IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF ARKANSAS
CENTRAL DIVISION

DYLAN BRANDT, et al.,

Plaintiffs,

v. No. 4:21CV00450 JM

October 18, 2022
Little Rock, Arkansas
8:30 AM

LESLIE RUTLEDGE, et al.,

Defendants.

TRANSCRIPT OF BENCH TRIAL - VOLUME 2
BEFORE THE HONORABLE JAMES M. MOODY, JR.,
UNITED STATES DISTRICT JUDGE

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Proceedings reported by machine stenography. Transcript prepared utilizing computer-aided transcription.

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(Proceedings continuing in open court at 8:30 AM.)

MR. STRANGIO: Plaintiffs will call Dr. Jack Turban.

JACK TURBAN, PLAINTIFFS' WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MR. STRANGIO:

Q My name is Chase Strangio from the ACLU. Good morning, Dr. Turban. Thank you for being here. Can you please state your name for the record and spell it for the court reporter?

A My name is Jack Turban. J-a-c-k T-u-r-b-a-n.

Q What is your profession?

A I'm a child and adolescent psychiatrist.

Q Dr. Turban's CV is Plaintiffs' stipulated Exhibit 1. We will forego the full qualifications provided no voir dire of this witness.

MR. CANTRELL: No objection, Your Honor.

BY MR. STRANGIO:

Q Do you currently treat patients as a psychiatrist?

A I do.

Q Does that include adolescent patients?

A Yes.

Q Does that include prepubertal patients?

A It does.

Q Do you treat adolescent patients with gender dysphoria?

A I do.

Q In what settings do you treat patients with gender

dysphoria?
A I'm an attending psychiatrist at the University of California San Francisco where I see patients in our Child & Adolescent Gender Center. In that setting, I see patients as part of our interdisciplinary team, and I also see patients one on one for medication management for psychiatry. I also supervise adult psychiatry residents in the adult LGBT psychiatry clinic. And in that clinic, about 80 percent of our patients are transgender or have gender dysphoria. And I'm also an attending psychiatrist in our eating disorders program where I take care of patients with eating disorders in co-occurring gender dysphoria.
Q Have you published any scholarly -- have you published any research or scholarly articles on the topic of gender dysphoria?
A Yes.
Q You've published articles?
A Yes.
Q How many articles?
A Somewhere between 20 and 30.
Q Have those been in peer reviewed journals?
A All those that I'm referencing have been peer reviewed journals.
Q On what topics have you published articles?
A Generally on the mental health of transgender youth and

adolescents with gender dysphoria.
Q The State's experts spent a lot of time critiquing your particular research and focus on some published critiques of your studies. Has anyone written to these peer reviewed journals expressing disagreement with your study findings or methodology?
A This is an area of research where there's a lot of attention. And generally when we publish papers, we get both positive reactions and critiques or questions, and certainly sometimes those are sent to the journal as well.
Q And have there been positive reactions as well?
A Yes.
Q You mentioned that people have expressed disagreements at times about your research. Is this common in medicine?
A Yeah, so it's considered a good part of the scientific process that any time a paper is published that experts in the field really look at it closely to understand the strengths and limitations and to raise any questions they might have about the methodology to try and move the field forward.
Q And when people write in to a peer reviewed journal, how do journals generally respond?
A So they will look at what's been sent in and generally take it very seriously. Depending on the content of what's been sent in, they may take different actions. So if there is concern about the validity of the conclusions of the paper,

they may retract it or actually take it down. If there's a smaller error, then they might issue a correction, and if it's a critique that's interesting but doesn't impact the findings of the study, they may publish that as a letter to the editor along with the response from the authors to the original study.

Q Have any of your papers been retracted?

A No.

Q Have any corrections been issued to any of your papers?

A We've had small corrections to our papers, for instance, the correction of a footnote of a table.

Q Thank you. So Dr. Turban, I want to start off by talking about existing research into the medical interventions for adolescents with gender dysphoria. Is there scientific research evaluating medical interventions for the treatment of gender dysphoria in adolescents?

A Yes. So there are 16 studies looking specifically at the impact of endocrine interventions like puberty blockers or gender-affirming hormones on mental health. There's an additional body of research that looks at gender-affirming surgery for the small number of patients who are considered candidates for masculinizing chest surgery.

Q What types of studies are there assessing the efficacy of treatment for gender dysphoria in adolescents?

A Generally there are two types of studies. The first type is longitudinal studying. So these studies look at mental

health before and after the treatment, and generally those have found that mental health improves for adolescents with gender dysphoria after the treatment. The other type of study you might hear about are these cross-sectional studies. And those compare at one point in time people who receive the treatment to people who did not receive the treatment, and those show that people who received the treatment had better mental health than those who did not.

Q So in the area of gender dysphoria for adolescents, there are longitudinal -- excuse me, withdrawn. Are there randomized controlled trials that assess the efficacy of treatment for gender dysphoria?

A No, there are not.

Q Why not?

A There are a few different reasons that there aren't randomized controlled trials or RTCs. There are scientific concerns and then there are also ethical concerns. So ethically when we have a substantial body of literature indicating that a treatment improves mental health, you have to be really thoughtful about conducting a randomized controlled trial where you're randomizing people to no treatment. So if you wanted to conduct an RTC, you would go through what's called an institutional review board and that would be the ethics board that would approve such a study. And they wouldn't approve a randomized controlled trial because there

would be concerns of the ethics of randomizing people to a treatment group where mental health would get worse when you could give them a treatment that would help.

Then in terms of scientific concerns, you usually want a randomized controlled trial to be blinded or double blinded, and what that means is that the people in the treatment group in the placebo group don't know which group they're in, and the investigators also don't know which participant is in which group. The problem with gender-affirming care is that it has obvious physical effects, and in that case, the blinding wouldn't work because people would know which group they're in.

Q Are there any other limitations to conducting RCTs in this area?

A There's also the practical limitation where it would be nearly impossible to recruit enough participants for the study because parents wouldn't be willing to randomize or potentially have their children randomized to a group that would be the placebo where we would expect their mental health to get worse when there's effective treatment available.

Q When looking at this body of research assessing the efficacy of treatments for gender dysphoria, what does this body of research assess?

A Generally they look at mental health outcomes. The most common ones that they look at are anxiety, depression, quality of life, and suicidality.

Q And what metrics do these studies use to measure mental health?
A So different studies use different mental health outcomes, but there are all different scales of measuring those aspects of mental health like anxiety, depression, quality of life, suicidality.
Q When did the research into efficacy of medical treatment for adolescents with gender dysphoria begin?
A To my knowledge, the first peer reviewed publication was in the late 1990s, and that was published from the VUMC Center for Expertise in Gender Dysphoria in Amsterdam. They wrote about a young person assigned female at birth who had severe gender dysphoria, severe suicidal thoughts, and received a puberty blocker, later received testosterone, and in young adulthood, gender-affirming surgery, and had a very positive mental health outcome. In the decades since that paper, more and more studies have come out showing that these treatments improve mental health.
Q Is there separate research studying the efficacy of medical treatments for adults?
A Yes. That is outside my area of focus, but I can generally say there are dozens more studies that go back decades prior to that study in adolescents looking at these treatments in adults.
Q I want to ask you some specific questions about research

into the efficacy of puberty blockers. Is there specific research on the efficacy of puberty blockers to treat adolescents with gender dysphoria?
A Yes.
Q What do the studies evaluating the efficacy of puberty blockers to treat gender dysphoria show?
A So, again, they fall into those two buckets. So there are longitudinal studies that look at mental health before and after puberty blockers and those studies find that mental health is better after puberty blockers. And there are other studies that compare those who received puberty blockers to those who did not, and those show that people who received the puberty blockers have better mental health than those who did not.
Q Are there any particular studies that you would point to that specifically assess the efficacy of puberty blockers?
A So to give specific examples, there's one study by de Vries, et al. published in 2011 that looked at 70 adolescents with gender dysphoria and measured their mental health before and after and that study found that there were improvements in, for example, anxiety and depression after treatment. In the realm of those cross-sectional studies, there was a study by van der Miesen, et al. published in 2020 that compared over 150 adolescents who had received puberty blockers to over 150 who did not, and in that study those who received the puberty

blockers had lower rates of anxiety and depression than those who did not.

Q Are there any limitations to these studies?

A Yes. So any study in medicine is going to have strengths and limitations. So when you look at the cross-sectional studies like de Vries, et al., the strength is that they establish that time relationship between treatment and improved mental health. But that study did not have a control group of people who did not receive treatment. On the other hand, the van micen study didn't have that before and after time component, but it did have that control group showing that people who get treatment do better than people who did not.

THE COURT: Can you spell van der Miesen?

THE WITNESS: I can try. V-a-n d-e-r M-i-e-s-e-n.

THE COURT: Thank you.

THE WITNESS: So when you're looking at this research, it's really important to look at the research as a whole because some of those studies, their strengths will compliment some of the limitations of the other studies.

BY MR. STRANGIO:

Q When you do look at this body of research as a whole, what is the full picture that you get regarding the efficacy of this treatment?

A So when you look at all the studies together, they indicate that these are effective treatments that improve

mental health, for instance, anxiety, depression, quality of life and suicidality.

Q Have you published any research on the efficacy of puberty blockers to treat gender dysphoria?

A Yes. We published a paper in the *Journal of Pediatrics*. That's the journal of the American Academy of Pediatrics.

Q And is that a peer reviewed journal?

A Yes.

Q And what did that research show?

A In that study, we looked at people who had ever desired puberty blockers. We then compared people who were able to access them to people who were not able to access them. We adjusted for other variables that could have impacted the results and the overall finding was that people who accessed puberty blockers during adolescence had a lower odds of considering suicide than those who desired that intervention but were not able to access it.

Q One of Defendants' experts, Dr. Hruz, claims that when looking at the raw data in your pediatrics paper assessing the efficacy of puberty blockers, it shows that suicidality actually increased in patients receiving treatment. What is your response to that?

A That is an incorrect way to interpret the study. So in scientific research, we always look at whether or not a result is statistically significant. And we never look to just the

raw data to make a point. So if you look in that study of that specific measure, you'll see there's no statistically significant difference between the two groups. When you look at suicidal ideation, there is a statistically significant difference showing that those who access the treatment have lower odds of considering suicide.

Q What is the difference between a statistically significant difference and just what we might understand as a difference when looking at the raw data?

A So essentially what the statistics tell you is how sure you can be that a result is real as opposed to just random chance. So in medicine we only draw conclusions based on the statistically significant results. Any time a statistic is available, you need to look to it and not just rely on the raw data.

Q Is there any statistically significant data showing that patients' mental health worsens while undergoing pubertal suppression?

A No, none that I'm aware of.

Q Turning now to gender-affirming hormone therapy. Is there specific research on the use of gender-affirming hormone therapy to treat gender dysphoria?

A Yes. So similar to puberty blockers, there are two types of studies. There are longitudinal studies that look before and after. For instance, there's a study by Allen, et al. that

looked at suicidality and they found that after gender-affirming hormone treatment, adolescents with gender dysphoria had less suicidality after treatment. There are also cross-sectional studies that compare people who received treatment to those who did not. An example of that is Green, et al. that found that those who accessed gender-affirming hormones during adolescence are less likely to have attempted suicide than those who were unable to access those treatments.

Q These studies focus on the treatment of adolescents with hormone therapy for gender dysphoria?

A Correct.

Q Are there studies that assess the efficacy of hormone therapy to treat adults with gender dysphoria?

A Yes. And again, that's outside my area of focus but there are dozens more studies in adults.

Q How did the results that you, to your knowledge, just discussed with respect to adolescents being treated with hormone therapy compare to the general body of research in adults?

A The results are similar both in adults and adolescents indicating that these treatments improve mental health.

Q I want to ask you a little bit about the body of research with respect to surgery. Is there research evaluating the efficacy of surgical treatments for gender dysphoria?

A Yes. So I would highlight that the bar for considering

gender-affirming surgery for an adolescent is high in the vast majority of cases restricted to gender-affirming masculinizing chest surgery for birth-assigned females with gender dysphoria. There have been a few studies of patients who meet those strict criteria for having that surgery.

So if you look at that population, there was a study by Johanna Olson-Kennedy that compared 68 adolescents with gender dysphoria who had that top surgery to 68 adolescents who did not have the top surgery. In that study, those who had the surgery had lower scores on a measure of chest dysphoria. There was another study by Mehringer, et al. That was a qualitative study meaning that they interviewed individuals that had these interventions and those who did not and asked them about their experiences. In that study, the adolescents explained that these treatments improved their mental health and that they felt it was the right decision for them.

There was another recent study from Kaiser by Tang, et al. that looked at around 200 adolescents who had these gender-affirming top surgeries and they looked specifically at the rates of regret and found that regret rates were very low on the order of about 1 percent.

Q Overall, what do the studies of the efficacy of top surgery in adolescents show?

A So when you look at them together, they indicate that there are high levels of satisfaction with these interventions

and that mental health improves.
Q We've been talking about the existing evidence showing that gender-affirming medical treatments can improve mental health. Is there data showing the benefits of those treatments over time?
A Yes.
Q What is that data?
A So the different longitudinal studies and cross-sectional studies have had different follow-up periods and have looked at mental health for different amounts of time after treatment. So to give some examples, we published a study in PLOS One where we looked at people who accessed gender-affirming hormones during adolescence and we measured their mental health around six or seven years after and found that mental health was better for those who received treatment than those who did not. And another study by de Vries, et al. published in 2014, they looked about somewhere between five and seven years after puberty blockers as they followed people through these treatment protocols.
Q Are these periods of time for these longitudinal studies typical for studies in pediatric psychiatry?
A I would say they're actually very long follow-up periods for pediatric psychiatry. In one of my reports, I gave the example of Lurasidone as a treatment for pediatric bipolar disorder. One of the trials that the FDA used to approve that

medication for adolescents was a six-week follow-up study.
Q We've heard testimony at various points in this case that has referred to the Dutch protocol. Are you familiar with the term "Dutch protocol"?
A Yes. The Dutch protocol doesn't have a specific definition, but broadly refers to the practices of the VUMC, Center of Expertise on Gender Dysphoria in Amsterdam, and their approach to treating children and adolescents with gender dysphoria.
Q What were the practices at that VUMC Dutch clinic?
A The two most important aspects of their protocol are, one, that they conduct a comprehensive mental health assessment prior to considering any gender-affirming medical interventions for a minor. The second is that they consider interventions in a step-wise fashion from most reversible like a social transition in which a young person may adopt a new name or pronouns to least reversible like surgery.
Q In the Dutch clinic, did patients present with gender dysphoria in childhood?
A So in their earlier studies, they did highlight that they focused on that population of young people who specifically had evidence of gender dysphoria as children that was apparent to, say, their parents. I'm not sure what their current clinical population is.
Q What medical interventions were provided to the patients

at the Dutch clinic as part of the studies that we have discussed?

A So they would consider puberty blockers at the earliest stages of puberty, gender-affirming hormones in later adolescence, and then generally gender-affirming surgery in adulthood with occasional exception of gender-affirming top surgery that may be considered earlier when indicated.

Q You discussed this earlier, but what were the findings of the effect of this treatment at the Dutch clinic?

A Their studies have generally found improvements in mental health with these treatments, improvements in anxiety, depression, quality of life.

Q Defendants' experts have said that this research is not applicable to care in the United States because protocols are different here. What's your response to that?

A I would not say that's accurate. The treatment models in the U.S. are very much based on the Dutch protocols, so they similarly include the requirement of a mental health assessment prior to starting gender-affirming hormones or puberty blockers or gender-affirming surgery, and also similarly consider the treatments in a step-wise fashion from most reversible to least reversible.

Q Defendants' experts also say that because the participants in the Dutch research are a different population than those treated in the United States because there, for

example, all participants had gender dysphoria from early childhood and therapeutic support, the treatment protocols developed in that research don't apply to youth that have not had those experiences, what's your response to that?

A I would say a few things. So first is that the Dutch studies are not the only studies that have been published so we have studies from around the world including many places in the United States including Texas, Missouri, Washington, showing that among adolescents with gender dysphoria in the United States, the mental health improves with these treatments. In the case of this early onset or early realization of one's gender dysphoria, I would also point out that when we look at large studies of transgender adults, as many as 40 percent didn't come to understand their gender dysphoria or gender identity until after puberty, so the notion that these identities would not be stable just because someone came to understand their gender identity after puberty is not supported by the literature.

That being said, when we conduct mental health assessments, the latest WPATH guidelines are quite clear that if an adolescent doesn't have those signs of gender dysphoria in childhood, which here we're referring to the prepubertal period, that you would extend the diagnostic phase to make sure you're really understanding that child and their situation well before considering medical interventions.

THE COURT: Doctor, just so I'm clear, when you say extend the diagnostic phase, are you talking about extending the mental health treatment?

THE WITNESS: Correct.

THE COURT: I just need to get in touch with the jargon. When you say extending the phase, what phase are you referring to?

THE WITNESS: So extending the mental health assessment period which is a period of time that the mental health professional --

THE COURT: Start over, if you would, just on that last part where the buzzer was going off in my ear.

THE WITNESS: So the latest WPATH guidelines highlight that if there were something like a lack of early childhood gender dysphoria, that you would extend the period of time that that young person and their family are working with a mental health professional to decide whether or not these treatments are appropriate.

THE COURT: That's what I assumed, but I wanted to confirm. Thank you.

BY MR. STRANGIO:

Q I think that -- did I cut you off? I don't even recall.

THE COURT: No, I did that. I think we were both involved.

BY MR. STRANGIO:

Q I want to pivot a little bit to ask you a few questions about what is sometimes referred to as the desistence literature. Are you familiar with the term "desistance"?
A Yes.
Q What does this term refer to?
A The desistence literature generally refers to studies of these very young prepubertal children who are referred to gender clinics, following them over time to see how many of them meet criteria for some gender-related diagnosis. And those diagnoses have been different throughout history, so in the past, gender identity disorder, more recently gender dysphoria.
Q And Dr. Levine, one of Defendants' experts, suggests that as many as 98 percent of minors with gender dysphoria come to identify with their assigned sex thus most don't need treatment, and I have some questions about this. First, is it true that the overwhelming majority of adolescents with gender dysphoria come to identify with their assigned sex?
A No. So the research that he's presumably referencing again is of these prepubertal children who would not be candidates for any gender-affirming medical interventions and there's broad consensus in the field that once adolescents reach these early stages of puberty and experience gender dysphoria that it's very unlikely for them to subsequently identify as cisgender or, quote, desist.

Q These studies that Dr. Levine is presumably referring to, do you think they support the claims that Defendants' experts make about them?

A No, I don't. And there are several reasons. So one, again, is that these are studies of prepubertal children who would not be candidates for any gender-affirming medical interventions. And if you look through the literature, the main place where you'll see these papers discussed is in people talking about why we don't provide these interventions for prepubertal children and that we wait until adolescence because it seems that's when gender identity is much more stable.

The second problem is that these were kids who were referred to gender clinics, but historically young people have been referred to gender clinics for diverse reasons and many of those kids were actually cisgender kids who did not have gender dysphoria. For instance, like a cisgender boy who had, quote, gender atypical interests so you could think a cisgender boy who liked dolls or who liked playing with dresses sometimes, but was cisgender and wouldn't have gender dysphoria. Similarly, birth-assigned females who maybe were tomboys for lack of a better phrase, birth-assigned females who were cisgender but have what you might consider a masculine interest. And, of course, it wouldn't be appropriate for patients like that to receive gender-affirming medical interventions.

I apologize that it's complicated, but the third reason is that in those studies, the diagnosis at the time was this diagnosis gender identity disorder, and there was a major problem with that diagnosis in that it didn't require one to have a gender identity different from their sex assigned at birth. So, again, you could meet that diagnosis if you were say a cisgender boy who liked playing with girls and liked dolls or liked playing dress-up, so that was fixed with this latest diagnosis of gender dysphoria in the DSM-5 and that latest diagnosis requires a young person to have a gender identity different from their sex assigned at birth.

So for those three primary reasons, it's not appropriate to apply that research to these questions of gender-affirming medical care which are not considered until adolescence and are only considered for adolescents who have gender dysphoria in a gender identity different than their sex assigned at birth.

Q Thank you. Are you familiar with the term "detransition"?

A Yes.

Q And does this term have a consistent definition throughout the medical literature?

A It does not.

Q Within the medical literature, what are some things that may be considered detransition?

A So it's a broad heterogenous term that could mean, for

instance, any pursuing of gender affirmation and then stopping that. So to give a few examples, if someone were to take gender-affirming hormones like testosterone for a period of time and then stop taking testosterone, or if someone were to adopt a new name and pronouns and then subsequently revert to using the name and pronouns they were using prior, these would all be examples of, quote, detransition.

Q And if someone say reverted to identifying with their assigned sex, would that also be an example of detransition?

A Yes. And I think the general point is that when you're looking at this research about detransition, it's really important that you look specifically at how that study is defining detransition because there are these very diverse definitions and you have to be really careful about drawing conclusions and make sure you're tying it to how that study defined detransition.

Q You mentioned one metric used in the literature to document what's called detransition might be the discontinuation of medical treatment. What are some reasons someone might discontinue medical treatment for gender dysphoria?

A Similarly that would be a diverse heterogenous group. For instance, someone might take testosterone for a period of time, be happy with the results of the testosterone, find that those physical effects alleviated their gender dysphoria and

stop the treatment because they're satisfied with the results they've had. There could be an instance in which somebody starts hormones and let's say starts a new job or goes to a new school, college, and then is harassed or discriminated against for being transgender and their gender presentation and the experience of expressing themselves in that way may become so difficult that they feel they need to stop hormones and go back to presenting as their sex assigned at birth. There are rare instances where people could lose their insurance or have a medical condition develop that would result in them stopping hormones, but there are really many reasons.

Q Just to clarify, in these studies, does detransition mean that a person goes from identifying as transgender to subsequently identifying as non-transgender?

A So not necessarily. That could occur, but in some of these other examples, the person may meet this definition of detransition but continue to identify as transgender. For instance, the person who was satisfied with the effects of the hormones or someone who was forced by external factors like harassment or stigma to stop hormones, etc.

Q Is the term "detransition" the same as transition regret?

A No. So transition regret is a more specific term that means that somebody essentially wishes they had not undergone the treatment that they pursued.

Q If someone regrets treatment, does that mean that they no

longer identify as transgender?
A It could but also not necessarily. So, for instance, the person who starts hormones and then goes to college and faces a lot of discrimination may find that that experience was so awful for them that they wish they had never pursued that treatment. So they would regret the treatment but continue to identify as transgender.
Q Is there research that looks at rates of detransition among people who have received medical treatment for gender dysphoria?
A Yes. Again, I would just highlight that it's really important when looking at those different studies to look at how they define detransition because they've used different definitions.
Q What does that research show?
A Generally if you're looking at something like regretting the treatment or subsequently coming to identify as cisgender, those rates are very low on the order of around 1 to 2 percent. If you expand the definition to mean say stopping hormones for any reason, then the numbers could be higher.
Q Is there medical literature that explores the reasons for detransition?
A Yes.
Q What does that literature show?
A There are a few different studies. So we published a

study where we looked at 27,000 transgender adults, so people who are currently living as transgender. And in that study we found that a large proportion had detransitioned at some point in the past, over 10 percent, and the vast majority of them said that they had those experiences of detransition in the past because of these external factors, so harassment, discrimination, etc.

There are also a few studies that look at people, a mix of some of whom still identify as transgender, some of whom now identify as cisgender. And they have cited different reasons including that they felt the treatment did not help them as much as they had hoped or they were worried about a medical complication developing or they felt that they needed other treatments for their other mental health concerns separate from the gender dysphoria and prioritized that over the gender dysphoria.

Q And are there examples in these studies of people who thought it was the wrong decision for them?

A Yes.

Q In the studies that looked at the reasons for detransition and included some people who thought it was the wrong decision for them and possibly regretted treatment, did those studies look at how common that experience was among the total population of people receiving treatment?

A No. So one example is a paper by Lisa Littman and the

study looked only at people who had detransitioned. So the total sample there, the denominator, if you will, is just those people who detransitioned. So when we look at the studies of all people who received the treatment, that's a very small percentage. But in interpreting that study, you need to keep in mind that you're looking at a percentage of a small percentage of the total population who have received this treatment.

THE COURT: Doctor, when you saw the denominator of detransition, what definition of detransition are you using for the denominator?

THE WITNESS: It's complicated because it would depend on the study.

THE COURT: The one you were just referring to from Lisa Lemon.

THE WITNESS: That study was an on-line sample of people who self-identified as having detransitioned, defined somewhat broadly, but generally those were people who said they started medical interventions and then stopped them or started medical interventions and then pursued a different medical intervention to undo the effects of the initial one if that makes sense.

THE COURT: Thank you.

BY MR. STRANGIO:

Q So switching gears just a bit. Defendants' experts

gleaned that in some studies, evaluating medical treatments for adolescents with gender dysphoria, there were no findings of mental health improvements from these interventions. Is that accurate?

A There were two studies of the 16 that did not find statistically significant improvements in mental health.

Q And which two did not find statistically significant improvements?

A So, one, the study by Carmichael, et al. This was a study of adolescents in the United Kingdom who were followed before and after puberty blockers and they did not find a statistically significant difference in the mental health measures that they looked at including self-harm. There was not an improvement. There was also not a worsening of mental health that was statistically significant. One thing to keep in mind when interpreting that study is that what we see for most adolescents with gender dysphoria is that when they enter puberty and their bodies start developing in ways that don't match their gender identity, their mental health starts to worsen because of that gender incongruence. So the fact in this study they didn't detect that worsening that we would expect is notable.

The other study was a study by Hisle-Gorman. That study looked at mental healthcare utilization, so the number of mental healthcare appointments that a person had both before

and after starting gender-affirming medical treatments. The thing that's difficult about that study is that mental healthcare utilization is very far removed from someone's actual mental health. So they found that participants continued to see a mental health professional after the treatment but that also is considered good practice in this area that you continue to follow people closely. So the fact that they were continuing to see a mental health provider doesn't mean that their mental health didn't get better or was worsening. So I would urge caution in interpreting that study just because their outcome measure is so far removed from what we care about clinically which is whether or not the person's mental health is getting better or worse.

Q Again, when we look at the body of research as a whole about the efficacy of these gender-affirming medical interventions to treat adolescents with gender dysphoria, what does it show?

A When you look at all the studies together, it indicates that these treatments are effective in improving mental health, specifically anxiety, depression, quality of life, and suicidality.

Q Are you familiar with the term "rapid onset gender dysphoria"?

A Yes.

Q What is rapid onset gender dysphoria?

A Rapid onset gender dysphoria is a term that entered the medical literature through a paper by again Lisa Littman. It is a hypothesis that there's a specific type of gender dysphoria in which adolescents come to identify as transgender all the sudden or rapidly after the onset of puberty in that this is a result of peer pressure or social contagion.

Q Is rapid onset gender dysphoria a recognized mental health diagnosis?

A It is not. The term entered the literature through this study in which Dr. Littman posted an anonymous survey on four websites. These are websites that are generally considered to have a bias against gender-affirming medical care. And the survey asked parents from those websites or anonymous participants, presumably parents from these websites whether or not they felt that their adolescent children came to identify as transgender all of a sudden and if they felt that was a result of social media, and perhaps not surprisingly because this is what these websites focused on, but the participants overwhelmingly said yes.

The paper received a lot of attention and criticism from the medical community and subsequently underwent another review, and a correction was issued on that paper in which the authors very explicitly said that rapid onset gender dysphoria is not a recognized mental health diagnosis at this time but rather a hypothesis or a theory. And really highlighted that

the problem with that study was that it didn't interview any of the adolescents themselves or their healthcare providers. In clinical practice, we generally see that from parents' perspectives a young person's trans identity is a surprise and that announcement comes all the sudden or rapidly, but when you talk to the young people, they usually say that they have been thinking about this often for years and they're really afraid of their parents' reactions, they're afraid that their parents won't accept them or their parents will be mad at them. So while it may be rapid onset to the parents, you really need to know if it's rapid in onset for the young people.

Q When you're evaluating patients for making a diagnosis of gender dysphoria in adolescents, do you consider social influence?

A Again, this rapid onset gender dysphoria idea is a hypothesis, it's a theory, there's no evidence that that's a true phenomenon, let alone that it's true for a large number of adolescents. That being said, this is a field where we are very cautious, so when we're conducting the mental health assessment, we certainly are working to understand the young person's social environment at home in their community, at school with their friends, and we would consider that possibility of peer influence. And if there were reasons to believe that that were going on, then that is another situation in which this diagnostic phase, that assessment period with a

mental health professional, would be extended until we feel confident we truly understand what's going on and that this is a good decision for that young person and their family.

Q So you're talking about how you would conduct these assessments in that diagnostic phase. Are you aware of how others in your field conduct these evaluations?

A Yes. So this is something that we talk about frequently at mental health conferences, at scientific conferences among my colleagues in the field.

Q How common is it in this field to conduct these comprehensive assessments that consider many possible differentials, so to speak?

A So all providers that I know consider the definitive guidelines in this field to be the Endocrine Society guidelines and the World Professional Association for Transgender Health Standards of Care and they follow those guidelines which highlight that really it's necessary to conduct this biopsychosocial mental health assessment prior to initiating any gender-affirming medical care.

Q And shifting gears just a bit. Some of the State's experts have pointed to your reports from other countries, specifically the UK, France, Finland, Sweden, Australia, and New Zealand as demonstrating a lack of evidence of effectiveness of gender-affirming medical interventions for adolescents. Are you familiar with these reports?

A I'm familiar with them through reading the statements from the State's experts.
Q Do you know generally what these reports are from that familiarity?
A My understanding is that they are generally reviews of the literature. I would point out that the different summary reports were published in different years, so some of them don't consider the full body of research that has been published to date but they're different in that respect depending on which report you're looking at.
Q Do any of the reports recommend banning treatment?
A No.
Q To your knowledge, are any of these reports peer reviewed?
A No.
Q What is the purpose of peer review?
A The purpose of peer review is to make sure that any publication that's going out into the scientific literature accurately reports the data, is using reliable data, has valid conclusions, and is free from inappropriate bias.
Q Is it common in medicine to have literature reviews that identify gaps in research or knowledge?
A Yes, I would say that the standard way in which one writes a review of the literature is they talk about what literature exists, they talk about what's known from that

literature, and then they generally highlight gaps. And the point of that is to hopefully inspire researchers to continue to conduct more research to move the field forward.

Q So we've been talking about the research showing the efficacy of hormone treatments and some surgical treatments for gender dysphoria. Is there research demonstrating the effectiveness of other treatments for gender dysphoria in adolescents?

A Outside of those set forth by the Endocrine Society guidelines and WPATH you mean?

Q Outside of the treatments that are recommended by the Endocrine Society guidelines and WPATH, is there research demonstrating the efficacy of other treatments for gender dysphoria?

A Not that I'm aware of.

Q What about in adults?

A No, not that I'm aware of.

Q Are there randomized controlled trials showing alternative treatments beyond those identified in the standards of care in Endocrine Society guidelines that demonstrate the effectiveness at treating gender dysphoria?

A No.

Q Are there longitudinal studies showing alternative treatments are effective at treating gender dysphoria?

A No.

Q Are there cross-sectional studies showing alternative treatments are effective at treating gender dysphoria?
A No.
Q Is there any research indicating the impact of delaying treatment for gender dysphoria where that treatment is medically indicated?
A Yes. Again, those cross-sectional studies I was referencing compare people who access treatment to those who continue through their lives without accessing treatment, and they found that those who accessed the treatment had better mental health outcomes than whose who continue along without accessing treatment. We also publish a paper in PLOS One where we compared specifically people who accessed gender-affirming hormones during adolescence to those who did not access them until adulthood, and those who access them during adolescence had lower odds of severe psychological distress when compared to those who had to wait until adulthood to access treatment.
Q Are there any studies assessing the impact of interventions aimed at aligning a patient's gender identity with their assigned sex?
A Yes. So in the field, we generally refer to those as conversion efforts, colloquially people may call them conversion therapies. And studies have shown that exposure to those approaches are linked to adverse mental health outcomes including suicide attempts, and for that reason, those

practices have been labeled unethical by all major medical organizations including the American Psychiatric Association, the American Medical Association, and the American Academy of Child and Adolescent Psychiatry.

Q I want to just ask a few final questions about your clinical practice as it relates to the research we've been discussing. We've heard testimony and you've testified today about the protocols for the treatment of gender dysphoria and adolescents reflected in the WPATH standards of care and in the Endocrine Society guideline. Are you familiar with those guidelines?

A Yes.

Q Do you follow those guidelines in your own clinical practice?

A Yes.

Q As both a clinician and a researcher with knowledge of the state of the science in this area, what would it be like to care for patients with gender dysphoria and their families if a law banning the treatments outlined in those protocols were in effect?

A It would be emotional to think about. Because the reality is that we frequently in clinic have families that are coming to us with these young people who are really struggling with severe anxiety, depression, sometimes suicidal thoughts, sometimes their mental health is declining so dramatically that

they can't go to school, and it's my job to tell families what the evidence-based approaches are to help their child. So if these treatments were not an option, I'd be left without any evidence-based approaches to treat this young person's gender dysphoria.

Q Thank you. Just one moment to consult with my co-counsel. No further questions. We'll pass the witness.

MR. CANTRELL: Your Honor, if we could have just a five-minute break.

THE COURT: We're not going to break every time we finish a direct and a cross. We do this every time. We've only been going about an hour, or less than that. So let's proceed, please.

MR. CANTRELL: It may take me just a minute.

THE COURT: I understand. I'll give you plenty of time to set up.

CROSS-EXAMINATION

BY MR. CANTRELL:

Q Good morning. My name is Michael Cantrell. I believe we've met before virtually and during the deposition. I work for the Attorney General's office. I represent the defense and I have some questions for you. First of all, this is your first trip to Arkansas. Correct?

A Correct.

Q You've never practiced in Arkansas; is that right?

A That is correct.
Q You don't claim expertise in what treatment protocols are followed by medical providers across Arkansas; is that right?
A This is an area of medicine where we follow national guidelines and international guidelines from WPATH and the endocrine society so I would expect that clinicians here would follow the same guidelines as those around the country.
Q But you don't claim expertise in what protocols are actually followed across the state of Arkansas, correct?
A I would expect that they would follow the guidelines that are followed around the nation. I don't have any reason to believe that they would be different in Arkansas, but I myself do not practice in Arkansas, no.
Q So I'm not sure that you're addressing the question. I'm asking whether or not you are claiming to have expertise in the practices of specifically Arkansas practitioners.
A I would expect practitioners in Arkansas would follow the national guidelines, but I can't speak to what is done in any individual clinic having not been there.
Q So your answer is that no, you don't claim expertise in the practices of Arkansas practitioners, I take it?
A My expertise is in the treatment of gender dysphoria and how that's practiced in the United States. Again, I don't have any reason to believe that would be different in Arkansas, but no, I've not worked in a clinic in Arkansas to get a firsthand

account.
Q You've never evaluated any of the minor plaintiffs in this litigation, correct?
A I have not.
Q I understood you to testify and correct me if I'm wrong, but I understood you to testify that a mental health assessment is necessary before cross-sex hormones are prescribed to an adolescent with gender dysphoria; is that right?
A Correct.
Q That's required by both the Endocrine Society and the current WPATH guidelines, correct?
A That is correct.
Q So it would be practicing outside of those guidelines for a provider to prescribe cross-sex hormones to a minor without a mental health assessment; is that right?
A Correct.
Q Are you aware of any healthcare providers prescribing cross-sex hormones to adolescents without a comprehensive assessment?
A I am not.
Q So for many people, gender identity evolves over time; is that right?
A The research suggests that there's a strong biological component of one's gender identity, so one has a core biologically determined gender identity. That being said, the

ways in which people apply language to it or describe it or conceptualize it can certainly evolve over time.
Q So your testimony today is that gender identity is determined by biology?
A That there's a strong biological determinant, yes, there have been genetic studies that suggest a strong inheritable component of trans identity. And as I mentioned, there's this core biological basis on which our gender identities are built, but the language that we apply to that and the ways in which we describe it and conceptualize it can evolve over a lifetime.
Q You participated in a talk titled Transgender Youth Understanding Detransition Nonlinear Gender Trajectories and Dynamic Gender Identities. Correct?
A Yes. I believe you're referencing a talk at the American Academy of Child and Adolescent Psychiatry.
Q And in that talk, you explained that although some may think of gender identity as static, for many people it evolves over time. Correct?
A Yes. As I mentioned prior, the language that people apply to their gender identity and how they conceptualize it can evolve over time.
Q You stated that psychiatrists must be aware of the dynamic nature of gender identity. Is that right?
A Yes. Much of this is similar to what I was speaking about prior that there's a small population of people who,

quote, detransition and there are these heterogenous experiences that are really important for us as psychiatrists to understand. Even if they're a small minority of our patients, I think it's important that we understand and be able to support all of our patients.

Q You'd agree that a person's gender identity can lead them away from their initial transition, correct?

A Could you be more specific?

Q So take a person who experiences gender dysphoria and has a transition, and that person can experience -- as they grow older, they can -- they can then come to understand their gender identity in a way different from when they transitioned, correct?

A Yes. Someone's conceptualization of their gender identity can evolve over time.

Q Gender identity is not always persistent, correct?

A I'm not sure what you mean exactly.

Q So let me ask this. You published an article titled "Dynamic Gender Presentations, Understanding Transition and Detransition Among Transgender Youth." Is that right?

A Yes.

Q In that paper, you took issue with this idea that gender identity is always insistent, persistent, and consistent. Is that right?

A Yes. So, again, I was alluding to the fact that the

language and the way in which one conceptualizes their gender identity can evolve over time.
Q In that paper you explain that a person's gender identity is not always persistent or consistent, right?
A Yeah. I believe in that paper we give an example of somebody who identified their gender identity as binary in transgender and later they identified as nonbinary for instance, so again, the language and the ways in which we conceptualize our gender identity can evolve over time.
Q In that paper, you also explained that failure to recognize the dynamic nature of gender identity does a disservice to those whose evolving gender identity might eventually lead them away from their initial transition. Is that right?
A Yes. As I was mentioning prior for the vast majority of patients, this is not the case, but I think it's important that we consider all patients and all possible outcomes, so I think it's important that we be thoughtful about how to support people whose gender identities may evolve over time.
Q Also in that paper you explain that a detransition can be driven by internal factors. Correct?
A We explain that it can be driven by external or internal factors, yes. External factors would be, for instance, what I described prior of stigma, harassment, discrimination, instances in which people are forced to detransition. Also

often those external factors can lead to a lot of shame.
Q I'm not asking you about the external factors. Could you tell me about the internal factors?
A Yes. Those external factors, for example, that shame, could over time --
Q No, no, I'm asking you about the internal --
THE COURT: Sir, let him finish his question. Please don't cut him off.
MR. CANTRELL: Your Honor, if I may object to nonresponsive answer from the witness. I had asked him about the internal factors and he's wanting to talk about external factors that might lead to transition.
THE COURT: Re-ask your question.
BY MR. CANTRELL:
Q Dr. Turban, what are internal factors that might lead a person to detransition?
A I'm about to answer your question about internal factors, but it does involve the word "external" to finish the sentence.
Q If you would address the internal factors.
A Over time those external factors can drive to internal factors such as shame or internalized trans phobia or discomfort with one's gender identity. That would be one internal factor. Another internal factor could be an evolution of one's gender identity and the way they conceptualize it unrelated to those external factors, but it's important to

consider that there's not always a clean distinction between external and internal factors, and sometimes the internal ones are driven by external ones. Sometimes they're not.

Q Thank you. You used the phrase "nonlinear gender trajectory". Correct?

A Yes.

Q What you call a nonlinear gender trajectory can include people who identified as transgender and then later ceased to identify as transgender. Is that right?

A I would add a bit of nuance that the word transgender can be used in different ways. So some people use the word transgender to mean they have a gender identity opposite their sex assigned at birth. Some people use that as an umbrella term that's a bit broader and that would include nonbinary gender identities, but yes.

Q So your answer is yes?

A Yes, depending on how you're defining transgender.

Q And I apologize. For my benefit, what definition are you using to answer yes?

A I might throughout my testimony have to use the term differently if we're talking about different bodies of literature because they use it differently, but with both definitions, it would be true that somebody could go from a binary identity to a nonbinary identity or from binary trans identity to later endorsing a cisgender identity.

Q And a person could go from initially identifying with their birth gender to then transitioning and identifying as a transgender identity and then potentially back to identifying with their birth gender, correct?
A That's certainly not a typical experience, but that would be possible.
Q I believe you discussed a study that you published in 2020 titled "Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation."
A Yes.
Q That study you described as comparing mental health outcomes for patients who wanted and received puberty blockers with patients who wanted but did not receive puberty blockers. Is that right?
A Yes.
Q That study included a multivariate analysis. Is that right?
A Correct.
Q The multivariate analysis is where you adjust for a range of potential confounding variables. Is that right?
A Yes.
Q Can you tell us what a confounding variable is?
A So when you're looking at the relationship between two variables, say puberty blockers and suicidality, a confounder is something that could be related to both the exposure, so in

this case conversion therapy, and also related to the outcome, in this situation suicidality. And if you don't adjust for those confounding variables, it could impact your results.

Q So the multivariate analysis where you adjust for those confounding variables, that multivariate analysis is what you would rely on if you're looking for the purist impact of the intervention, correct?

A Yes.

Q And in this case, there technically wasn't an intervention, though, right, this was an observational study, correct?

A It was an observational study that looked at people who received an intervention and those who did not.

Q But there wasn't a -- let me ask you this. What contrasts to an observational study?

A This was an observational study.

Q What is the contrasting type of study to an observational study?

A I'm not sure.

Q Were you actively making an intervention as opposed to merely observing what takes place or what has taken place?

A There are many such studies.

Q Okay. Let me just continue down a different road. So you ran the multivariate analysis in this study that we're discussing for nine different outcome measures. Correct?

A Correct.
Q And the multivariate analysis found no statistically significant change in eight of those nine outcome measures. Correct?
A Yes.
Q The only outcome measure that your multivariate analysis resulted in a statistically significant change was in suicidal ideation. Correct?
A Yes.
Q So you found no statistically significant change in, for example, illicit drug use, binge drinking or suicide attempt, correct?
A Correct.
Q Even for suicidal ideation, the study cannot show that the puberty blockers caused a lowering of suicidal ideation, correct?
A I would not use the study in isolation to make a causal inference. You would really need to look at the body of literature as a whole to draw conclusions.
Q So your answer is yes, correct?
A Could you repeat the question?
Q Sure. Even for suicidal ideation, this study cannot show that the puberty blockers caused a lowering of suicidal ideation?
A Correct, the study in isolation cannot show that.

Q One of the reasons why is that there's sort of a chicken and egg problem here. Is that right?
A Yes. So any time you have a cross-sectional study that doesn't have that longitudinal component that those longitudinal studies have, there's the potential for reverse causation which I think is what you're referring to as the chicken and the egg.
Q So isn't it true that one reason why a patient who wants puberty blockers may not receive puberty blockers is because they suffer greater mental health issues to begin with, correct?
A So the guidelines highlight that to initiate pubertal suppression, other mental health concerns need to be reasonably well controlled, so it's not that they can't have other mental health conditions that are active. In fact, frequently they do and that's why you're initiating the treatment. They need to be sure that those other mental health conditions aren't going to impair their ability to respond well to the treatment.
Q So there's a potential confounder here, correct?
A I'm not sure what specifically you're referring to.
Q So kids who receive puberty blockers might show less suicidal ideation because they had better mental health to begin with?
A That is possible.
Q You say in your article that reverse causation cannot be

ruled out?
A For this specific study in isolation, yes.
Q You say it's plausible that those without suicidal ideation had better mental health when seeking care and thus were more likely to be considered eligible for pubertal suppression, correct?
A For this specific study, yes.
Q It's fair to say this is a chicken and egg problem, what comes first, what causes what?
A That question of reverse causation in this particular study, yes.
Q Okay. So shifting gears slightly, the statistical significance is not the same thing as clinical significance, correct?
A Correct.
Q Just because something -- just because there's a clinically significant change in suicidal ideation doesn't mean that there would actually be a clinically observable difference, correct?
A I think you said clinical twice. Could you repeat the question?
Q I'm sorry, yes. Just because there's a statistically significant change in suicidal ideation doesn't mean that a clinically significant change will be observed, correct?
A As a general principle, yes.

Q And a clinically significant change would be a change that materially impacted a patient in real life. Is that right?
A Yes.
Q I believe that you also testified to some of the articles that you've published which have made use of the United States Transgender Survey. Is that right?
A Yes.
Q I'll call this the USTS just for brevity. So the USTS was an on-line survey of transgender adults. Correct?
A It's a survey that lived on a website but the way they actually recruited, they worked with over 400 LGBTQ outreach organizations and it also included some in-person events where people would come in person to take the survey on I believe computers or iPads, but yes, the survey itself lived on line.
Q It was a survey of transgender adults, correct?
A Yes.
Q So you just testified that the survey participants were recruited by LGBT outreach organizations, correct?
A Correct.
Q And surveys conducted in that way are potentially subject to recruitment bias, correct?
A They are convenience samples. So scientific and epidemiologic research, we separate probability samples from convenience samples. I think that's what you're alluding to.

Q Can you tell us the difference between a representative sample and a convenience sample?
A Yes. So a representative sample or what I would call a probability sample is when you randomly pick people out of a population. So, for example, people will use random digit dialing where they will take a large database of phone numbers, they'll pick random phone numbers and call those phone numbers. And you can imagine that because you're picking random numbers that you're getting a representative sample that's not biased because you're just picking at random from the population. So the hope is that that is a representative sample of the full population.

A convenient sample is anything else, where you don't randomly select participants from the full population. As you can imagine, it's very difficult to build representative samples particularly in minority mental health research because the number of phone numbers you would have to call to amass a sample that's large enough would be prohibitive, so you'll mostly see nonprobability samples in this area.
Q So when you use the -- let me make sure I'm following. I believe you've used the phrase "probability sample" and "nonprobability sample"?
A Yes.
Q So a nonprobability sample is the same thing as a convenient sample?

A Yes.
Q The USTS is an example of a nonprobability sample, correct?
A Yes, or you could call it a convenience sample.
Q When you use convenience samples, your survey is subject to recruitment bias potentially, correct?
A It could potentially not be representative in the way that a probability sample would be.
Q So the answer is yes?
A I wouldn't use the same terminology, that's not exactly how we describe it, but yes.
Q The survey was anonymous in the sense that no personal identifying information was collected, correct?
A Correct.
Q All of the participants in the USTS would have identified as transgender at the time of the survey; is that right?
A Again, using that broader umbrella term of transgender, yes.
Q That would have included individuals who identified as transgender, trans, genderqueer, nonbinary, and other identities on the transgender identity spectrum?
A Yes, that would be that broader umbrella I was referring to.
Q The USTS did not include anyone who had desisted or detransitioned, correct?

A We did publish a paper out of the USTS where we asked people if they had ever detransitioned, and over 10 percent of them had at some point in the past.
Q But the USTS itself did not include any survey participants who had desisted or detransitioned; is that right?
A Ten percent or more of the sample had experienced detransition in the past. I think what you're alluding to is that none of them identified as cisgender.
Q Could you repeat that last part?
A None of them identified as cisgender.
Q At the time of the survey?
A Correct.
Q If I understand your testimony, you're saying that 10 percent of the population that was surveyed in the USTS had transitioned and then subsequently detransitioned and then maybe transitioned again; is that correct?
A Correct. Again, as I mentioned earlier, this is detransitioned defined very broadly and there are different definitions of detransition, so it's important to keep in mind. In this specific instance they're looking at detransitioned very broadly, not necessarily meaning regret or a change in gender identity per se.
Q So the data from the USTS was not collected as part of a longitudinal survey, correct?
A Correct.

Q What is a longitudinal survey?
A That would be a survey that surveys the same participants at various subsequent time points.
Q So the data from the USTS was collected at a single time point?
A Correct. I specifically used the 2015 gender survey. There is another one from earlier and there's one being conducted now so there's different iterations of the gender survey, but my researchers used the one from 2015.
Q Your research only used the 2015 USTS?
A My research used the 2015 USTS.
Q That data was collected at a single point in time as opposed to over multiple points in time as a longitudinal survey would be?
A Correct.
Q Your articles conducted a secondary analysis of the USTS data, correct?
A Correct.
Q Those articles used what's called a retrospective self-report, correct?
A Correct.
Q And a retrospective self-report is subject to being affected by recall bias, correct?
A Yes.
Q Can you tell us what recall bias is?

A Recall bias generally refers to the difficulty people may have in remembering something that happened in the past as opposed to something that is happening to them in the given moment.
Q I believe you mentioned the Olson-Kennedy paper published in 2018. Do you recognize the paper I'm referring to?
A Could you give me the title so I'm referring to the same one?
Q This was a case series reporting on patients who had chest surgeries.
A Do you have the title?
Q Give me one moment. The title of that paper would be "Chest Reconstruction and Chest Dysphoria in Trans Masculine Minors and Young Adults."
A Yes, I don't know that it would be a case series per se, but I know the paper you're referencing.
Q Are you aware that this paper reported on five patients who had chest surgeries?
A I believe it was more than five unless we're talking about different papers.
Q So let me ask you this. You're aware that that paper reported on patients who had chest surgeries?
A You're now making me wonder if we're talking about different papers because I see the paper you're referencing.
MR. CANTRELL: May I approach, Your Honor?

THE COURT: Certainly.

THE WITNESS: This is a study of pubertal suppression, not top surgery.

MR. CANTRELL: Your Honor, I've got the correct paper.

BY MR. CANTRELL:

Q Dr. Turban, I've handed you a document titled "Chest Reconstruction and Chest Dysphoria in Trans Masculine Minors and Young Adults." Do you recognize that as the Olson-Kennedy paper that you testified concerning previously?

A Yes, this is the paper I was thinking of. It's of 68 patients who underwent surgery, not five.

Q Okay. Would you describe this as a case series?

A I would. It's essentially a cross-sectional study that compares those who received top surgery with those who did not.

Q Would it be fair to characterize it as a case series?

A Case series sometimes implies that it's longitudinal and this study is not.

Q I see. So this is not a longitudinal study and that would give you hesitancy in saying that it's a case series?

A Correct.

Q Fair enough. So if you would, take a look at page 434 of that article. There is a figure, age at chest surgery in the post surgical cohort. Do you see that figure?

A Yes.

Q Okay. So reading the information in that figure, there are five patients who had chest surgeries at age 14 and two patients who had chest surgeries at age 13. Is that right?
A Correct.
Q Would you support providing chest surgery to a 13 year old or 14 year old?
A As I mentioned earlier, surgery is a major decision. Certainly surgery in a young adolescent is an even bigger decision. You're weighing the risks and benefits for an individual case, and in the case of surgery, the risks and potential side effects are very high. Surgical complications, anesthesia, etc., so you would need to be quite sure that the potential benefits of the surgery are very, very high. So without knowing more detail about these specific patients, it would be hard to say, but my presumption is that these patients would have had very severe chest dysphoria where the interdisciplinary team working with and evaluating them would have considered that the risk of not having surgery would have been much higher than the potential risks of surgery.
But I will say those would be outlier cases for the patients that I've seen. I would also point out that there are different types of top surgery, and some procedures are more involved than others. I would have to look through this paper, but for a patient that young, it's possible that they would not have very much chest tissue so it might be a smaller surgery,

but I'd have to look at the paper in more detail if you wanted me to comment on what specific surgeries these patients underwent.

Q Let me just ask you just to be clear that I understand your answer. It sounds to me like, and correct me if I'm wrong. It sounds to me like your testimony is that there easily could be -- let me rephrase. It sounds to me like your testimony is that there could be scenarios in which you would support chest surgery on a 13 year old?

A Certainly not easily. This would not be a common decision. But there could be extreme outlier cases where one might decide that the benefits of surgery outweigh the risks because as you can see from this graph, these are outliers, the vast majority of patients would not be having surgery this young. This is only a sample of people who even accessed surgery. So you're talking about a small subsample of a subsample.

Q So shifting gears a little bit. Dr. Turban, you would agree that providing testosterone to a girl with gender dysphoria can actually increase chest dysphoria. Is that right?

A I think you may be referring to the Mehringer study or you might have it in reverse.

Q Take a look at --

THE COURT: Are we on a different paper?

MR. CANTRELL: No, it's the same paper, Your Honor.
BY MR. CANTRELL:
Q If you would look at page 435, there is a section at the upper right-hand column. It discusses -- it says the increasing chest dysphoria after testosterone treatment begins does reflect a common clinical phenomenon. A honeymoon period after testosterone initiation may quickly become eclipsed by the greater disparity between a more masculine presentation and a female chest contour. Clinicians should advise patients and families that chest dysphoria may increase over time after starting hormone therapy.
A Sorry. I see what you're referencing. So they here are no longer talking about the patients who had surgery, but they're referencing their control group of people who did not have surgery. And yes, so while testosterone can impact other aspects of physical gender dysphoria, testosterone does not have much impact on chest tissue or chest contour, so for patients taking testosterone, their gender dysphoria overall may improve in several areas of their body, but their chest dysphoria will not improve by the testosterone. So when they are thinking about their physical dysphoria, they may start to highlight the chest more because the other areas of dysphoria have improved but that has not.
Q So Olson-Kennedy referred to increasing chest dysphoria after testosterone treatment in this passage that I referred

to. So would you agree that providing testosterone to a girl with gender dysphoria can actually increase chest dysphoria?
A I'm just going to get confused if you're using the phrase "girl with gender dysphoria" to reference a trans masculine person or someone assigned female at birth.
Q Referring to a natal female.
A So someone assigned -- could you repeat the question?
Q Yes. So the question is, you would agree that providing testosterone to a natal girl with gender dysphoria can actually increase chest dysphoria; is that right?
A Yes. As I just mentioned. So the testosterone will improve elements of physical dysphoria in other areas but not the chest, so while overall gender dysphoria may improve, the chest dysphoria specifically will not improve. So their relative focus on the chest dysphoria versus these other things that are now better will increase.
Q And chest dysphoria actually increases?
A Correct.
Q Okay. Different set of questions. Are you familiar with -- well, you've discussed differences in onset, childhood onset versus later onset, correct, of gender dysphoria?
A I'm not sure what you mean by differences.
Q Well, the distinction between the two types of onset of gender dysphoria.
A I would say some people have apparent gender dysphoria

that's obvious to their families in the prepubertal period and some don't until after puberty starts.

Q Are you aware of the difference between childhood onset gender dysphoria and adult onset gender dysphoria?

A Similarly these are just terms referring to the different ages at which people come to understand their gender identity.

Q So childhood onset gender dysphoria and adult onset gender dysphoria have different developmental pathways, correct?

A By definition, yes, because some people in their childhood development had an experience of gender dysphoria that was apparent to them and some people didn't until adulthood, so by definition there are different developmental pathways.

Q And, similarly, childhood onset gender dysphoria and adolescent onset gender dysphoria have different developmental pathways, correct?

A Again, by definition, yes.

Q Of the patients you have personally dealt with, greater than 95 percent of those who begin puberty blockers go on to take cross-sex hormones; is that right?

MR. STRANGIO: Objection, mischaracterization of testimony.

THE COURT: I think you can handle that.

THE WITNESS: I don't have specific data in front of

me on my patients.
BY MR. CANTRELL:
Q Dr. Turban, you testified in a deposition in this case, correct?
A Yes.
Q You were under oath during that deposition?
A Yes.
Q You swore to tell the truth in that deposition, correct?
A Yes.
Q Did you tell the truth in your deposition?
A Yes.
Q Plaintiffs' counsel was present during your deposition, correct?
A Yes.
Q Let me ask you this, Dr. Turban. What percentage of patients who start pubertal suppression go on to take gender-affirming hormones in your personal experience?
A Again, I don't track that data with my patients quantitatively. Generally most, but I think it would be more reliable to look at the published research literature that suggests that greater than 95 percent.
Q Okay. That's consistent with your experience, correct?
A Generally, yes.
Q Some of your studies on mental health outcomes were conducted thanks to a grant funded by pharmaceutical companies,

correct?
A No.
Q No?
A No.
Q So let me ask again just so I understand your testimony today.
THE COURT: You didn't understand the no that he said twice?
MR. CANTRELL: Your Honor, I'm wondering if it may have been the way I worded the question.
THE COURT: Okay. You asked it twice, but go ahead and ask it a third time.
BY MR. CANTRELL:
Q Dr. Turban, you have previously disclosed that Pfizer is tied to a grant that funded some of your research. Correct?
A I received a grant from the American Academy of Child and Adolescent Psychiatry, and it sounds like you're referencing that separately pharmaceutical companies had donated money to that organization and that organization of child psychiatrists ultimately provided me with a research grant of $15,000.
Q And so that grant was funded by money contributed by pharmaceutical companies, correct?
A It's complicated the way it's set up. So the American Academy of Child and Adolescent Psychiatry has a fund in which several different, I don't know if they're all pharmaceutical

companies, but certainly some of them are pharmaceutical companies, donate into a pool of money. That money is set aside and then an independent panel of child and adolescent psychiatry experts from around the country, they receive applications from child psychiatry researchers to do research grants and then they award those grants, and then under federal reporting, they're required to later tie those grants to the companies that donated into that pool of money.

So in this indirect way, yes, the pharmaceutical companies gave money to this pool of funding that then a panel of child psychiatrists who were independent of that body awarded these research grants. And I received one of those research grants. So to avoid any appearance of undisclosed conflict of interest, I always disclose in all of my papers that I received that grant from the American Academy of Child and Adolescent Psychiatry in that they receive funding from their industry partners which include Arbor and Pfizer.

Q So to boil all that down, the grant that you received was, in fact, funded by pharmaceutical companies, correct, in part at least?

A In part and in a direct way, yes.

Q Do you know all of the pharmaceutical companies that funded the grant?

A I do not. When you say the grant, you mean the fund at the American Academy of Child and Adolescent Psychiatry?

Q I'm referring to the funds that you used to produce your studies.
A So again, no, because they intentionally set it up in this way so there wouldn't be any direct interaction between the researchers or the people deciding who gets the grants and any of the pharmaceutical companies, so I don't have any knowledge of how the fund is set up or where the donations for that fund set up because they intentionally have those deciding who gets the awards and the awardees very far removed from that process.
Q But you are aware that there are several different industry sponsors that donate money into that pool of money, correct?
A Yes. As I think I mentioned in the deposition when I received the award, I was not told what, if any, pharmaceutical companies were tied to the grant or were later tied to the grant. I actually found out after our paper in Pediatrics was published that through that Sunshine Act reporting, it had been retroactively tied to a specific company called Arbor Pharmaceuticals, but that's all that I'm aware of.
Q So was Arbor Pharmaceuticals one of the companies that funded the grant?
A Yes, I believe that's one of the companies that donated into this pool of money that was then used to give the grants.
Q Arbor Pharmaceuticals manufactures a puberty blocking

drug, correct?
A I believe they manufacture one, but I'm not sure the name of it. Triptodur, I believe.
Q I'm sorry?
A Triptodur, I think. It's one of the ones that's not as frequently used.
Q Dr. Turban, you have no degree in endocrinology, correct?
A Correct.
Q You're not trained as a surgeon?
A Correct.
Q If I could have one moment, Your Honor. Your Honor, I have nothing further.
THE COURT: Any redirect?
MR. STRANGIO: No redirect, Your Honor.
THE COURT: Sir, you can step down, you're free to go. Court's going to take about a 10-minute break and then we're going to go to about 11:45.
(Recess from 10:19 AM until 10:40 AM.)
THE COURT: What did you say your name was?
MS. NOWLIN-SOHL: Li Nowlin-Sohl.

ARMAND ANTOMMARIA, PLAINTIFFS' WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. NOWLIN-SOHL:
Q Dr. Antommaria, can you state your name and spell it for the court reporter?

A My full name is Armand, A-r-m-a-n-d, Herbert, H-e-r-b-e-r-t, Matheny, M-a-t-h-e-n-y, Antommaria, A-n-t-o-m-m-a-r-i-a.

THE COURT: Are you related to the Tabasco people?

THE WITNESS: I am not. Not that I'm aware of.

THE COURT: I think they're doing quite well. I haven't had many people with that name before. But go ahead. I digress.

MS. NOWLIN-SOHL: Your Honor, I believe you have Dr. Antommaria's CV in front of you as Plaintiffs' Exhibit 4.

THE COURT: Go ahead.

MS. NOWLIN-SOHL: Provided that Defendants don't plan to voir dire the witness, I'll forego most of the background.

MR. CANTRELL: We do not, Your Honor.

THE COURT: All right. Continue.

MS. NOWLIN-SOHL: Thank you.

BY MS. NOWLIN-SOHL:

Q Dr. Antommaria, what is your profession?

A I'm a pediatric hospitalist and bioethicist.

Q What does bioethics entail?

A Bioethics is the examination of ethical issues related to healthcare in the biological sciences.

Q What professional positions do you currently hold?

A I am the director of the ethics center at Cincinnati

Children's Hospital Medical Center, the Lee Ault Carter Chair of Pediatric Ethics, and a professor of medicine and surgery at Cincinnati Children's Hospital Medical Center in the University of Cincinnati School of Medicine.

Q So can you tell us a little bit about what you do as a pediatrician?

A So about a third of my time is spent as a pediatrician seeing patients. My area of specialization is pediatric hospital medicine, so I see children who are admitted into the hospital with general pediatric concerns like asthma, pneumonia, or bone infections.

Q What do you do as director of the Ethics Center?

A I oversee the functions of the Ethics Center for Cincinnati Children's which would include clinical ethics, research ethics, and organizational ethics. My primary activity is related to clinical ethics so I provide clinical ethics consultation, address either dilemmas or conflicts related to ethical issues for providers, work with a variety of medical teams to address ethical issues that arise in the care that they provide including our transgender clinic and our differences of sex development clinic, and I help the institution in terms of policies that have ethical issues, and participate in research and scholarship.

Q Do you have ethical consultations with patients as well as providers?

A Yes. Our ethics consultation is open to anyone who's directly involved in the patient's care and patients and their families can request ethics consultation.
Q Okay. In your role as director of the Ethics Center, do you work with transgender patients?
A I do both in terms of individual consultation in cases that include particular ethical issues as well as working with the team in general in terms of its policies and procedures.
Q In this role, do you keep up with the research on treatment for gender dysphoria?
A I do.
Q So I will be asking you about some questions about the medical treatments that are at issue in this case, but before I do that, I'd like to start with some background questions on medical research and medical decision making. What is the goal of medical research?
A Research in general's goal is to contribute to generalized knowledge. Medical research can have a variety of different goals, but one of the primary goals is to evaluate the safety and efficacy of medical treatments.
Q How is medical research conducted?
A Medical research is conducted according to protocols that would specify the steps in a research investigation.
Q Are there different types of research studies?
A There are two main categories of research studies:

Observational studies and randomized trials.
Q What are observational studies?
A Observational studies are studies that look at a population at a particular time. So cross-sectional studies look at a population at a single point in time and longitudinal studies look at a population over a period of time making repeated measures.
Q You mentioned randomized controlled trials. What are those?
A So randomized controlled trials are studies in which the participants are randomized, assigned to an intervention group and a controlled group on a chance basis.
Q Why randomization?
A So observational studies can look at the association between various factors. So in a cross-sectional study, you can look at the association between two things, but it's very difficult to determine whether one thing caused the other thing. And in a randomized trial, you have greater opportunity to demonstrate causation, so specifically let's say the intervention caused the effect because in that, that effect is not attributable to underlying differences in the intervention group in the control group.
Q What is a confounder?
A A confounder would be one of those things that might be a baseline difference between the group that was responsible for

the effect that wasn't appropriately controlled for. So if you were going to take, say, patients with asthma and you were going to look at the effect of Albuterol and you were going to randomize a group to get Albuterol and a group not to get Albuterol, you might want to control for other factors that contribute to asthma like cigarette smoking. If you hadn't controlled for tobacco exposure, that would be a confounder that might contribute to the control that wasn't really part of the study design.

Q So you just talked a little bit about kind of how observational studies and randomized controlled studies kind of measure efficacy of a treatment. How do randomized controlled trials and observational studies compare to each other with regard to measuring the safety of a treatment?

A So a randomized controlled trial, particularly a placebo controlled trial which the control group receives an ineffective intervention, allows for comparison for what's called the placebo effect, somebody who even got a sugar pill might associate symptoms with receiving it and allows you to make comparisons between the intervention group and the control group in terms of the frequency of adverse effects of the intervention. Observational studies can still be very helpful in terms of looking at adverse effects. Particularly randomized controlled trials might be done in a relatively small population and an observational study might be

particularly helpful because it will allow you to follow a much larger group of people.

So if you think about the COVID vaccine trials, there were certain side effects of being vaccinated that were identified in a randomized controlled trial like soreness at the injection site, but it was only in the observational studies that were done after the vaccines were approved that identified some of the rare side effects such as clotting problems in a small percentage of the individuals who were vaccinated.

Q So because this is complicated, and just to make sure I understood correctly when you were talking about the randomized controlled trials and the safety, so having the randomized controlled trials helps to understand whether a safety concern was caused by the treatment or by a confounder? Is that accurate?

A No. Whether the -- so in a randomized controlled trial, even people who got a placebo might have adverse events. So in adult medicine if you were in a randomized controlled trial, some finite group of people might have a heart attack but it might not be attributable to the control. So it allows you to make that comparison between the intervention group and the control group for things that are just naturally occurring in the background.

Q What are some of the factors that go into determining

which type of study to utilize?
A Part of it is about what the study question is, what you're trying to figure out. There are also ethical, logistical, and financial considerations that would go into the selection of a study design.
Q Is there a study design that is generally considered the best quality?
A So randomized controlled trials are generally considered to be high quality evidence.
Q Why is that?
A Because of the ability to be more certain about causation and the ability to potentially control for confounders.
Q Are randomized controlled trials always appropriate for medical research?
A No, there are times when randomized controlled trials would be unethical or when they would not be feasible and there are certain types of questions for which observational studies would be a more appropriate study design.
Q When might a randomized controlled trial be unethical?
A So in order for a randomized controlled trial to be ethical there needed to be what's called clinical equipoise. There has to be true uncertainty about whether or not the intervention or the control is better, and the trial would also need to be feasible. So if you had good reason to believe that you couldn't recruit enough people to participate in the trial

and the trial wouldn't be able to answer the question, it would be unethical to start the trial because it would be problematic to expose individuals to the risk of the trial without the potential benefit of having the trial have a determinative outcome.

Q So you mentioned clinical equipoise. Can you give me an example of a study that might not have clinical equipoise?

A So I'll use the asthma example again. In asthma, if you have a higher severity of asthma, it would be appropriate to be on a daily medication in order to control your symptoms and it would be generally unethical to ask somebody to come off of a controller medication to participate in a study to be able to compare an acute intervention to a control because we know that the controller medications are effective.

Q You mentioned logistical reasons. When might there be logistical reasons a randomized controlled trial would not be possible?

A So there might be logistical reasons about a site not being able to recruit enough participants in the period of time in which the study would occur, so in general when you're designing a study, you do something called a power calculation to determine how many participants you need and that you would need to have good evidence that you could recruit that number of participants during the study period to be able to move forward.

Q What does it mean for a study to be double blinded or double masked?
A So a study being double blinded means or double masked would be that neither the investigators nor the participants knew whether the participants were assigned to the intervention group or the control group.
Q Why is that important?
A So it can be important for a number of reasons. So participants might have a preference about whether they want to be an intervention group or the control group and if they know or have reason to suspect that they're in the control group, they might drop out of the study which would affect the analysis of the study. It might also affect the way they would report certain outcomes and that in terms of the investigators, masking is important because they also might have precommitments that would lead them to unintentionally evaluate people differently if they thought they were in the intervention or in the control group.
Q Are there times when it would be impossible to mask a study?
A There are times when it's not possible. Very difficult research involving surgeries would be a particular case in point if you're going to randomize somebody to get a surgery or not to get a surgery, they would know.
Q So you mentioned in some situations it would not be

ethical or logistically possible to do a randomized controlled trial. Are there additional barriers to randomized controlled trials?

A Can you repeat the question, please?

Q You talked a little bit about some of the ethical and logistical barriers to doing randomized controlled trials. Are there any additional ones?

A Cost would also be a consideration as to whether or not you considered that logistical or not. But randomized controlled trials are generally more expensive and there might not be sufficient economic resources in order to conduct a randomized controlled trial.

Q Are there additional barriers to pediatric randomized controlled trials?

A So randomized controlled trials are less frequent in pediatrics for a variety of reasons including generally the fewer number of individuals that are affected by a condition, the smaller market for pharmaceutical products in pediatrics, lower NIH funding, and barriers to recruitment of pediatric children into research studies.

Q You said that randomized controlled trials are considered high quality research. Does that mean -- or does that mean that observational studies should not be relied upon to evaluate medical treatments?

A No. Observational studies are frequently relied on in

terms of evaluating the efficacy or safety of a medical treatment and at times they may be or in certain conditions they may be the best or most appropriate type of evidence.

Q Are all medical treatments supported by research utilizing randomized controlled trials?

A No, unfortunately.

Q Do doctors make treatment decisions that have not been researched using randomized controlled trials?

A Yes. Frequently healthcare providers need to make decisions in the care of patients and there are not randomized controlled trials available to support those decisions.

Q Is that frequent in pediatrics?

A Particularly in pediatrics.

Q Can you provide an example of a treatment in pediatrics that has not been researched using randomized controlled trials?

A So, as I said, I'm a pediatric hospitalist, I take care of children admitted to the hospital with asthma. Very frequently we treat them with Albuterol as a quick-acting medicine to try to relax the muscles around their airway and steroids to decrease the inflammation and try to improve their condition so they can be discharged. There's ongoing discussion about what type of steroids to administer to hospitalized children, whether giving a longer course of a twice-a-day medication is better or worse than a shorter course

of a different steroid medication, and having to make that decision is something that we as providers, I as a provider or our institution as an institution has had to make a decision about without randomized controlled trials for inpatients.

Q Does the absence of a certain type of study researching a treatment mean that there's not sufficient evidence to support the treatment?

A No, there certainly could be sufficient evidence for a treatment absent a particular type of study such as a randomized controlled trial.

Q What would happen if in the medical field treatment was limited to only those treatments that have been studied by randomized controlled trials?

A Much of what I do as a provider or much of what doctors do on a regular basis we would not be able to do.

Q Would limiting treatments to only those that have been studied by randomized controlled trials have an impact on patient welfare?

A It would likely have a substantial negative effect on patient welfare.

Q We've been talking about medical research. How do doctors use that research to inform their clinical practice?

A So in general, healthcare providers should practice what is called the evidence-based care, so in making treatment decisions, they should use the best available evidence to

inform that care.
Q What are clinical practice guidelines?
A So clinical practice guidelines are summaries of the evidence and recommendations for treatment developed frequently by professional organizations to guide clinicians. It's not feasible for me as a individual provider to research the evidence base for every single treatment I use. So having clinical practice guidelines is incredibly valuable in my practice or any healthcare provider's practice in terms of having summaries of evidence and recommendations for treatment.
Q Could you provide some examples of medical professional associations that publish clinical practice guidelines?
A So in my field, the American Academy of Pediatrics publishes clinical practice guidelines in the area of treatment for gender dysphoria. The Endocrine Society or WPATH, there are a variety of different organizations that publish clinical practice guidelines.
Q How are clinical practice guidelines developed?
A So there are processes for the development of clinical practice guidelines in terms of selecting the body that will develop the clinical practice guideline and managing potential conflicts of interest that those individuals might have, processes for searching the medical literature in order to identify the evidence, and then processes for grading the quality of that evidence and then making recommendations and

then disseminating the guidelines.
Q What is a systematic review of the literature?
A A systematic review of the literature would be one of the initial steps in guideline development but also are done independently of guideline development. So it's a process of searching the literature, identifying relevant studies, summarizing the results of that study, and at times, there are statistical analysis of those pooled results that are performed which are referred to as meta-analysis.
Q What is the difference between a systematic review of the literature and a clinical practice guideline?
A A systematic review of the literature summarizes the evidence base and grades the quality of the evidence, but systematic reviews of the literature do not make treatment recommendations.
Q Why is it useful for clinicians to have recommendations in clinical practice guidelines?
A So knowing the level of evidence doesn't in and of itself tell you what to do that you need to consider the potential benefits and risks of the intervention in addition to the level of evidence supporting the intervention. And so having recommendations involves significant additional analysis and so it's helpful to have those recommendations.
Q Are there specific methodologies used in developing clinical practice guidelines?

A Yes, there are.
Q Can you give me an example?
A The most widely used methodology is the GRADE method.
Q What does GRADE stand for?
A GRADE stands for Grading of Recommendations, Assessment, Development and Evaluations.
Q What is the GRADE methodology?
A So the GRADE methodology is a systematic process for grading the quality of evidence and for the strength of a recommendation.
Q Why is it important to know the strength of a recommendation and the quality of the evidence?
A So knowing the quality of the evidence is important in order to then make recommendations, and the strength of a recommendation is based in part on the quality of the evidence supporting the recommendation. But as a provider, knowing the strength of the recommendation is important because it informs the way that I would interact with a patient relative to the recommendation. I might have a more extensive conversation with a patient or a patient and their family about a weak recommendation as opposed to a strong recommendation.
Q Is an entire clinical practice guideline given a single grade?
A No. Individual -- the evidence supporting individual recommendations are given grades and the strength of individual

recommendations is graded, not the entire clinical practice guideline.

Q Do guidelines typically have multiple recommendations?

A Typically they do.

Q So you mentioned a grading system for the quality of the evidence. What are the quality levels of evidence?

A So within the GRADE method, there are four levels: High, moderate, low, and very low quality.

Q What factors is the quality of evidence grade based on?

A It's based on the study design, the quality of the study as it was performed, consistency if there are multiple studies on the particular topic, and then something called directness.

Q Can you tell me a little bit about what directness is?

A Directness looks at the relationship between the study and the patient or population that's being treated and whether there's, for example, the patient that you're considering would have been eligible for the study or would have met exclusion criteria and, therefore, whether you're in some regards extrapolating the results of the study to a different patient population.

Q You said that one of the factors is the study design. How does the study design inform the quality of the evidence grade?

A So in general, randomized trials are considered high quality evidence and observational studies are considered low

quality evidence. Although there are ways in which those initial gradings can be adjusted up or down based on other factors.

Q So just to break this down in the GRADE system, what type of study design would as a default be considered quality evidence?

A A randomized trial.

Q What type of study design would as a default be considered low quality evidence?

A An observational study.

Q What type of study design would as a default be considered very low quality evidence?

A Other types of evidence such as case reports.

Q As you just explained, those are initial grades only subject to adjustment based on application of the other factors?

A Correct.

MR. LESTER: May I approach, Your Honor?

THE COURT: You can. While we've got a break in the action, some of this stuff we went over with the last witness, and to the extent we're being cumulative, I'd ask that you skip past those parts unless it's going to be inconsistent with what the previous witness testified to. So some of this grading information we've already been through.

MS. NOWLIN-SOHL: Yes, Your Honor.

THE COURT: I am mindful that this record isn't just for me so I understand all that, but to the extent we don't do things twice would be helpful in me reviewing this record.

MS. NOWLIN-SOHL: Understood, Your Honor.

BY MS. NOWLIN-SOHL:

Q Dr. Antommaria, do you recognize this document?

A I do. It's the initial publication describing the GRADE methodology.

Q Where was this published?

A This was published in the *British Medical Journal*.

Q Looking at page 4 of this document, on the left-hand column kind of in the center of the page, how does GRADE define low quality evidence?

THE COURT: Before we get any further, let me interrupt. I've got this marked as Exhibit 6, which is not Exhibit 6.

MS. NOWLIN-SOHL: I am not seeking to have this admitted as an exhibit. That is a leftover deposition stamp. Apologies.

THE COURT: So I can just mark through Exhibit 6 as to avoid confusion.

MS. NOWLIN-SOHL: Yes, Your Honor.

THE COURT: Got it. You can start over. I'm sorry.

BY MS. NOWLIN-SOHL:

Q Dr. Antommaria, looking at this, how does GRADE define

low quality evidence?
A Further research is very likely to have an important impact on our confidence in the estimate effect and is likely to change the estimate.
Q What do you understand that to mean?
A So research potentially will estimate the effect of an intervention, so if you're an adult and you're taking a statin, you know how much it would decrease your lipid levels and the estimate might range from by decreasing it from say two to four times, and the confidence is reflected by how wide that range is. And so low quality evidence that the magnitude of the effect would change but also the confidence, the kind of width of that range is likely to get smaller with additional studies.
Q What does this GRADE article say is the definition for high quality evidence?
A That further research is very unlikely to change our confidence in the estimate of effect.
Q What do you understand that to mean?
A That performing additional research is neither likely to change what the estimate of the effect is, nor the confidence that that is an accurate estimate of effect.
Q Does low quality evidence mean that there's a likelihood that treatment will be determined to be not effective in the future?
A No, it does not.

Q Can you tell me why?
A So having uncertainty about the effect is different than having certainty of that something will be ineffective. So low quality evidence is that we will have some uncertainty about the effect as opposed to having certainty that if additional research was done it would demonstrate that something would be ineffective. The kind of colloquial way that's framed in medicine, that absence of evidence is not evidence of absence. There's just a difference between being uncertain about something and being certain that something is going to be different or is untrue.
Q Does low quality evidence mean that there's a likelihood that treatment will be determined to not be safe in the future?
A No, it does not.
Q What quality levels of evidence may a recommendation be made upon?
A Recommendations may be made on any of the levels of quality of evidence.
Q You mentioned that the GRADE system also indicates the strength of recommendations. How is the strength of recommendation evaluated?
A The strength of a recommendation depends on a number of factors including the quality of the evidence, but largely on the balance between the benefits and the risks.
Q What are the levels of recommendation?

A In later work, the GRADE working group refers to strong recommendations and weak recommendations, although they understand that the term "weak" might have inappropriate connotations and that other terms might be better.
Q So looking at page 6 of the document you have in front of you and the left column near the top where it says do it or don't do it, is that the level for a strong recommendation?
A Yes. So in this document, they don't use the language of strong and weak, they suggest the language of do it or probably do it as the distinction between the types of recommendations.
Q How do they define the do it or strong recommendation?
A As indicating the judgment that most well informed people would make.
Q How do they define the less strong or the probably do it recommendation?
A As indicating a judgment that the majority of well informed people would make but a substantial minority would not.
Q Are there other considerations in making a recommendation besides quality of the evidence?
A So other factors would be the relative risks and benefits, and secondary considerations would include things like cost.
Q Is it common for clinical practice guidelines to make recommendations based on evidence that is graded low or very

low quality?
A I guess it is, particularly in pediatrics.
Q Why are recommendations made based on low or very low quality evidence?
A That may be the quality of evidence that's available to the individuals who are writing the clinical practice guidelines. As a clinician and a patient presents themselves to me with a condition, I need to be able to treat them at that particular point in time. I can't tell them to come back later when there's more evidence available. So clinicians make treatment decisions based on the best available evidence to them at that particular time.
Q Is it common for pediatric clinical guidelines to make recommendations based on evidence that is graded low or very low quality?
A It is. If you look at the Endocrine Society's two other clinical practice guidelines for pediatric conditions, specifically obesity and congenital adrenal hypoplasia, the majority of recommendations in each of those guidelines are based on low or very low quality evidence or are ungraded good practice statements.
Q Do any of the Endocrine Society guidelines focused on pediatrics have high quality evidence?
A None of the three Endocrine Society guidelines that focus on pediatric conditions have high quality evidence supporting

the recommendations.
Q Is not providing medical treatment an affirmative decision?
A It is.
Q If a clinical practice guideline were to recommend not providing medical treatment, would that recommendation need to rely on evidence?
A It would. So within the GRADE system and making recommendations, it can be a recommendation to do something or not to do something, but a recommendation to either do or not do something should be based on evidence.
Q Are there established ethical principles around medical decision-making?
A There are.
Q Under principles of medical ethics, how does decision-making around medical care for adults generally work?
A So one of the key focuses of ethical decision-making for adults would center around respect for autonomy and would be instantiated in the process of informed consent, so seeking the agreement of the patient in the treatment that is recommended to them.
Q Does the treatment decision ultimately lie with the doctor or with the patient?
A If a patient has medical decision-making capacity, it rests with the patient.

Q And under principles of medical ethics, how does decision-making around medical care for minors generally work?
A Medical care for minors is more complex because minors in general do not have legal authority to make decisions for themselves or may not have medical decision-making capacity so decisions are made on their behalf by their parents or legal guardians and that children then participate in medical decisions that affect them to the extent that is developmentally appropriate.
Q With whom does the treatment decision ultimately lie for minors?
A So it would generally lie with their parent or legal guardian.
Q What should a healthcare provider disclose to a patient and for minors their parent or guardian to enable them to make an informed decision?
A In general, they would disclose the indication for the intervention, its potential benefits, risks, and the alternatives to the proposed intervention.
Q When the patient is an adolescent, does the patient have a role in the informed consent process?
A Yes. In general, adolescents have increasing medical decision-making capacity and the term would be that their assent should be sought so their agreement with the proposed course of treatment.

Q You used the term "assent". What does it mean to assent to treatment?
A So to assent to treatment would be that you have some degree of understanding of the risks, benefits, and alternatives, that you can evaluate those risks and benefits, that you understand what that means in your own life, and that you can express a preference, albeit not as fully as an adult is capable of understanding or appreciating or evaluating.
Q Does assent have any legal consequence? Let me rephrase that differently. What's the difference between assent and consent?
A So informed consent would be a legal -- in some ways is a legal category and a requirement. Assent is in general a ethical obligation on the part of the provider to involve the patient in medical decision-making. There are some exceptions such as in certain research domains in which assent is also a formal requirement.
Q In general are adolescents able to understand the risks and benefits of treatment?
A So as a general matter, adolescents meaning, say, teenagers are generally able to understand the risks, benefits, and alternatives to an intervention.
Q For adolescents who have the ability to assent to treatment, must parents still provide informed consent?
A In general, yes.

Q Does having --

THE COURT: Are we talking generally now or the treatment at issue?

MS. NOWLIN-SOHL: Generally.

THE COURT: Thank you.

BY MS. NOWLIN-SOHL:

Q Does having a mental health diagnosis impair medical decision-making capacity?

A At times it might, but having a mental health diagnosis does not intrinsically mean that an individual lacks medical decision-making capacity.

Q Does the fact that a patient suffers from depression or anxiety mean that they can't assent or consent to treatment?

A No, it does not.

Q So thank you for providing that background on medical research and medical decision-making. So I'm going to switch now to the specific treatments at issue in this case. Have you read the Act at issue in this case?

A I have.

Q The Act refers to, quote, gender transition procedures, end quote, but if I refer to the range of care falling within that definition as gender-affirming medical care, will you know what I mean?

A Yes, I will.

Q Do you know what the title of the Act at issue is?

A It is Save Adolescents From Experimentation.
Q Is gender-affirming medical care as it is being used by doctors to treat gender dysphoria experimentation?
A No, it is not.
Q Are there any clinical practice guidelines regarding gender-affirming medical care?
A Yes, there are. They include the Endocrine Society clinical practice guideline as well as the World Professional Association for Transgender Health's clinical practice guideline Standards of Care.
Q What is the Endocrine Society?
A The Endocrine Society is a professional society of endocrinologists and endocrinology researchers. I believe it has over 15,000 members within the U.S. and internationally.
Q The Endocrine Society guideline that you mentioned for gender dysphoria, does that make recommendations with regard to gender-affirming medical care for adolescents?
A Yes, it does.
Q So now I'm going to show you a document.
MR. LESTER: May I approach, Your Honor?
THE COURT: Sure.
BY MS. NOWLIN-SOHL:
Q Dr. Antommaria, do you recognize this document?
A Yes. It appears to be the first several pages of the Endocrine Society's clinical practice guideline for the

treatment of gender dysphoric or gender incongruent persons.
Q Do you rely on this document in your professional capacity?
A I do.
Q What methodology does the Endocrine Society guideline use?
A They use the GRADE methodology in terms of grading the quality of the evidence and the strength of the recommendations that they make.
Q So I'm going to have you turn to the fourth page of this packet which at the top says page 3872.
A All right.
Q Looking at the bottom right I think maybe the third sentence from the bottom, what does the Endocrine Society guideline say about strong recommendations?
A The task force which is the group that formulated the clinical practice guideline has confidence that persons who receive care according to the strong recommendation will derive on average more benefit than harm.
Q Is that consistent with the GRADE article we looked at earlier?
A Yes, it is.
Q Looking at that same section, what does the Endocrine Society guidelines say about weak recommendations?
A That weak recommendations require more careful

consideration of a person's circumstances, values, and preferences that determine the best course of action.

Q Is that consistent with the GRADE article we looked at earlier?

A Yes, it is.

Q Does weak -- does a weak recommendation mean that benefits do not outweigh the harms?

A No, it does not.

Q Is the Endocrine Society guideline supported by scientific evidence?

A Yes, it is. The recommendations that are made in the guidelines are supported by scientific evidence.

Q What kind of evidence?

A So in general, the recommendations related to the care of adolescents are supported by low quality evidence.

Q As you discussed before, does low quality have a very specific meaning under the GRADE system?

A It does.

Q Do the studies discussed in the Endocrine Society guideline demonstrate the safety and efficacy of gender-affirming medical care for adolescents?

A They do.

Q Would randomized controlled trials comparing the current treatment recommendation which is gender-affirming medical care and mental healthcare to mental healthcare alone be ethical?

A Not at this time.
Q Why not?
A So neither providers nor potential participants would currently have clinical equipoise between treatment and not receiving treatment, and because potential participants don't have clinical equipoise and would be unlikely to enroll in such a trial, such trials would not be feasible.
Q Was there a time where a randomized controlled trial comparing gender-affirming medical care to not receiving gender-affirming medical care would have had clinical equipoise?
A In the late '90s, early 2000s there may have been clinical equipoise at that particular point in time, but the advent of the prospective observational studies as well as additional clinical experience with treatment have resulted in individuals no longer being in clinical equipoise.
Q Can you provide other examples of treatments where the window of clinical equipoise closed before randomized controlled trials were conducted?
A One of the areas in which I work at Cincinnati Children's is that I oversee the -- that I chair the oversight committee for our fetal care center, so fetal surgery is an active area of development. There is a randomized controlled trial of fetal surgery for spina bifida, so in fetuses or children who have a hole at the base of their spine. And it was initially

surgery that opened the pregnant individual's abdomen and uterus, removed the fetus, closed the hole, placed the fetus back, closed the uterus and the abdominal wall, and then looked at outcomes after the child was delivered and showed that it was effective.

There have been movements since that time to do fetoscopic surgery, so instead of taking the fetus out, to use instruments that go through two or three small incisions to make the repair while the fetus is still in the uterus. I think that it will be unlikely that there's a randomized controlled trial of open versus fetoscopic surgery because of increasing experience with fetoscopic surgery that clinical equipoise may not -- probably does not currently exist or will not exist before such a randomized controlled trial could be performed.

Q Are there other challenges that a randomized controlled trial comparing gender-affirming medical care to not receiving gender-affirming medical care would be likely to face?

A So in particular the issue of blinding or masking is a significant issue in that, say, individuals who receive puberty blockers or don't receive puberty blockers would know because of whether or not they develop secondary sexual characteristics. So it would not be possible to mask either participants or investigators. And within the GRADE methodology even if such a study were ethical, which it is not

currently, it would represent only low quality evidence because of intrinsic issues regarding the low quality of the study.
Q So just to make sure I understood that correctly, a randomized controlled trial on gender-affirming care would not be considered high quality evidence because of the challenges you identified?
A So let me be clear. A randomized controlled -- a randomized placebo controlled study would not. There are types of randomized controlled studies of gender-affirming healthcare such as comparing different dosing regimes which would be ethical and feasible, but in particular comparing gender-affirming care to a placebo would be low quality evidence because of the difficulty with masking or blinding.
Q Are you familiar with the WPATH Standards of Care?
A I am.
Q What are the WPATH Standards of Care?
A I would describe them as a clinical practice guideline for the care of -- with the language of the current version gender incongruent or gender diverse individuals.
Q Do the WPATH Standards of Care recommendations for gender-affirming medical care for adolescents rely on scientific studies?
A They do.
Q What kinds?
A The same types of studies that we discussed relative to

the Endocrine Society's guidelines, so they are largely prospective observational studies as well as some cross-sectional studies.

Q Are the WPATH Standards of Care 8 recommendations for gender-affirming medical care for adolescents consistent with the Endocrine Society guideline recommendations?

A Yes, they're largely consistent.

Q Are you aware of any randomized controlled trial studying whether mental health services alone to treat gender dysphoria are effective?

A I'm not aware of any randomized controlled trials for the provision of mental health services alone.

Q What about observational studies?

A Not prospective observational studies. There are some case reports or anecdotes referred to in the literature, but not observational studies.

Q Defendants' experts rely on systematic reviews of the literature for some of their positions. Do those systematic reviews of the literature recommend banning gender-affirming medical care?

A As I discussed previously, systematic reviews of the literature do not make recommendations related to treatment. So by definition they don't recommend banning gender-affirming medical care.

Q So how does the evidence base supporting gender-affirming

medical care for adolescents compare to the evidence base for other medical treatments for minors?

A It is generally comparable.

Q The defendants raise the issue of potential risks associated with gender-affirming medical treatment. Are you familiar with the risks?

A I am.

Q What are some of the more significant risks?

A So in terms of the use of puberty blockers, there are concerns about a decreased rate of increase in bone density. So not that people's bone density actually goes down, it just doesn't increase as quickly as it would otherwise, and some speculative risks of increased fractures as older adults. And concerns that the use of puberty-blocking medications might decrease the options for gender-affirming surgical care later in an individual's life. In regard to gender-affirming hormone therapy, it would depend on the type of hormone therapy that's provided. The use of estrogens potentially increases the risk of clotting or of strokes as well as the risk of increased levels of triglycerides and the use of testosterone can cause polycythemia or increased red blood cell count which would be monitored and may cause hypertension as well as other kinds of side effects like baldness.

Q How do the risks of gender-affirming medical care compare to the risks associated with other medical treatments that

adolescents may undergo?
A I should say that gender-affirming hormone therapy also has risks related to infertility, and I would say that the kinds of risks that gender-affirming medical care pose are not categorically different than the types of risks that other types of pediatric healthcare pose. So in particular related to fertility, there are treatments that are used to treat rheumatologic conditions and kidney diseases in pediatrics that likewise pose risks to fertility in adulthood.
Q Are there chest surgeries that adolescents may undergo besides chest surgery for gender dysphoria?
A There are a variety of chest surgeries that adolescents may undergo including gynecomastia surgery. So individuals assigned male at birth may have proliferation of breast tissue and they might undergo surgery to reduce that tissue. Individuals may have deformities in their chest wall that their chest either caves in or protrudes and they may have surgery to correct that. And individuals assigned female at birth may undergo breast reduction or augmentation procedures as adolescents.
Q Are those chest surgeries predominantly about appearance or physiologic function?
A Although in minority of cases they may be performed based on physiological function, in general, they're performed in order to change someone's appearance.

Q How do the surgical risks of breast augmentation for cisgender girls and gynecomastia surgery compare to the surgical risks of chest surgeries to treat gender dysphoria?
A So in general, the risks are comparable. So, for example, in gynecomastia surgery, there are risks of bleeding, infection, and poor appearance as a result either of asymmetry or residual tissue left behind. The main difference in the risk would be the frequency of impairment in breast or chest feeding would be a similar type of risk, but the frequency would be higher in chest surgery for gender dysphoria.
Q That difference in frequency is just to the risk of chest feeding?
A It's predominantly related to that risk.
Q So the other risks that you identified, the frequency of those risks is comparable?
A In generally comparable.
Q What is pectus excavatum?
A Pectus excavatum is when the chest wall colloquially is caved in in an individual.
Q How do the surgical risks of pectus excavatum compare to chest surgery for gender dysphoria?
A There are rare complications of pectus repair which are more severe than the risks entailed in top surgery for individuals with gender dysphoria. So one of the contemporary ways of repairing pectus is to place a rod underneath the

sternum and there are unfortunately reports of individuals whose hearts are perforated during rod placement and individuals who have died as a result of surgery or who have had severe anoxic brain injury that during the process of being resuscitated from the injury that they received had a period of time in which they got inadequate oxygen to their brains. So I would say that although that risk is not very frequent, it is certainly a much more severe risk.

Q Act 626 has a carve-out to allow treatments when used with patients with disorders of sex development. I have a couple of questions about that. Are there surgeries to change the appearance of genitals on minors with disorders of sex development?

A Yes. The most frequent surgery would be referred to as feminizing genitoplasty, which would be the surgical procedure to change the appearance of the external genitalia of individuals who are assigned female at birth.

Q And is this a treatment that some doctors perform on minors with disorders of sex development?

A Yes, it is.

Q And is it performed on infants?

A It is performed on infants and young children.

Q Is feminizing genitoplasty performed on infants and young children without their informed assent?

A Yes, it's performed at ages in which the individual who's

undergoing surgery is incapable of providing assent.
Q What is the level of evidence supporting feminizing genitoplasty as treatment?
A A systematic review that was published in 2018 which used the GRADE methodology characterized the evidence base for feminizing genitoplasty as very low quality.
Q Is there any evidence that feminizing genitoplasty can be harmful to the patient?
A There are a substantial minority of individuals who report harm as a result of feminizing genitoplasty including a loss of sensation.
Q Is there disagreement within the medical profession on whether feminizing genitoplasty should be done on individuals who cannot participate in the decision-making?
A Yes, there's substantial ongoing discussion within the medical profession, and some institutions have placed either temporary or ongoing restrictions on performing feminizing genitoplasty.
Q You've talked about the evidence supporting gender-affirming medical care for adolescents. Is it unusual for adolescent patients and their parents to make decisions to undergo treatments supported by comparable levels of evidence?
A No, it is not.
Q Is it unusual for adolescent patients and their parents to make decisions to undergo treatments with comparable risks?

A No, it is not.
Q With greater risks?
A At times, yes, greater risks.
Q For treatments where there is evidence of safety and efficacy, how should the medical community respond to concerns about limitations on the evidence?
A Concerns about the limitations on the available evidence should be responded to by improving the evidence base over time.
Q If the law prohibits adolescents from receiving gender-affirming medical care, is it possible to conduct more research on this treatment and gather more evidence in Arkansas?
A My understanding of the Act that we're discussing is that it would both prohibit clinical care as well as further research.
Q So switching gears again, what does it mean to say a medication is FDA approved?
A The FDA approves medications based on its evaluation of their safety and efficacy.
Q What is meant by an indication --
THE COURT: I'm going to go ahead and stop you there before the next question. We're going to break for lunch as promised. I know it's a minute before when I said I was going to break, but this seems as good a time as any to break. We're

going to break till 1:00. As I mentioned, I need those two seats and where Ms. Cooper is sitting. Either side, it doesn't matter. They're creatures of habit and there's six of them and I never know which side of the table, but I can direct them to an open spot. This particular case will be in recess till one. You can step down and go about your business.

(Recess at 11:45 AM.)

REPORTER'S CERTIFICATE

I certify that the foregoing is a correct transcript of proceedings in the above-entitled matter.

/s/ Karen Dellinger, RDR, CRR, CCR

United States Court Reporter

Date: October 25, 2022

(Proceedings resumed at 1:03 p.m.)

MS. NOWLIN-SOHL: Shall we retrieve the witness?

THE COURT: Sure.

Welcome back.

THE WITNESS: Thank you, sir.

BY MS. NOWLIN-SOHL:

Q. Okay. Dr. Antommaria, before the break we started talking about FDA approval for medications. Can you remind me what does it mean to say a medication is FDA approved?

A. The FDA approves medications that are proven to be safe and effective.

Q. What is meant by an indication in the context of FDA approval?

A. An indication is for a particular purpose in a particular population, a group of patients and at a particular dose.

Q. If a medication receives FDA approval for an indication, is it only allowed to be used for that indication?

A. No, it is not. Licensed prescribers are able to prescribe medications for other uses in addition to the indicated use.

Q. Are there limitations on prescribing an FDA approved medication for indications other than the one it was

approved for?
A. Not by the FDA. The primary restriction is on pharmaceutical companies, that they're not permitted to advertise medications for unapproved indication.
Q. Are prescribers generally free to prescribe a medication for other indications?
A. Yes. It's at their individual discretion to use a medication that's approved for one indication for other indications.
Q. What does it mean to use an FDA-approved medication off-label?
A. off-label is the colloquial term for using a medication for an unapproved indication or an indication other than the approved indication.
Q. So we've been talking about indication. Can you explain what it could look like to use an FDA medication off-label?
A. So, again, I'm a pediatrician. I routinely prescribe medication off-label. So for example, if I have a patient admitted to the hospital with a bone infection, I may use an antibiotic like nacillin into treat their bone infection. It is approved by the FDA for use in individuals who are 18 years old and older, but not for individuals who are under 18 years of age. So even though I routinely prescribe it and my peers and colleagues

routinely prescribe, it is an off-label use.
Q. And I think you said an off-label use would also be using it in a different dosage than it was approved for?
A. Yes. That's correct.
Q. And off-label usage would also be using it for a different treatment than it was approved for?
A. For a different clinical condition, yes, correct.
Q. Does using a medication off-label mean that there is not evidence supporting its use?
A. No. It does not mean that. In fact, there are a number of uses of medication that are off-label that are well supported by evidence, including randomized controlled drugs.
Q. Does using a medication off-label mean that the treatment is experimental?
A. No, it does not intrinsically mean that.
Q. Is it unusual for a medication to be prescribed for indications other than the one it was approved for?
A. It's common for medications to be used off-label. So, again, as a pediatrician, there are studies that show that, in 30 percent of pediatric encounters, a medication is prescribed off-label using very narrow definitions of off-label. And then in particular, clinical context that number goes up significantly. So in a pediatric cardiac critical care unit, the rate of off-label use might be 80

percent of medications are being used off-label.
Q. Is off-label used more common in pediatrics?
A. Yes, it is.
Q. If there is evidence that an off-label use is safe and effective, are there reasons a manufacturer might not seek additional FDA approval for additional indications?
A. Yes. In particular, given the small market share that the pediatric population may represent, may not be cost effective for them to seek approval for additional indications.
Q. You've talked about the Endocrine Society guideline for treatment of gender dysphoric persons and WPATH Standard of Care. Do those practice guidelines provide that doctors inform families of the potential risks and benefits of treatment?
A. Yes. They are explicit in their recommendations that individuals should be informed of the potential benefits and risks. So in particular, the potential impact on fertility is identified and recommendations made that individuals should be counseled regarding potential methods of fertility preservation.
Q. You said earlier that in medicine the decision of whether to undergo treatment ultimately rests with the patient, and in the case of a minor, with their parent or guardian.

Are the Endocrine Society guidelines and the WPATH Standards of Care consistent with that?
A. Yes, they are.
Q. Going back to the informed consent process you discussed earlier for medical decision making for minors. Is there anything about gender-affirming medical care that makes the informed consent process inadequate to enable minor patients and their parents or guardians to make decisions about medical treatment?
A. No, there is not. The informed consent process is the discussion of the potential indications for the treatment, the risk, benefits, and alternatives, and that can be done for the different modalities of gender-affirming care in the same way it's done for other types of medical treatment.
Q. Does Act 626 have implications for doctor's ability to comply with their ethical obligations?
A. Yes, it does.
Q. Can you tell me more about that?
A. So health care providers have an obligation to benefit their patients, and the Act puts health care providers in the untenable position of not potentially providing medically-indicated treatment to patients that they believe would result in benefit to the patients, or violating the Act and potentially losing their license and

their ability to practice medicine and benefit other patients.

Q. Some of the State's experts have asserted that some doctors are providing gender-affirming medical care to adolescents without appropriate psychological assessments and without properly informing families of risks.

If an individual doctor provides treatment in an inappropriate manner or without informed consent, how might that be addressed?

A. There are multiple ways in which in the medical profession that might be addressed. For example, as a credentialed employee of Cincinnati Children's, if there was a limitation in my practice, there is a professional practice evaluation committee that could evaluate my performance, recommend a remediation plan, and potentially recommend that my privileges at the institution be suspended or withdrawn. All states have state medical boards that can evaluate accusations of unprofessional conduct and, again, can take disciplinary action against providers, including withdrawing their license. And there are actions through malpractice, including actions for inadequate informed consent. There are multiple safeguards against unprofessional practice in this area.

Q. Those are all safeguards that are currently in place to regulate medical providers to ensure appropriate care?

A. Correct. They are.
Q. Are you aware of any empirical studies showing that providers are providing gender-affirming medical care without appropriate informed consent?
A. No, I'm not aware of any empirical research demonstrating that there's consistent unprofessional behavior.
Q. Some of the State's experts have attempted to discredit WPATH by asserting that they are not a scientific organization because their membership includes members of the trans community who are not medical professionals.

Is the inclusion of other stakeholder groups atypical for research or the development of clinical practice guidelines?
A. So full membership within WPATH is limited to individuals who have professional roles relevant to the welfare of trans individuals. So full membership is restricted to individuals with appropriate professional backgrounds. Relevant to the development of SOC 8, the standard -- the eighth version of the Standards of Care document, membership included full members as well as other stakeholders. The other stakeholders were ten to 15 percent of the overall body. And the inclusion of stakeholders is a important priority in health care. So

the agreed-to methodology, which is a way of looking at the quality of consensus guideline of clinical practice guidelines, emphasizes stakeholder involvement. And there are particular research methodologies that emphasize patient involvement, including community-based participatory research. And there are federally-funded entities such as Patient Centered Clinical Outcomes Institute which emphasize the importance of patients participating in research. And so the involvement of other stakeholders in the development of SOC 8 is consistent with other areas of health care incorporating stakeholders.

Q. So some of the State's experts, in support of their position in favor of Act 626, point to systematic reviews of the literature that describe the evidence base for gender-affirming medical care is limited.

What's your response to that?

A. As we discussed this morning, there's significant differences between systematic reviews of literature and clinical practice guidelines. Systemic reviews of the full literature cannot make treatment recommendation.

As a clinician, when a patient comes to me with a concern, I need to address their concern based on the current best available evidence. I can't tell a patient to come back in five or ten years from now when more

evidence is available. I need to use the current best available evidence in making treatment recommendations for them.

Q. Some of the State's experts reference a systemic review of clinical practice guidelines by Dallon, et al, in support of the claim that the Endocrine Society guidelines and the WPATH Standards of Care are of low quality.

What's your response to that?

A. So the Dallon study looked at chemical practice guidelines using the agreed-to methodology. The authors of the agreed-to methodology explicitly state that their method cannot be used to make categorical claims about whether a clinical practice guideline is of high or low quality. So that type of characterization of say SOC 7 as being low quality is an inappropriate use of the Dallon study and is not based on the underlying methodology on which it relies.

Q. Some of the State's expert cite treatment recommendation from government health authorities in Finland and Sweden in support of their position.

Are you familiar with those recommendation?

A. I am.

Q. What's your response?

A. Neither Finland nor Sweden ban gender-affirming

health care, and the substantial changes that many of the European countries are making are to make the provision of gender-affirming health care more in alignment with the type of care provided in the United States, including provisions through multidisciplinary teams in regional systems of care.

Q. Do Sweden or Finland's treatment recommendations evaluate the strength of the underlying evidence?

A. So it's somewhat difficult to review the methodology of the Sweden and Finnish documents in full because they're not fully available in English translation, but to the -- for example, to the extent that there is an English language summary of the 2002 Swedish document, it does not appear to be based on as robust a methodology as say, for example, the Endocrine Society's clinical practice guidelines. Although it does make recommendations, it neither grades the quality of the evidence supporting the recommendations nor the strength of the recommendation that's being made.

Q. Are you familiar with a report from the United Kingdom known as the Cass Interim Report?

A. I am.

Q. Can you briefly describe what that is?

A. So Dr. Cass was asked to review the provision of gender-affirming health care within the United Kingdom.

She has issued an interim report. I would summarize the main recommendations of her interim report in two regards. One is to develop a regional system of health care delivery of gender-affirming care through multidisciplinary teams. And the second recommendation is to develop -- is to augment research that's being done in the delivery of gender-affirming care. But none of her recommendation are to ban gender-affirming care within the United Kingdom.

Q. Some have characterized that report as shutting down gender-affirming care for adolescents in the United Kingdom. Is that correct?

A. I would says that that's a mischaracterization of the report. The report actually expands the provision of gender-affirming care within the United Kingdom through the establishment of regional centers. Although the current center that is delivering care is being closed, that does not represent the shutting down of gender-affirming health care within the United Kingdom.

Q. Just to be clear, did the Cass report advise restricting adolescents access to gender-affirming medical care?

A. No, it did not. It's expanding adolescents access to gender-affirming health care.

Q. Some of the State's experts rely on other

organization's views about gender-affirming medical care, such as the Society for Evidence-Based Gender Medicine, also known as its acronym as SEGM, rather than Endocrine Society and WPATH.

What's your reaction to that?

A. As we've discussed this morning, the Endocrine Society's recommendations are based on -- I'll go back a step.

So the Endocrine Society and WPATH's membership in their membership guidelines are very clear. So, for example, if you go to WPATH's website, you can see all of the members of the organization and their areas of expertise, and that the Endocrine Society and WPATH use robust methodologies to make their clinical practice guidelines.

SEGM is not clear and transparent with regard to its membership. Some of the members of its advisory board have unclear expertise relative to gender-affirming care, including an individual with a PhD in evolutionary biology and another individual with a PhD in biophysics, whose main area of research appears to be in countermeasures to chemical weapons attacks. And the recommendations that they make are not based on a robust methodology such as the grade methodology.

Q. Dr. Antommaria, you've talked about how treatment

recommendations are made in the field of medicine and the types of evidence used to support and evaluate them. You also talked about ethical principles of medical decision making and how patients and families are free to make health care decisions even in the face of risks.

To summarize, is there evidence supporting the safety and efficacy of gender-affirming medical care?

A. Yes, there is.

Q. Is the amount of evidence supporting gender-affirming medical care comparable to the amount of evidence supporting the other types of pediatric treatments?

A. The quality of the evidence supporting gender-affirming medical care is comparable to the quality of the evidence supporting many other medical treatments within pediatric health care.

Q. Is there anything about gender-affirming medical care for adolescents that warrants singling it out and taking away the care decision from families and doctors?

A. No, there is not. There's not categorically that is categorically different about gender-affirming medical care that distinguishes it from other forms of pediatric health care.

MS. NOWLIN-SOHL: May I just have one moment, Your Honor?

THE COURT: Sure.

BY MS. NOWLIN-SOHL:

Q. Just one quick clarifying question.

Earlier you mentioned -- we were talking about the report -- the study from Sweden, and you mentioned that it was a 2002 study. Is that accurate?

A. So the most recent Swedish report that I'm aware of was published in 2002 by a federal -- one of its what I'm assuming is the equivalent of a federal health care organization on making recommendations regarding the development of regional centers for the delivery of gender-affirming health care. I don't have the specific reference from -- in front of me. I would be happy to provide that to the Court if that would be beneficial.

MS. NOWLIN-SOHL: No further questions. Thank you.

CROSS-EXAMINATION

BY MR. JACOBS:

Q. Good afternoon, Dr. Antommaria. My name is Dylan Jacobs. I'm one of the attorneys with the Attorney General's office representing the defendants. I don't believe we met prior to today.

Do you treat patients with gender dysphoria within your own clinical practice? Let me clarify. Do you treat patients for gender dysphoria in your own clinical practice?

A. So I do treat patients with gender dysphoria in my clinical practice as they present with other medical conditions, but I do not treat them for gender dysphoria per se.
Q. So you do not prescribe puberty suppression medications or cross-sex hormones for minors in your own clinical practice, correct?
A. So if a patient was admitted to the hospital who was currently on medication, I would continue it during their hospitalization, but I don't initiate their gender-affirming hormone therapy or monitor the ongoing provision of that therapy.
Q. So same question with regard to psychiatric therapy. You yourself don't prescribe psychiatric therapy in the course of treating patients for gender dysphoria, right? This is not part of your clinical practice?
A. That is correct.
Q. So to the extent that you've been involved in treatments for gender dysphoria, has that been only ethical consultations?
A. So that has been in regard to the establishment of our transgender clinic in our institution. Its ongoing activities in the care of patients and then my involvement within the care of individual patients has been in regard to individual clinical ethics consultation.

Q. Outside of this clinical ethical consultations, just to be clear -- strike that.

Those clinical ethical consultations, that is the entire universe of your own clinical practice with regard to treating for gender dysphoria, correct?

A. So as a pediatrician, I don't treat patients for gender dysphoria, per se. And as a bioethicist, doing clinical ethics consultation on gender dysphoria is one of the areas in which I do clinical ethics consultation.

I don't -- I don't quite understand the question relative to -- clinical practice relative to clinical ethics consultation.

Q. I think you've answered my question, Doctor.

So you remember you testified quite a bit about the grade methodology and its use for the Endocrine Society guidelines.

Do you recall that?

A. Yes, I do.

Q. So I believe you -- so you distinguished between a strong versus weak recommendations according to the grade methodology setting that out. I believe you said that a weak recommendation under the grade methodology indicates there is a substantial minority of practitioners who had not agreed with that recommendation. Or how did you phrase that answer?

A. I apologize. I no longer have the document in front of me. The difference between a strong and weak recommendation is that the strong recommendation would be that most individuals would be expected to agree with the recommendation, and that a weak recommendation would be that, while still the majority of individuals would be expected to agree with that recommendation, a minority of individuals may not.

Q. I think you used the language in your testimony "substantial minority." Is that accurate?

A. So again, if -- I returned the document. I was reading from the document. I don't have it in front of me. And so that is -- that may be the language that I used, but I hate to commit to a specific words if I'm reading from a document without having the document in front of me.

Q. You think it's fair to say that there is a medical consensus over, say, a specific recommendation if a substantial minority of practitioners disagree with it?

A. I'm sorry. I don't believe that is the way that the grade methodology describes what a weak recommendation is. In particular, it's not a reference to other medical practitioners, but it's a reference to the individuals for whom the recommendation is being made, specifically patients. It's not a reflection of professional consensus

or lack of professional consensus.
Q. You talked about informed consent and the process for that. And I think you testified that simply having depression or anxiety doesn't mean that a person is necessarily unable to give informed consent for a medical procedure. Is that accurate?
A. Correct. There are empirical studies of individuals with mental illnesses that evaluate their medical decision-making capacity in that individuals who are diagnosed with mental illness do not intrinsically or at a higher rate lack medical decision-making capacity.
Q. But you would agree that having depression or having anxiety can impair a person's ability to give informed consent for medical procedures, right?
A. There may be -- there may be instances in which someone's depression or anxiety symptoms influence their medical decision-making capacity.
Q. Do you recall citing a study in your report in this case, and one of the authors was Wang, that measured between nine and 31 percent of patients with depression being impaired in their ability to give informed consent to medical procedures?
A. So I did cite evidence in my report. I don't remember specifically off the top of my head right now which studies I cited or the specific results of those

studies. I apologize.
Q. Do you think 31 percent of patients as a general matter being unable to give informed medical consent is a substantial number?
A. Substantial. I apologize, but it's hard for me to understand the significance of your question. If I'm seeking informed consent from an individual, I would need to perform an individual assessment of their capacity. So that general statistic isn't particularly helpful in making a judgment about an individual patient in front of me from whom I would be seeking informed consent.
Q. I think you testified earlier that you rely on the Endocrine Society guidelines in a professional capacity. Is that correct?
A. Correct.
Q. And how do you do that in terms of your clinical practice? Do you rely on the Endocrine Society guidelines during ethics consults?
A. Yes. So the Endocrine Society makes a number of recommendations, some of which have ethical implications. So it's important for me to understand the guideline and the justification for the recommendations that it's making. In particular, it makes a number of recommendations about the way in which individuals should be involved at different phases of treatment which is

important for me to understand in the context of doing clinical ethics consultation.

Q. So specifically, the Endocrine Society guidelines regarding treatment of adolescents with gender dysphoria, in your own clinical practice, you wouldn't have occasion to rely on those, would you, since you don't treat adolescents with gender dysphoria in your clinical practice?

A. So I'm sorry. Are you now referring to my clinical practice as a pediatric hospitalist or bioethicist?

Q. The former. So I'll restate the question.

In your clinical practice as a pediatrician, you wouldn't have cause to rely on the Endocrine Society guidelines because you don't treat patients for gender dysphoria, correct?

A. So you're correct that I did previously state that I do not treat patients for gender dysphoria, per se. I think it's still nonetheless beneficial for me as a pediatric hospitalist to be familiar with the treatment recommendations for individuals with gender dysphoria as I care for them with other medical conditions.

Q. Switching gears a little bit. You had a lot of testimony on the potential risks of some of the treatments that are at issue in this lawsuit. So I think you had testimony about whether puberty suppression medications

and hormonal treatments are -- present categorically different risk profiles to other endocrine treatments.

Do you recall that series of questions during your direct testimony?

A. Yes. I've testified about the potential risks of gender-affirming health care as well as their potential benefits.

Q. You mentioned specifically as to fertility there are rheumatological conditions and kidney conditions for which endocrine treatment might have impacts on fertility.

Did I summary that correctly?

A. Yes.

Q. Now, are you aware -- well, take a step back.

Would you agree with me that gender dysphoria is a psychological condition?

A. So the American Psychiatric Association currently categorizes gender dysphoria as a mental health condition, but the ICD-11 does not characterize it as a mental health condition. I believe the terminology is a condition related to sexual health.

Q. So I think we've had testimony and see if you agree that it's -- when a practitioners is treating gender dysphoria, that the goal for treatment is to alleviate psychological distress that is caused by gender dysphoria.

Is that how you understand treatment for gender

dysphoria to work?
A. That is one of the possible constructions of the goal for treatment. I don't believe that that is currently the way that SOC 8 characterizes the goal of treatment.
Q. Is there another goal of treatment besides alleviating psychological distress that you're aware of?
A. The positive construction would be promoting an individual's comfort in terms of the relationship between their gender identity and their physical body.
Q. So under your understanding of the Endocrine Society Guidelines and the WPATH Standards of Care as they apply to treatment for adolescents, so is it -- is it your understanding that psychological distress caused by gender incongruence is a necessary requirement for a diagnosis of gender dysphoria?
A. So under the DSM, a clinically significant level of dysphoria is a necessary component of a diagnosis of gender dysphoria.
Q. Would you agree with me that, when a provider is attempting to alleviate a patient's distress associated with gender dysphoria, that they're treating a psychological issue?
A. Can you help me understand what you mean by "psychological issue"?
Q. What do you -- what would you say?

A. So one's gender identity is based on one's internal sense of one's gender. And so, yes, it's addressing their psychological states.

Q. So going back to endocrine treatments, you mentioned rheumatological conditions and kidney conditions, treatments for which can impact fertility in children.

Was that your testimony?

A. It was.

Q. Are you aware of any Endocrine Society Guidelines on treatments for psychological conditions where an impact on fertility is a risk?

A. So the Endocrine Society has a number of clinical practice guidelines, only two of which are applicable to the pediatric population in which I'm familiar. So I don't know that I can generally answer your question about the comprehensive scope of the Endocrine Society's guidelines.

Q. Limit the Endocrine Society Guidelines that apply to treatments of adolescents. Other than treatments for gender dysphoria, are you aware of any Endocrine Society Guidelines regarding treatment recommendations for psychological conditions that pose a risk to fertility?

A. So the two other Endocrine Society Guidelines of which I'm familiar that apply to pediatric patients are their guidelines related to obesity and their guideline

related to the treatment of congenital adrenal hyperplasia. And I'm not aware of that either any of the treatment recommendations in either of those guidelines have negative impacts on fertility.

Q. So you also talked about surgical procedures. So one of them I think was pectus excavatum.

Did I pronounce that right?

A. Yes.

Q. So that is the treatment of the condition where the chest wall is caved in, for a colloquial description?

A. Yes. That the sternum or the central part of the chest is lower than the rest of the chest.

Q. Are you aware of any reports of patients having the surgery complication-free and later regretting having the procedure?

A. So it's hard for me to answer that question because I haven't reviewed the literature for that particular outcome.

Q. So the answer is, sitting here today you're not aware of what I asked?

A. So sitting here today, I'm not aware of any reports of regret, which is not to say that they don't exist in the literature.

Q. So same question with gynecomastia. Assuming surgery is complication free, are you aware of reports of boys

later who regret that they had gynecomastia surgery?
A. So, again, I didn't review literature for that particular outcome, so it's hard for me to answer your question. But as I sit here today, no, I'm not aware of individuals who had uncomplicated surgery who regret undergoing that surgery.
Q. Moving on to the discussion of FDA approval. As you understand the FDA approval process, it attempts to ensure the safety and efficacy of a drug. Is that an accurate description of what that process is for?
A. So the FDA approves both drugs and devices, but relative to both drugs and devices, it's making a determination of the safety and efficacy. I think it's important to say that safety doesn't mean that there are not adverse effects of either a drug or device, but that the benefits of the drugs or device outweigh the potential risks.
Q. Would you describe the FDA approval process for drugs as rigorous?
A. So the FDA approval process for drugs generally requires two randomized control trials.
Q. You've testified that the medications used and the treatments at issue in this lawsuit are all prescribed off-label when they're being prescribed for gender dysphoria, right?

A. Correct.
Q. And they're able to be prescribed off-label because the medications have been FDA approved for other indications in the past, right?
A. That is correct, but, for example, the approval of GnRH analogs for the use of central precocious puberty isn't based on two randomized controls trials because there are not randomized control trials of that condition.
Q. So this may be, I don't know, a wild assumption, but try and assume with me that all the medications at issue here, so are GnRH agonous, testosterone, estrogen, progesterone, androgen blockers, assume for the purpose of this question that they never been FDA approved. You can't testify, can you, that based on the evidence you've reviewed about the safety and efficacy of these drugs that you know they would get FDA approval if they had to go through that process for the indication of treatment for gender dysphoria, can you?
A. Can you restate your question, please?
Q. So assume -- I'll get my assumption out -- that none of the medications that were -- have been discussed during the course of this trial had received FDA approval. And I realize they have, but assume with me that they have not. Can you do that?
A. I think that's a very different world than the world

in which we're living so I think it's hard for me to make that assumption given that estrogen and testosterone have been utilized since the '50s.

Q. Sure. I recognize this may be a wild assumption, but I'm asking you to make the assumption for this hypothetical.

Can you agree to do that for me?

A. I can try.

Q. So you've testified that you are familiar with the literature regarding the safety and efficacy of treatments for gender dysphoria using these medications, right?

A. Correct.

Q. Can you testify that, based on your knowledge of the available literature on the safety and efficacy of these drugs, that, if companies were to seek FDA approval for the indication of treating gender dysphoria, that they would receive that FDA approval?

THE COURT: Mr. Jacobs, I don't understand the whole context of the question. You're telling -- you're asking him to assume that the FDA never approved testosterone but would they approve it now if it was submitted?

MR. JACOBS: Basically, Your Honor. The premise of my question is, if testosterone had never been approved for medical use and pharmaceutical companies were trying

to get it approved today for treatment of gender dysphoria, whether -- based on the evidence we have about safety and efficacy, whether the FDA would approve it for that indication.

THE COURT: How can he speculate as to that?

MR. JACOBS: I don't know. Maybe he can't, but that was my question.

THE COURT: I guess I understand your question now, but it seems to me you're asking me, would a drug be approved that we know is approved as of now for general use, would it be approved if asked to be approved -- go ahead. If you can answer that question, sir, go ahead.

THE WITNESS: It's impossible for me to answer your question because the evidence that we currently have available is only available because the medication is able to be used for off-label uses. In order to -- for an unapproved drug, you have to go through a fundamentally different process in order to submit a -- to be able to get permission to use that medication in a clinical trial.

So the world that you're describing in your hypothetical is a world in which the evidence that we currently have doesn't exist, so it's hard to speculate about what the outcome would be because the evidence we have wouldn't exist if these medications weren't approved for other indications. It's such a foreign world that

it's not possible to speculate what the FDA would or would not have done.

BY MR. JACOBS:

Q. You talked a little bit about informed consent, how -- what the Endocrine Society Guidelines and the WPATH Standards of Care have to say about informed consent for a treatment for gender dysphoria.

Do you recall that testimony?

A. I do.

Q. Do you have any specific knowledge of what providers in Arkansas who are treating adolescents with gender dysphoria do in terms of getting informed consent from their patients?

A. Can you state that question again, please?

Q. Do you know whether -- I'll back up and say this.

Do you know whether the providers in Arkansas who are providing treatments for gender dysphoria are following the Endocrine Society Guidelines or the WPATH Standards of Care?

A. I have no firsthand knowledge about individual providers within Arkansas, although the norms and standards are not unique to Arkansas.

Q. So same question about informed consent in particular. You don't have any firsthand knowledge of how providers in Arkansas providing treatment for gender

dysphoria go about getting informed consent from their patients, right?
A. So the ethical standards for obtaining informed consent are the same in Arkansas as they are throughout the US, but, no, I've not observed individual providers in Arkansas seeking to obtain informed consent from their patients.
Q. I think you talked about a few other ways, I guess, I'd summarize it as addressing provider misbehavior or malpractice. I think one of those was medical review boards. Do you recall what the other options you mentioned in your direct testimony were?
A. So I would characterize it as unprofessional conduct or malpractice, and there are mechanisms within health care organizations to address unprofessional behavior, as well as within state medical boards, and that malpractice is handled within the legal system.
Q. So for medical board review, would you agree with me that a medical board taking action against a provider generally happens after the provider has taken an action that may be unprofessional or unethical?
A. Yes. Reports to the medical board would be reports of past behavior which was unprofessional.
Q. Same thing for a hospital's medical review board; that the behavior would be reported after it happened and

any interventions would occur after the behavior happened necessarily, right?
A. So actions regard to an individual provider would be after their behavior occurred. The potential threat of action on behalf of the -- by the state medical board is likely to influence prospective behavior and there are other norms and expectations that influence prospective behavior on the part of providers.
Q. And same question with regard to medical malpractice lawsuit. In your experience can you sue a medical provider for something they haven't done yet for malpractice?
A. No. A lawsuit would be filed after an accusation, but the threat of a malpractice lawsuit has ongoing affect on provider behavior before they engage in behavior.
MR. JACOBS: If I can have a moment, Your Honor. I think we're --
THE COURT: Sure.
BY MR. JACOBS:
Q. So I think you said in your testimony that the use of a medication off-label is not -- does not necessarily make that an experimental use of the medication, correct?
A. Correct. The implication that is drawn in many of the criticisms of the gender-affirming health care is the implication that, because the medications are being used

off-label, that it is somehow inappropriate or investigational.

Q. But in general an off-label use of a medication could in the abstract be experimental, right?

A. So there are --

MS. NOWLIN-SOHL: Objection. Vague.

MR. JACOBS: If he thinks it's vague, he can clarify.

THE COURT: I'm just reading my real-time.

MS. NOWLIN-SOHL: He asked in general and in the abstract --

THE COURT: I'm reading it.

Give it a whirl.

THE WITNESS: So there certainly are clinical trials of off-label uses of medications, but when a clinical trial of the off-label use of a medication is being performed, it's very well circumscribed as research and would require institutional review prior to approval.

MR. JACOBS: I think that's all I've got, Your Honor. Pass the witness.

MS. NOWLIN-SOHL: No redirect, Your Honor.

THE COURT: Go be free.

THE WITNESS: Thank you, sir.

MR. STRANGIO: Your Honor, our next witness is parking his car, so we're trying to move this along. That

was our last expert, but we do have a fact witness coming in. So if we could --

THE COURT: Who is your next witness?

MR. STRANGIO: Our next witness Donny Ray Saxton.

THE COURT: Donny Ray?

MR. STRANGIO: Yes.

THE COURT: Okay.

MR. STRANGIO: We just --

THE COURT: We'll await his arrival.

MR. STRANGIO: Thank you very much.

(Pause in the proceedings.)

MS. ECHOLS: Your Honor, our witness is here.

THE COURT: Good afternoon.

THE WITNESS: Good afternoon.

THE COURT: What's your name?

THE WITNESS: Donny Ray Saxton.

THE COURT: Do you swear to tell the truth?

THE WITNESS: Yes, sir.

THE COURT: Have a seat.

MS. ECHOLS: Your Honor, the defendants have agreed to stipulated Exhibit Number 6.

THE COURT: Defendants' 6?

MS. ECHOLS: Plaintiffs' 6.

THE COURT: All right.

MS. ECHOLS: May I approach, Your Honor?

THE COURT: Sure. I think it's already in, but go ahead.

DONNY RAY SAXTON, PLAINTIFF WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. ECHOLS:

Q. Would you please state your full name for the court?

A. Yes, ma'am. My name is Donny Ray Saxton.

Q. Do you have children?

A. Yes, ma'am.

Q. How many children do you have?

A. There are five of them. There's four biologicals and then baby sister that I've helped raise.

Q. Can you say your children's names and ages?

A. Yes, I've got Keely, 22. Parker is 17. Abigail is 16. Emma is 15. And little Lana Tackett is 14.

Q. Do you have sole custody of Parker and his younger sisters?

A. I have custody of Parker, Abigail and Emma. Lana lives with her biological aunt.

Q. How long have you had sole custody of the children?

A. Since my divorce, about ten years ago or so.

Q. As custodial parent, are you tasked with making decision for the children?

A. Yes, ma'am.

Q. What grade is Parker in?
A. He's a senior this year.
Q. Can you describe Parker?
A. Yeah. Now, he's a cool kid. He loves his choir, his friends, his art, and he loves birthdays. Everybody's birthday -- if you got a birthday, he's the man.
Q. Is Parker involved in activities?
A. Yes, he is. He's a -- he is member of a program called EAST that does some volunteering around in our community, he's active in choir, and also in a special choir through his school.
Q. Does Parker have plans for after high school?
A. Yeah. I'm actual happy to say that he wants to be a social worker.
Q. What was Parker's assigned sex at birth?
A. He was assigned female.
Q. Does Parker identify as female today?
A. No, ma'am.
Q. What is Parker's gender?
A. He's male.
Q. When did Parker tell you he was male?
A. He come out to me in the end of 2019.
Q. How did Parker tell you?
A. Through a letter, a pretty heartfelt letter explaining his situation, his inner feelings, and it was

-- it was -- it was a long letter, but it was a good read. And that was when he explained to me that he didn't want to be referred to in the feminine and to please acknowledge that.

Q. What did you think when you read the letter?

A. At that point, a lot of things came clear. You know, that explained a lot. So that gave us a stepping off point so I was -- I was pretty relieved and hopeful.

Q. Were you surprised?

A. I wasn't really surprised, no, ma'am.

Q. Why not?

A. Well, he's already -- he'd already started dressing more masculine, cut his hair off. I had been finding multiple sports bras put together. I assumed was, you know, to hide his curves. So it wasn't really surprising.

Q. You testified that Parker was involved in choir. What does he wear for choir?

A. Oh, he wears tuxedo. Yeah, that's pretty cool.

Q. Can you explain how that came about?

A. Right. So in ninth grade, he decided he wanted to be in choir. He had worked alongside some of the other students in choir and he was in band at the time. Well, he decided that he wanted to try out for choir. And as they went along, he soon realized that he would be needing to wear a dress to continue, and so we had to address

that. That was a big deal.
Q. What was Parker's mood and behavior like at home before he came out to you?
A. It was dark, anxiety, depression. He didn't -- I mean, he didn't socialize. He wouldn't answer his phone for his best friends, you know, a lot of times. It was real troubling to watch.
Q. When did you start seeing this behavior?
A. Right around puberty. It was a -- it was a fairly rapid decline if I'm being honest. It was alarming.
Q. How did Parker react to his changing body?
A. He tried to hide. As I said before, the multiple sports bras, baggy clothing, everything was a hoodie. Yeah. Short hair.
Q. How did he respond to his reflection?
A. He would -- he would oftentimes cover the -- cover the mirror. At that time, the bathroom that he was using to get out of the shower, there was a large mirror there so he would stickpin a towel over where he didn't have to see his reflection when he got out.
Q. Did he like using the restroom in public?
A. He hasn't used a public restroom since preschool.
Q. How did that impact Parker and your family?
A. We, obviously, had to make accommodations for that on any trips. You know, anything over three or four hours

was, we would have to spend the night. If it's somewhere we'd been before that had, like, a family restroom or something, it had to been an emergency, but pretty much we had to spend the night or plan a day trip.

Q. What, if anything, did you do to address these behaviors you were seeing in Parker before he came out?

A. Before he came out. Yes, we -- I had spoke to his guidance counselor at school, and that's when we were referred to Pinnacle and we started seeing a therapist there.

Q. Did Parker also see a psychiatrist at Pinnacle Pointe?

A. Yes. After about three or four months.

Q. What was the psychiatrist's name?

A. That was Dr. Conley.

Q. Did Dr. Conley prescribe any medications for Parker?

A. A little ways down the road, yes, Dr. Conley prescribed Zoloft for anxiety, depression.

Q. After Parker came out to you, what did you do to support him?

A. That's when we -- you know, of course, I let him know that I was there for him and that, you know, I loved him and he meant the world to me. And then I wanted -- you know, we needed to figure out -- at that time, I didn't have a clue what transgender meant outside of what we see

in the news and everything. So I was -- I was pretty much -- had to wake up to that, so.

Q. Did you go to counseling with Parker?

A. Yes. We -- that's when we started talking to the counselor about that and made, you know, adjustments because, like I said, we actually had somewhere to go from, you know, as compared to before.

Q. Were you referred to the Gender Spectrum Clinic?

A. Not immediately, but, yes eventually.

Q. Who made that referral?

A. That would have been Dr. Conley.

Q. When was your first contact with the Gender Spectrum Clinic?

A. That was in June of 2020.

Q. And who did you speak with initially?

A. That was when I we spoke with Kristin -- Kirsten. I'm sorry.

Q. Did Kirsten do an assessment?

A. Kirsten talked to us about what they did down there and actually set us up, you know, with an appointment and said, you know, that might be somewhere that we could go, because at that time we had no supportive reference. All we had was what was inside of Parker.

Q. When was Parker's first visit to the clinic?

A. That was about a week later.

Q. What happened at that visit?
A. That's where we met Dr. Hutchison and Sean, the nurse at the time. Sweetest thing. We met the chaplain. We met the entire staff. Of course, we met face to face with Kirsten that day. It was -- it was -- they were very, very open and hospitable to us and that meant a lot.
Q. Did Parker meet with Dr. Hutchison that day?
A. Yes, ma'am, he did.
Q. Did you discuss any specific treatments with Dr. Hutchison that day?
A. We talked about -- we went further into what the Gender Spectrum Clinic did and we talked about, you know, some things that was going on. Parker described, you know, that he had a lot of anxiety around his menstrual cycle, around his period. So we addressed that.
Dr. Hutchison said that, you know, what she felt and that -- of course, that maybe we should address the menstrual thing first so we could advance with a clear head, in other words.
Q. Did Dr. Hutchison explain what treatment that she would recommend to stop the period?
A. Yes. At that point, she said that Depo-Provera had been pretty successful and that a lot of times that was the furthest that, you know, step that they had to take there.

Q. Did she explain the potential risks and benefits to the use of Depo-Provera?
A. Yes, ma'am, she did.
Q. What, if any, concerns did you have about the Depo-Provera?
A. I really didn't have any. My younger daughter had been on Depo since 12 so it had worked for -- it served its purpose.
Q. Did you consider the use of testosterone at that time?
A. No. We talked about it, but at that point, like I said, Dr. Hutchison said, you know, that the program was -- wasn't about that kind of stuff, that it was more about treating -- finding the -- finding the source and treating from there, so.
Q. Were either you or Parker ready to take that step at that time?
A. For me, that was -- that was no. No. I was still new to understanding. I was researching for my child, so.
Q. Was Parker prescribed Depo-Provera during that visit?
A. Yes, he was.
Q. Did the Depo-Provera help Parker?
A. It really did help. It helped the -- there was some really low lows among the depression. The depo kind of leveled that off, but it was -- you know, it was -- it was

what it was.
Q. Did the Depo-Provera fully address Parker's gender dysphoria?
A. No. Unfortunately, no.
Q. How do you know?
A. We still -- we still had the depression, the social anxiety, a lot of compulsive bathing and hand washing, the reflection -- the aversion to his reflection. There was several things.
Q. Has Parker visited the Gender Spectrum Clinic since that first visit in 2020?
A. Yes.
Q. How frequently does he attend?
A. That's about every three months.
THE COURT: Mr. Saxton, I know you're anticipating what her questions are, but my court reporter is taking down everything y'all say. So if you can wait for her to finish before you start to help her sort things out.
THE WITNESS: Absolutely.
THE COURT: Thank you.
BY MS. ECHOLS:
Q. What happened at your regular visits?
A. That was when -- that was when we'd usually see Dr. Hutchison. We kind of talk about how we were feeling,

you know, and if everything was working. Of course, the routine blood pressure, this and that. And we'd just talk and have a great visit, and she'd always ask us if there's anything we -- else that we needed, that she could do for us.

Q. And did Parker receive his Depo-Provera shots at those visit?

A. Yes, ma'am.

Q. Did there come a time when Parker expressed interest in taking testosterone?

A. Yes, ma'am. He expressed interest probably three or four months after the first visit. After Depo had really started working and he was able to think more clearly, I believe. He started researching testosterone and he had a pretty comprehensive assessment of it that he brought to me when he made his case.

Q. Did you agree that testosterone was appropriate for Parker?

A. After all the counseling and talking to everyone, I really wanted to give it a try. I really thought that that was where we needed to be.

Q. What happened next?

A. That was when we actually talked to Dr. Hutchison on the phone and that's -- it was kind of at the height of COVID. A lot was going on with that. That's when she

said we will talk about the next time that you come in.
Q. And when was the next scheduled appointment?
A. That was in April of 2021.
Q. Who were you scheduled to see in April of 2021?
A. We were going to go ahead and get a psychological exam was what we were anticipating.
Q. And did you understand that was a step before Parker could begin the testosterone treatments?
A. Yes.
Q. Did Parker see a psychologist at the Gender Clinic?
A. Yes, ma'am.
Q. Did the psychologist confirm Parker's diagnosis of gender dysphoria?
A. Yes, ma'am, she did.
Q. What, if anything, else was required before Parker could begin testosterone?
A. Sure. Of course, there was the pregnancy test that's always, you know, no matter what. There was blood work, of course, the psychological evaluation. And we had to sit down and make sure that we talked it through so that we knew everything that testosterone entailed.
Q. Would you talk that through with Dr. Hutchison?
A. Yes.
Q. Did you and Parker make the decision to begin testosterone?

A. We did.
Q. And when was that decision made?
A. That was May 27 of 2021.
Q. Was that at a regularly-scheduled appointment?
A. It was.
Q. Before moving forward with the testosterone, did you become aware of House Bill 1570?
A. We did. That was while we were waiting on that appointment to see the psychologist.
Q. What was your understanding of what the bill would do?
A. My understanding was that it would shut down any of that gender-affirming care that Parker had been receiving or was anticipating.
Q. Was Parker aware of House Bill 1570 at that time?
A. Yes, he was.
Q. How did Parker respond to the legislation?
A. His words were -- I'm not sure if I'm supposed to say what he says, but he --
THE COURT: I suspect we've heard it all before.
THE WITNESS: I appreciate that.
He said, I feel like we've done all of this for nothing, and he went to a -- right back to the deep, dark place he had been.
BY MS. ECHOLS:

Q. What kind of behaviors were you seeing at that time?
A. It's really hard to say because he was so withdrawn and isolated. He was broken.
Q. What, if anything, did you do?
A. I reassured him and told him that we would figure out whatever we needed to figure out and that don't give up. I started sleeping on the couch, you know, as close to him as I could.
Q. Why did you think that was necessary?
A. Well, I just didn't know. I mean, he's a loving soul, but you never know when it's someone that's that far down. You just really don't. You worry a lot.
Q. Were you afraid he would hurt himself?
A. I was -- I was very fearful of that.
Q. Did you do anything else to help keep him safe?
A. Everything I could. I mean --
Q. Did you seek additional treatment for him?
A. We did. We went back to see Dr. Conley. That's when he got on Prozac, you know, and that was to him he -- he didn't want to do that, but that's what we did.
Q. Did you keep your May 2021 appointment at the Gender Spectrum Clinic?
A. You bet we did.
Q. What, if anything, happened at that appointment?
A. That's when we actually started testosterone. We had

official diagnosis, we went over everything, and we started testosterone that day.
Q. Did Dr. Hutchison discuss the potential risks and benefits of testosterone with you and with Parker?
A. Extensively, yes.
Q. Did Dr. Hutchison explain the potential risks to Parker's fertility?
A. Yes, she did.
Q. Did Parker have any concerns about that?
A. Parker has always believed that there's lots of ways to make a family, so he thought about that for almost a year. So we're good.
Q. After receiving the information from Dr. Hutchison did you and Parker still want to proceed?
A. Yes, we did.
Q. Can you describe how taking testosterone has affected Parker?
A. He is a new person, a completely -- a complete turnaround of the broken, depressed, anxious, shell that he was before testosterone. It's amazing. Truly amazing.
Q. Does he have more confidence than he did before?
A. He's got huge confidence, almost too much at times, but that's good. He's kind like his old dad, so it's good.
Q. Can you give some examples of his increase in

confidence while taking the treatments?
A. One big thing was -- that really stands out to me is him volunteering and being selected to read some of the names of the fallen first responders at the 911 memorial this year. It was a pretty good crowd and he was really confident and really his voice was strong. I mean, he's my hero.
Q. Do you think he would have been able to do that without the treatment?
A. He wouldn't have considered it.
Q. Who do you believe was in the best position to make decision regarding Parker's treatment?
A. That would be myself, Parker, and the medical community.
Q. Where do you live, Mr. Saxton?
A. I live in Vilonia, Arkansas.
Q. How long have you lived in Vilonia?
A. I've lived there 35 years. My kids have lived there their entire life.
Q. How are you employed?
A. We own a small plumbing company.
Q. Who is "we"?
A. Ma'am?
Q. I said, who is "we"? Who owns the plumbing company?
A. That would be me and my parents.

Q. How long have you and your parents operated the plumbing business?
A. It was founded 31 years ago. We bought the first permit Vilonia ever issued.
Q. Are you and your family involved in the community?
A. Holler if you need us.
Q. Do you have any family outside of Arkansas, Mr. Saxton?
A. I have one daughter, Keely. She just got her bachelor's at University of Oklahoma.
Q. Do your children attend school in the Vilonia community?
A. Yes, ma'am, they do.
Q. Do they have friends there?
A. All of their friends are there.
Q. Are they involved in any school activities?
A. Choir for Parker. Band for Abigail. She is the middle child. She has that middle child thing. Then Emma is fast tracking to a degree in construction scientist -- science through a pathways program.
Q. Has your family discussed what you would do if Act 626 goes into effect?
A. Yes, ma'am. That was a hard talk.
Q. What would you do?
A. Unfortunately, we got together and we're a family.

So without Parker, we're not a family. So we'd have to -- we'd have to pick up and find somewhere that we could have our -- we could have Bro.

Q. Would your parents be able to operate the business if you left the state?

A. Not at this point, no, ma'am.

Q. Could you financially support your family if you had to move outside the state?

A. It would be a struggle.

Q. How do you feel about the prospect of leaving Arkansas?

A. I don't want to leave Arkansas. This is home. This is home and we're from a small town. They've transitioned with us, you know. They accept us. They welcome us in. We're not guaranteed that anywhere else. So I'm thankful that we are where we are, but if we had to, we would find -- we would find our place.

Q. What do you think would happen to Parker if gender-affirming care was not available to him?

A. I'm not going to think about that. I just won't.

MS. ECHOLS: Pass the witness.

MR. JACOBS: Nothing from us, Your Honor.

THE COURT: You may step down.

THE WITNESS: Thank you, sir.

MS. ECHOLS: Your Honor, our next witness will

be Aaron Jennen.

THE COURT: Swear to tell the truth, sir?

THE WITNESS: Yes, sir.

THE COURT: Have a seat.

AARON JENNEN, PLAINTIFF WITNESS, DULY SWORN

DIRECT EXAMINATION

BY MS. ECHOLS:

Q. Would you please state your full name for the Court?

A. Aaron Jennen, A-a-r-o-n J-e-n-n-e-n.

Q. Are you married?

A. I am.

Q. What is your spouse's name?

A. Lacey, L-a-c-e-y.

Q. How long have you and Lacey been married?

A. 22 years.

Q. Do you and Lacey have any children?

A. Yes. We have three children.

Q. What are your children's names and ages?

A. My oldest child is Parker. She's 17. My -- I'm sorry. Sabrina, she's 17. My middle child is Parker, she's 14. Sorry. And my youngest is London, she's 11.

Q. You mentioned you have a child Sabrina. What grade is she in?

A. She's a senior.

Q. Can you describe Sabrina?

A. Yeah, she's beautiful. I mean, I'm fairly confident that she has the most envied hair in this courtroom, if not the courthouse. She's incredibly smart, gifted. She loves hanging out with her friends and the outdoors and especially going hikes and picnics and -- yeah, she's amazing.

Q. Is Sabrina involved in any activities?

A. Yes. She is -- of course, she goes to school. She is a DM for a Dungeons and Dragons group amongst her friend and, yeah, loves her community.

Q. Does Sabrina have plans to attend college?

A. Yes, she does.

Q. What does she plan to study?

A. Right now it's either nursing or art.

Q. What was Sabrina assigned sex at birth?

A. Male.

Q. Does Sabrina identify as male today?

A. No.

Q. What is Sabrina's gender?

A. Female.

Q. When did Sabrina tell you she was female?

A. It was the day after her birthday. A few weeks before her birthday, she had told us that she had a surprise for the family and not to look at our bank account. And that's not in Lacey's nature to not look at

a bank account when somebody tells her not to. So she did and noticed a purchase from pridepalace.com, which we were unfamiliar with at the time, but then realized that was a company that sold pride flags online. And so when we saw that and with her saying I have a surprise for the family, you know, initially we thought, maybe she's going to come out to us as gay. We really didn't know, but -- so we just waited for her to tell us.

And then the day after her birthday, she just came to us and said, mom, dad -- we're in the -- kind of the living area of our house. And she came up to us and said, mom, dad, I got something I need to tell you. I'm trans.

And I knew that was a big parenting moment. And I didn't want to mess it up. And I just told her that I love you, I support you no matter what, never do anything or say anything to change that, and asked her, you know, how she came to that.

First, she explained that she had this big production planned that she had ordered this flag and that she was wanting to do this big reveal, but the -- it was COVID and so -- it was July of '20 and the shipping was delayed and so she got tired of waiting on the delivery and couldn't just wait anymore.

So then she explained that she'd always felt like there was something different about her, that she never

really knew what it was, but she had time to just reflect and think about it. And she later told us about how she was playing Animal Crossing at the time, which was kind of popular if everybody remembers that, and she changed her character from male to female and just said she felt overwhelming sense of joy and started to realize her identity.

Q. What was your reaction?

A. I didn't show it, but at first I was -- I was surprised. Sabrina was not a -- never had expressed interest in playing with dolls or wearing feminine clothes or anything like that, but there were other things with hindsight that I look back on now that -- that I thought were quirks that I now recognize as probably signs of her dysphoria. She had always insisted on wearing a shirt when going swimming, which I know is common among kids who have issues about their body, but she was very, very fit. She was black belt in martial arts. She was very, very fit. She had extreme anxiety about using the bathroom in the public to the point where sometimes she would insist on -- she would be in the middle of something and she would insist on us going home so she could use the bathroom, and we would accommodate. She hated having her picture taken to the point where she would, you know, visibly anxious about having her picture taken, things of

that nature at the time that we chalked up to quirks, but with the benefit of hindsight realized what she was experiencing.

Q. Did you have concerns when she told you?

A. Yes. Initially, my concerns were, does she know what that really means. She was 15 at the time, just turned 15. Did she really know what that means. I wondered, is this -- is this something she's trying on and feeling out and trying to see if this is who she is. Is this a phase?

And then my overriding concern though was her safety because I knew this society, especially in the state we live in, that there's not a lot of understanding around transgender identities and I was concerned about her coming into contact with people outside her circle of safety and what their reaction would be. And then especially among her peers, you know, whether or not she would be bullied or harassed or worse.

Q. How did you address your concerns?

A. Well, the first thing Lacey and I did after we spoke with Sabrina is, she and I retreated to our bedroom and talked about what she just told us. And I think like most parents do these days, you Google it, right. So first thing I did was Google, you know, what do you do when your child comes out to you as trans. I think that's literally what I typed in. And the -- everything we were reading

basically said, one, is love and support your child and, two, seek out mental health professionals.

Q. What steps did you take as a family to support her?

A. First thing we did was -- she had told us when she came out to us, when she sad, mom, dad, I'm trans and, by the way, I would like for you to call me Sabrina and use she/her pronouns. So first we adopted that in our household.

We reached out to a mental health professional and scheduled an appointment. She'd also, when she came out to us, announced that -- we had just moved from Fort Smith to Fayetteville, and she made -- she was adamant about starting the new school year as Sabrina.

So in addition to making that appointment with the mental health professional, we reached out to the school counselor to find out what we needed to do to make that happen.

Q. How did Sabrina express her gender identity after coming out?

A. Initially, it was growing out her hair, using the name Sabrina. I think she was still at the time work-shopping a middle name, and she ultimately settled on Faye. She also used -- changed her pronoun usage. And, you know, we asked her, hey, do we need to buy -- go shopping for different clothes? What do you want to do?

And, no, she said that she thought at first she wanted to dress more androgynous and that wanted to, you know, wait to start dressing more feminine until her hair grew out and she was more, as what she called it, passing.

One of the things we did do though is, Lacey took her shoe shopping and she bought a pair of very I guess -- white feminine Doc Martens that she was extremely excited about. Was good memory for them.

Q. Has Sabrina legally changed her name?

A. Yes.

Q. Who helped her do that?

A. I did that.

Q. Are you an attorney?

A. I am an attorney.

Q. Has Sabrina been diagnosed with gender dysphoria?

A. She has.

Q. When did that happen?

A. Shortly after her first appointment with her therapist. We had an initial appointment. It was virtually because of COVID in which there was a session -- a portion of the session was all of us meeting together and then another part of the session was Sabrina meeting with her therapist separately. After that session, she was diagnosed with gender dysphoria as well as major depressive disorder.

Q. And you said her therapist. Who was her therapist?
A. Katie Campbell.
Q. And is Sabrina still seeing Ms. Campbell?
A. She is.
Q. How often does she see Ms. Campbell?
A. Currently, she's seeing her every other week, although she had an extra appointment last week just because she knew we would be here.
Q. Has Sabrina's gender dysphoria diagnosis -- excuse me.

After Sabrina's gender dysphoria diagnosis in July of 2020, did you seek any medical consultation or treatment for her?
A. Eventually. After about three months of meeting with Ms. Campbell, she advised that she thought Sabrina might benefit from hormone therapies and gave us the name and the number of a doctor in Fayetteville that provided that treatment.
Q. And what name did she give you?
A. Dr. Stephanie Ho.
Q. After you obtained that information, did Sabrina immediately visit Dr. Ho?
A. No. If it had been up to Sabrina, she would have. But, you know, for Lacey and I, it was one thing -- it was -- this was still new. It was like when she first came

out to us, you know, she was like, I'm Sabrina, I want to be she/her pronouns, I'm going school as Sabrina. We had to tell her, whoa, you know, you've been living with this and sitting with this for a while. We've been living with this like five minutes now. You got to give us a chance and time and space to catch up to you.

So when October rolled around and after an appointment, the recommendation for -- to consider hormone therapies was made. Just like before -- like with her wanting to go ahead and start her social transition, she was ready to medically transition, but we told her, we've got to, you know, do some more research. This is -- it's one thing to socially transition, to change your name and how you dress and those kinds of things. It was, for Lacey and I, a medical transition was something a little more serious that required a little more deliberation and gave us a little more pause and hesitation.

Q. Did you ultimately schedule a visit for Sabrina with Dr. Ho?

A. We did.

Q. When was that?

A. It was in December of that year.

Q. What happened during Sabrina's initial visit?

A. During the initial visits, Sabrina met with a member of Dr. Ho's staff and outlined kind of what their practice

and protocols were, answered some questions -- initial questions, as well as provided us -- went over the risks and benefits of the -- of the treatments, as well as provided us literature in written form regarding those risks and the benefits, as well as the protocols that they use which I believe were from the University of San Francisco.

Q. Did you and your wife review the materials together?

A. Yes. That night.

Q. What was your reaction to Sabrina undergoing hormone treatment for her gender dysphoria?

A. It was -- initially it was, again, something that we gave a lot of discussion about between she and I. Like we did when she came out to us, something we Googled a lot and read a lot about. It is something that we took a lot of time, thought, and prayer in deliberating before making that decision.

Q. Did Sabrina see Dr. Ho in January of 2021?

A. Yes. After the initial appointment and after visiting as a family and discussing this over the Christmas break when she was at home, we ultimately made the decision to schedule a followup appointment to get a few more questions answered and -- yeah. So that would have been in January.

Q. Did you discuss any specific treatments at that

appointment with Dr. Ho?
A. Yes. She explained that if -- if Sabrina started therapy, that the therapy would be a regimen of testosterone blocker as well as estrogen coupled with routine monitoring of her blood levels.
Q. Did Dr. Ho explain how the hormone therapy worked?
A. Yes.
Q. Did Dr. Ho explain the potential benefits and possible risks and side effects of treatment with you that day?
A. Yes.
Q. Do you and your wife make medical decisions for your three children?
A. We do.
Q. Did you and your wife make the parental decision in consultation with Dr. Ho to provide hormone therapy?
A. Yes, we did.
Q. Did you consent to Sabrina receiving hormone therapy?
A. We did.
Q. As a parent, was this experience typical of your experience as consenting to medical treatment for your children?
A. Yes. We had children who had adenoids removed and tubes put in their ears, and it was a similar process to those medical procedures.

Q. What was Sabrina prescribed that day?
A. A testosterone blocker that begins with an S, and I can't remember off the top of my head now, but I think it's been mentioned during the course of this trial, as well as estrogen.
Q. As Sabrina visited Dr. Ho since January of 2021?
A. Yes. Routinely.
Q. How frequently does she return to see Dr. Ho?
A. It's approximately every three months to monitor her dosages. Prior to those appointments, she has blood drawn and lab tests run to monitor for the things that they monitor for, make sure that everything is safe and healthy. And once those results are in, she has a followup visit during which they go over the results of the testing as well as asked her about the primary goal of how she's feeling regarding the stress of her dysphoria.
Q. How is Sabrina doing now?
A. She's doing great. She -- her dysphoria seems to be almost entirely alleviated. She's very happy for the most part. She still has some struggles related to her diagnosed depression and school stress, but as it come to her dysphoria, she loves having her picture taken. She takes selfies all the time. She drawings self portraits quite a bit. She doesn't mind having her picture taken. Not only that, she smiles when she has her picture taken,

which is nice. Yeah.
Q. What is most noticeable about the changes in Sabrina since she started the hormone therapy?
A. When she came out to us -- when she first came out to us and told us that she was trans, at that time she had just a very visible appearance of joy on her face just telling us that. A lot of her issues that she had prior to coming out to us and as she socially transitioned began to resolve. I would say, once she started hormone therapy, the improvement, as I would say, was amplified to the point that she is how she appears today.
Q. Would you describe her as confident?
A. Very. She's very confident, so much so that she put her name in the hat for homecoming queen this year.
Q. Do you ever question your decision to consent to hormone therapy for Sabrina?
A. At the time we made the decision, I felt that we were -- I thought we were making the best decision that we could based on the information we have. And I would say today with hindsight, I now know that was the best decision.
Q. How long has your family lived in Arkansas?
A. My wife and I have both lived here all our life as well as our children.
Q. How long have you been in Fayetteville?

A. Since April of 2020.
Q. What is your current job?
A. I'm currently an assistant United States attorney for the US Attorney's Office in the Western District of Arkansas.
Q. How long have you worked as an attorney for the government?
A. For the federal government has been since 2014. Prior to that, I was a deputy prosecuting attorney in Sebastian County for almost a decade, and before that I was a child support -- I was a staff attorney for the Office of Child Support Enforcement.
Q. Are you and your family involved in any community organizations?
A. Yes. My wife is the chairman of the Urban Forestry Advisory Board for the City of Fayetteville. I'm a board member of the Transgender Equality Network in northwest Arkansas. And yeah.
Q. Other than your wife and three children, do you have any family in Arkansas?
A. Yes. My mother and stepfather and their daughter, my step-sister, all live in northwest Arkansas. My sister and her husband and their children, my nieces and nephews, live in northwest Arkansas. My brother and his partner and their children live in northwest Arkansas. My

brother-in-law and his wife and children live in northwest Arkansas. My in-laws live in northwest Arkansas. Lacey's -- my grandparents are deceased, but Lacey's grandmothers both live here in Arkansas.

Q. So pretty much everyone?

A. Yes. Our entire -- I guess cousins, uncles, aunts, everybody lives here.

Q. Do your children go to school in Fayetteville?

A. Yes. All three of them attend Fayetteville schools.

Q. Do they have friends there?

A. Yes.

Q. Are they involved in school activities?

A. Yes. Parker is a member of the freshman cheer team at the high school as well as on the wrestling team. London is on the yearbook club.

Q. Are you aware of Act 626?

A. I am.

Q. What is your understanding of what Act 626 would do if it goes into effect?

A. It would ban medically-necessary lifesaving care for transgender minors.

Q. Does that concern you?

A. Yes.

Q. Why?

A. There's the overriding concern which I think has been

communicated during the other witness's testimony of the harm it would cause to the transgender minor population as a whole. But for our family specifically, I'm concerned about the impact it would have on Sabrina.

Q. Could you explain that more?

A. Sure. First, I can tell you that with the success that the treatment has had with Sabrina, that her not receiving treatment is not an option; that the State is essentially forcing us to make one of two very hard decision: One being that we go travel outside the state to someplace else that she can obtain this care at much great expense of both money and time. Yes, while I'm an attorney, I'm sure as the State's lawyers know, government attorneys don't make tons of money. We're a single-income family and that would be quite a burden. But we do have the support of our family and community that would I think fill the gaps if need be if that's the decision we make. That leaves only one other option, that option being that we move. And I have -- which would be difficult. Sorry.

Q. That's okay. Mr. Jennen, do you consider Sabrina not receiving the treatment an option?

A. No.

Q. Why not?

A. I believe it would be an absolutely detriment to her mental health, would be a detriment to the loving,

amazing, beautiful, thriving child that she is growing into. I worry about, you know, what impact that would have on her mental health. I'm already concerned about how that makes her feel about who she is, what her identity is. I worry about the thought of having to leave the support system that we've built around our family from our family-family to, you know, some of the people in this room that put their arms around us. I worry about what she thinks that the state she's lived in her whole life and I know that she loves, what that means the state thinks about her and who she is and who she wants to be.

Q. What do you think would happen if Sabrina did not have access to gender-affirming health care?

A. I promise you that will not happen. But, hypothetically, if it did, I worry about her withdrawing back into the person that she was before she started it, a person that was unhappy, that said things to her mother and I like, what's the point of life. Saying things like, I don't see a future for myself, which is difficult because how amazing she is.

MS. ECHOLS: Pass the witness.

MR. JACOBS: We don't have anything, Your Honor.

THE COURT: You can step down, sir.

How long do you anticipate your next witness is going to last?

MS. WALAS: Your Honor, we're actually going to take care of the deposition designations and call those and introduce those real quick and then take care of another housekeeping matter related to the legislative history. So I'm assuming it will take 15 minutes or less.

THE COURT: I'm trying to coordinate changing of the guard on the court reporters. So we'll continue and then we may break in the middle of that so.

MS. WALAS: Plaintiff calls Representative Robin Lundstrum via deposition testimony. Per the joint pretrial order, the videotaped testimony doesn't need to be presented to the Court. Plaintiff would move to admit Plaintiffs' Exhibit 28 and the related Exhibits 29 through 34.

MS. LAND: Your Honor, we object to this happening today. We haven't been notified that this was the plan for Representative Lundstrum's deposition transcript to be introduced today as an exhibit, and it was our understanding, pursuant to the pretrial order that the parties agreed to, that we would be notified of that in advance.

THE COURT: How much advance notice do you need?

MS. LAND: We are not aware of --

THE COURT: I guess what I'm saying is, assuming you're getting notice now, how long do you need before you

can respond?

MS. LAND: It's hard to say what we're responding to. The parties agreed that we would both notify each other of witnesses beforehand, as well as exhibits beforehand. It's somewhat safe to say this is a mixture of both. I'm not sure what the plaintiffs are intending to do specifically with the deposition designation, but --

THE COURT: Do you have the -- I stepped on you. I didn't mean to.

Do you have the proposed designations of this witness?

MS. LAND: We do. The parties -- both of them have submitted --

THE COURT: So you knew what they were going to present. What are you claiming you need in the way of responding to what portions of those depositions are either -- I'm not sure. It's not like you're having to prepare for this witness. I'm assuming you cross-examined her during her deposition or whatever, but it's not like you're having to prepare a cross-examination or prepare the night before for this particular witness. So I get back to saying, now that you have notice, how long do you think you need to respond to the fact that it's your turn to make arguments about why these designations aren't

appropriate.

MS. LAND: It's really difficult to say, Your Honor. I don't know what the plaintiffs are about to do with this testimony. So to the extent I need to prepare any oral arguments on why they should be excluded more than just this notice would be --

THE COURT: I get that. I know not now, but I'm trying to ask you.

MS. LAND: It would be helpful if plaintiffs could indicate what their plan is this afternoon for Representative Lundstrum.

MS. WALAS: Your Honor, as the depositions have already been designated, exchanged with the other side, and they have done their counter-designations, we're just going through the formality of officially introducing those designations and giving them to the Court. The Court has already issued a ruling saying that was defendants' objections to our designations will be considered by the Court in reviewing those, and their objections have also been designated by them and are noted in this exhibit which they also have.

THE COURT: So correct me if I'm wrong, you're just making an official offer and designation in the record of things that have already been provide to the Court that may already be of record.

MS. WALAS: The designation -- they did not stipulate to the admissibility of the deposition transcripts or the testimony. And so we are just seeking to admit that testimony by deposition pursuant to Rule 32, I want to say. I might be wrong on that. But -- and just introduce that in and present them to the Court because they're not stipulated exhibits. And per your order, they need to be exhibits and then we had agreed to present them this way. The only reason that they didn't notice that we were going to do this today is that things moved faster and we're trying to not waste the Court's time, Your Honor, and we're trying to take care of some housekeeping matters with some witnesses.

MS. LAND: Your Honor, I don't have Representative Lundstrum's deposition with me here today. I could have --

THE COURT: She's not going to read it into the record. She's telling me that she's just officially offering that so, when I go back on my time as opposed to court time, I review that deposition and I determine what's relevant and admissible and do so with your counter-designations as well. I mean, are you going to claim that those weren't her statements or that it's not an authentic deposition or certified deposition or --

MS. LAND: No, Your Honor. We are stipulating

to the authenticity of these documents. It's plaintiffs' counsel saying that you're just going to be reading the line designation into the -- I don't understand.

THE COURT: No, ma'am. What I understand is, she's -- I don't know. This is what I understand, is that, rather than read these depositions aloud in court, I don't need to have y'all read to me. I can read them back in my office. I was going to make determinations as I read through them what I considered admissible and perhaps probative. And if I didn't use it in my order, then it's clear that I didn't find it probative or didn't find it worth mentioning. But I did not understand that any of her deposition was going to be read at this time. Is that --

MS. WALAS: No, Your Honor. We're just seeking to admit Plaintiffs' Exhibit 28 which is the designated deposition designations and the related exhibits to those designations which are Plaintiffs' Exhibit 29 through Plaintiffs' Exhibit 34.

THE COURT: I see that as a formality, but --

MS. LAND: Defendants will note for the record their objection to the deposition.

THE COURT: Are those made in your counter-designations or are you just saying you just object to her testimony together?

MS. LAND: We did submit objections to the designations that plaintiffs made in this case previously via motion, I believe.

THE COURT: Those are going to be considered on the fly as I went through.

MS. LAND: Yes, Your Honor.

THE COURT: Is there anything left for you to do in response to some notice that this was going to be happening?

MS. LAND: I'll make an objection if I feel the need to. I would ask that I be permitted to do that as we go along.

THE COURT: You're not going to be back there with me. What I'm trying to say is, she's not reading anything into the record with regard to Representative Lundstrum and I'm going to be back there addressing your objections as I read the deposition and making notes along the way whether or not I overrule or sustain those objections. What I'm saying is, what else do you need to present to me before I get to that? You've made your objections on the record to each line and paragraph or page and line of her deposition, correct?

MS. LAND: Correct.

THE COURT: So is there anything else for me to hear from you on those designations?

MS. LAND: I'm not aware of any at this time based on what's been elicited just now.

THE COURT: I'm not sure she's offering anything other than that. I think -- not sure why, but she's just doing it formally in open court so it's a part of the record.

MS. LAND: I just wanted it noted that we weren't aware this was happening today, even though we agreed that we would notify each other of exhibits -- of when they would be introduced.

THE COURT: I thought I told you all of that the morning of we started on Monday that I was going to be handling it and actually before then. And she's not doing anything but offering the deposition. And I'm assuming all of the depositions designations that I have back there have already been offered for the record. I don't know that she's doing anything that hadn't already been done, unless she can tell me otherwise.

MS. WALAS: No, Your Honor. The only thing is we narrowed Representative Lundstrum's designations from what we had previously designated.

THE COURT: Okay. So nothing new?

MS. WALAS: Nothing new, Your Honor.

THE COURT: All right. What else?

MS. WALAS: So we would move to admit

Plaintiffs' Exhibit 28 and the related exhibits, Plaintiffs' 29 through 34 related to Representative Lundstrum's deposition designations.

THE COURT: Are those attached?

MS. WALAS: They're each a separate exhibit. So it will Exhibit 28, 29, 30, 31, 32, 33, and 34.

THE COURT: But are those attached to the deposition designations?

MS. WALAS: Yes, Your Honor. They're mentioned in those designations and they're --

THE COURT: Mentioned or attached?

MS. WALAS: I'm not sure if I know the difference between attached. They were attached as part of the deposition and then we labeled, say, that Deposition Exhibit 7 as Plaintiffs' Exhibit 29. But they were part of the deposition. So they'll be -- I guess I'm not understanding your question.

THE COURT: If I sit down with a deposition, are the exhibits are going attached to the deposition or in a separate binder where I go look for them?

MS. WALAS: It's going to be one binder, Your Honor, where the deposition is first, the related exhibits are immediately after it, just like a normal deposition thing you get from the court reporter.

THE COURT: Counsel, that's attached to me. So

thank you.

MS. WALAS: Thank you, Your Honor. Are those admitted?

THE COURT: I haven't looked at them right now so the notion that I can rule on those objections to those exhibits right now, I don't even have them up here. So I'll take that under advisement.

MS. WALAS: Thank you, Your Honor.

Next plaintiff would {Amy Embry via deposition testimony. Per the joint pretrial order, the videotape deposition doesn't need to be presented. Plaintiffs would then move to admit Plaintiffs' Exhibit 9, which is the deposition of Ms. Amy Embry and the related exhibits Plaintiffs' Exhibit 10, 11, 12, 13, 14, 15, 16, and 17.

THE COURT: Let me back you up a minute on the last witness. Are all of your objections to any exhibits to that deposition of record or written down anywhere for me?

MS. LAND: Yes, Your Honor.

THE COURT: Okay. How about this witness?

MS. LAND: Yes, Your Honor.

THE COURT: Okay. Same ruling. Don't have it. Not ready for it. Next.

MS. WALAS: Third, plaintiff calls Dr. {Rhys Branon via deposition testimony. Per the joint pretrial

order, the videotape deposition testimony doesn't have to be presented to the Court. Plaintiff would move --

THE COURT: Ms. Walas, slow down a little bit. Keep going.

MS. WALAS: Plaintiff moves to admit Plaintiffs' Exhibit 18 which is Dr. Branon's deposition designations and the related exhibits, Plaintiffs' Exhibit 19 and 20.

If I may approach, Your Honor, I have all of those in a binder for you.

THE COURT: You can put them on that table. I'll get them later. I'm running out of room.

MS. LAND: Your Honor, I would like to note the same thing I noticed previously for Representative Lundstrum's deposition transcript. We weren't aware that Branon and Embry would be brought up today as well, but as I noted, those objections have been made on the record as to the deposition transcripts respectively.

THE COURT: Okay.

MS. WALAS: Hold on one second, Your Honor.

THE COURT: Sure.

MS. WALAS: Your Honor, I thought I had one more matter, but we're going to take care of that tomorrow.

THE COURT: Can you let opposing counsel know what that other matter is so we don't have any notice issues?

MS. WALAS: We're going to deal with introducing the legislative history through the transcripts of the hearings and the vote.

THE COURT: Okay.

MR. STRANGIO: Your Honor, I just want to note for the Court's attention that our next witness is flying in and after your court's -- Your Honor's announcement yesterday, we've been streamlining our testimony in the hopes that we may have an opportunity to conclude trial this week. We understand that's not possible. But it is looking very likely that we will close our case in chief tomorrow at the end of the day, at the latest first thing Thursday morning, and we have no other witnesses currently here to testify.

So we wanted to let Your Honor know and also see if we could make some progress on using the remainder of this week for the State -- some of their witnesses. We notified them yesterday as well as at lunch about this. Just letting Your Honor know that we have no other witnesses here today.

THE COURT: Ms. Land, where are you on document 183(1) which was what I thought a joint stipulation of fact but is actually a proposed stipulation of fact from the plaintiffs. You said you were going to look at that and find out what you could stipulate to.

Are you prepared to tell me what you're willing to stipulate to before the plaintiffs rest?

MR. JACOBS: Dylan Jacobs, Your Honor.

THE COURT: I'm sorry.

MR. JACOBS: We're not prepared to do that today, but I think we could make a commitment to do that before the plaintiffs rest tomorrow so maybe we could address it tomorrow morning.

THE COURT: Okay.

MR. JACOBS: Just haven't -- it hadn't been decided yet.

THE COURT: All right. I'll hear from you in the morning then.

MR. STRANGIO: Thank you, Your Honor.

MR. JACOBS: Your Honor, on the matter of the rest of the week, our side is still trying to run down whether it's possible for any of the witnesses that we have on our witness list to testify Thursday and Friday. We don't have a final answer on that yet to whether we can be prepared to take their testimony on Thursday or Friday.

THE COURT: A lot of that depends on your stipulations. I mean, there's some stipulations about certain -- what certain local people said. By "local," I mean Arkansas people said or didn't say, but they're not -- you're not willing to stipulate to that, then I'm going

allow the plaintiffs to call them. They need to know that.

MR. JACOBS: So I don't understand plaintiffs to be waiting on our decision on stipulations to -- if further witness are going to be called. They can correct me if I'm wrong about that.

THE COURT: I'm reading stipulations that I thought had been made, so it didn't bring it up as to what Ms. Lundstrum may have said on the floor or whatever. And if she not going to admit that and -- then she can either say she did or didn't here in court. But they have a right to know whether or not you're going to stipulate to those facts or whether or not they need to be prepared to prove them otherwise.

MR. JACOBS: Representative Lundstrum I think that, to the extent it's going to come in in the deposition testimony or not, right, so I don't have -- I don't know that that's --

THE COURT: I don't know. I haven't --

MR. JACOBS: -- correct me if I'm wrong about that, but I don't understand plaintiffs to be waiting on our decision about stipulations to whether or not they're going to call Representative Lundstrum. If that's true, they can --

THE COURT: I don't know either, Mr. Jacobs.

I'm just saying that in large part what the plaintiffs have to prove depends on what you're willing to stipulate to. And now that I've looked through it, I've only gotten to the first -- first 31 stipulations, and most of them I don't understand why you even have to think about it, whether or not anyone is a certain age or whether or not they were diagnosed at a certain time, all of which is either a fact or not. It's not up to dispute.

So I'm not sure, first of all, why all of that wasn't addressed before we got to trial or why -- I know we were busy yesterday, but a lot of this stuff -- I made one correction on the Saxton family that Mr. Saxton didn't already testify to, and that is he's from Vilonia not Conway, but the rest seem irrefutable.

So I need to know what is proven in this case or not before I make decisions about where we go from there. A lot of this is pretty pro forma or pretty obvious to me that it either is or it isn't.

MR. JACOBS: I think, again, we'll address that in the morning with the Court prior to plaintiffs resting the case.

As far as what I was initially talking about in terms of whether we're going to call witnesses on Thursday or Friday, I understand that to be a different issue. Plaintiffs can correct me if I'm wrong. I don't

understand their decision to call anymore witnesses to be resting on whether we're going to stipulate to any of the proposed stipulations.

MS. WALAS: Specific to the -- to the legislative history itself, Your Honor that's a matter of you could take judicial notice of under Federal Rule 201 --

THE COURT: Let me rephrase what I think he's trying tell me, is that, if they don't agree to a single stipulation, is everything that you're attempting to prove in the depositions that I have back in my office or would you need to call live testimony to establish those?

Is that fair, Mr. Jacobs?

MR. JACOBS: I think that's what I'm getting at.

THE COURT: That's what I'm asking because I don't know the answer to that question.

MS. WALAS: Your Honor, I think that's a mixed bag because, one of the matters that we wanted to address tomorrow and we wanted to bring up about the legislative transcripts in the hearing is that the Court can take judicial notice of legislative history which would include the hearings of the transcripts and things such as that -- or the transcripts of the hearings from the floor of The Senate and the House and also the votes. That's a matter that the Court Can take judicial notice of, so that would

not necessarily impact us per se on what witnesses to call but it made depending upon what other facts that they may or may not stipulate to in there. It does influence also the manner in which we will present potentially the rest of the witnesses as if they stipulate to facts and we don't have to cover that fact in that direct witness and it would also save the Court some time and perhaps also get us into their case sooner. That's the one reason why it would be helpful in that it would assist us in streamlining our trial as we've been going.

And then if they stipulate to that legislative stuff and you don't have to take necessarily judicial notice of the whole thing, although the Court still can, and that's a regularly common practice within the Eighth Circuit and throughout the nation, but there is at least a few Eighth Circuit cases that say that you can take judicial notice of the legislative hearings and votes.

THE COURT: Other than the question of relevance and whether or not I'm supposed to factor in legislative transcripts and all, do the defendants have any technical objection to whether or not they're authentic or whether or not I can take judicial notice? I mean, is it down to whether or not it's relevant or whether or not I should consider it or is it some other technical admissibility issue?

MR. JACOBS: As far as the legislative documents, Your Honor, I think our --

THE COURT: Would it require live testimony to overcome? Are you submitting --

MR. JACOBS: I think our objection is relevance. I don't think we don't have technical objections that these aren't authentic reproductions of the legislative documents. I think it's -- by stipulating to its admissibility, I think we would be at least impliedly stipulating to its relevance and I --

THE COURT: Well, I can parse through that. You can stipulate to its authenticity or stipulate to the fact that I can or can't take judicial notice of it without waiving your relevance objection. I let people split that and say, I don't have any technical objections but I don't think you ought to pay any attention to it whether it comes in or not for relevance or otherwise objections. And I will allow you to preserve that.

What I need to know is, prior to getting these stipulations, is there anything that you're not willing to waive that would require live testimony to cure? Relevance isn't going to get that. I get to make that call.

MR. JACOBS: Nothing that will require live testimony, Your Honor.

THE COURT: Okay. Well, that's where I was headed, long way around.

Does this mean you get to go to Boy Scouts?

All right. We're going to start at 9 in the morning unless we have something else we can accomplish this afternoon right now.

MR. JACOBS: I was going to finish what I started saying earlier, is just, as far as -- assuming the plaintiffs do close their case on Wednesday, they predict they might --

THE COURT: Tomorrow.

MR. JACOBS: -- tomorrow. We're still assessing, one, which of our witnesses, if any, are available to come on Thursday and Friday to travel in; and, two, I guess whether we can be prepared to do that. So I hope after phone calls this afternoon we'll have a better idea to give the Court an update on that.

THE COURT: Thank you.

MR. STRANGIO: I think nothing further from plaintiffs provided first thing in the morning tomorrow we check in on defendants' witness availability for the remainder of the week. Thank you, Your Honor.

THE COURT: That's between the two of you, sure.

You going to make your deadline, Mr. Ellis?

MR. ELLIS: Yes, sir.

THE COURT: See you in the morning at 9.

(Proceedings adjourned at 3:32 p.m.)

* * * * *

REPORTER'S CERTIFICATE

I, Valarie D. Flora, FCRR, TX-CSR, AR-CCR, certify that the foregoing is a correct transcript of proceedings in the above-entitled matter.

Dated this the 24th day of October, 2022.

/s/ Valarie D. Flora, FCRR

United States Court Reporter