process that revealed  
22 whatever it is being examined.

23 MR. HARRIS: Nothing further. Thank you.

24 THE COURT: I do have one follow-up question

25 Dr. Cantor.

1           As I understand it, you come to some very different  
2 conclusions about what the literature says about the risks and  
3 benefits of cross gender hormone treatment that have a number  
4 of medical associations or organizations. You have talked  
5 about the American Academy of Pediatrics, WPATH, the Endocrine  
6 Society.

7           In your view, why has so many of these bodies read  
8 the literature so incorrectly and adopted treatment guidelines  
9 that are not in conformance with the science?

10           And feel free to correct anything you think I have  
11 got wrong.

12 A       Because I haven't read it. They didn't do what they  
13 usually do. What they usually do and what they did do, you  
14 know, with other issues is conduct a systematic review, but  
15 they didn't for this one. It was just kind of a committee  
16 decision.

17           Again, I can't predict. I'm not sitting in on any of  
18 those committees and I shouldn't attribute to their mindset,  
19 but they didn't follow their own processes in the US. So that  
20 a lot of these conversations -- I say this as a dual citizen,  
21 so that's what's setting the US system and it's the American  
22 Medical Association, it's the American Academy, it's all of  
23 the Americans doing it. But as I say, in a public health care  
24 system, every single one of them who has conducted a systemic  
25 review came to the same conclusion. All of the ones in the US



1 have not conducted a systematic review.

2       So I mean it would be fair to say Americans one way, rest  
3 of the world the other way. But it's also fair to say  
4 conducted systematic reviews, did not conduct systematic  
5 reviews. I have some opinions or educated guesses about why.  
6 I think I just kind of ranted about them, but really they are  
7 not -- it's not that -- why they didn't come to a different  
8 conclusion.

9       They didn't read it. They didn't engage in the process  
10 that they normally do. They didn't make sure that the reports  
11 weren't getting cherrypicked. They didn't make sure that all  
12 the studies that they're quoting were being held to the same  
13 standard. They engaged in exactly the biases that the  
14 systematic review process is meant to excluded.

15       Now as I say, one can go through the various, you know,  
16 either financial or political reasons for potentially why and  
17 how this is going to make us look, that very many of these  
18 associations -- they're just trying to please the activists,  
19 avoiding trying to make too much controversy. They don't want  
20 the clinic or the hospital to become subject of protests. I  
21 get it, but they're not dealing with those concerns in  
22 addition to the research. They're answering those instead of  
23 the research.

24       So, for example, the publication I wrote fact checking  
25 the AAP, no opinions of my own. Just what they said it said

1 and here is the exact quote. what they actually said and in  
2 some cases it's the direct opposite.

3 well, then, of course, the media then started going to  
4 them, well, what do you say? what's your response? None.  
5 They don't want to talk to the media. we have no one  
6 available to comment.

7 They can't and won't defend even their own actions. It's  
8 usually just some kind of politically -- they'll give a PR  
9 statement but if you ask them what do you think about the  
10 systematic reviews, why aren't you conducting the systematic?  
11 No answer.

12 One exception. Again, the AAP and it's exactly because I  
13 have a publication out just last week said they will now  
14 conduct a systematic review. They didn't acknowledge that  
15 they should have done it before. They didn't acknowledge how  
16 did you pass a policy? shouldn't you have done that before  
17 you passed the policy? I mean none of the obvious questions  
18 were answered.

19 But the answer to your question is that they didn't do  
20 that reading of the research. They just kind of accepted  
21 superficially whatever seemed popular on social media or among  
22 whoever it was that was applying political pressure. whatever  
23 the decision they made -- whatever the decisions they made, it  
24 was not based on the science.

25 THE COURT: Appreciate that input.

1 Counsel, anything else with Dr. Cantor?

2 MS. ISAASCON: Can I ask one more question just to  
3 clarify that last answer?

4 THE COURT: I think we are going to be done for  
5 today. It's 5:30.

6 This witness excused. Thank you for your testimony,  
7 Dr. Cantor.

8 All right. Counsel, we're going to deal the  
9 exhibits tomorrow, if I understand correctly.

10 MR. BRADSHAW: Your Honor, I think at the close of  
11 the hearing, we can make sure we have all the exhibits, that  
12 they are marked appropriately and entered appropriately. I  
13 don't know that there will be any dispute or disagreement.

14 THE COURT: All right. In that case, is there  
15 anything else we need to take up before we adjourn for the  
16 day?

17 MR. BRADSHAW: Nothing for the Plaintiffs, Your  
18 Honor.

19 MR. STRAWBRIDGE: We do appreciate the Plaintiffs'  
20 accommodations of the witness.

21 THE COURT: Thank you for running this like  
22 clockwork. It's made my job a lot easier.

23 I wish you all good evening and I'll see you  
24 tomorrow. We're adjourned.

25 (The proceedings concluded at 5:37 p.m.)

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**REPORTERS CERTIFICATE**

I do hereby certify that the foregoing pages are a true and correct transcript of the proceedings taken down by me in the case aforesaid.

This, the 28th day of August 2023.

/s/Melissa C. Brock RPR, RMR  
OFFICIAL COURT REPORTER