Exhibit CC

UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MARYLAND

PFLAG, INC.; *et al.*, *Plaintiff*, v. DONALD J. TRUMP, in his official capacity as President of the United States; *et al.*, *Defendants.*	Civil Action No. 8:25-cv-00337

EXPERT DECLARATION OF DANIEL SHUMER, M.D.

I, Daniel Shumer, M.D., hereby declare and state as follows:

1. I am over 18 years of age, of sound mind, and in all respects competent to testify.

2. I have been retained by counsel for Plaintiffs as an expert in connection with the above-captioned litigation. The opinions expressed herein are my own and do not express the views or opinions of my employer.

3. I have actual knowledge of the matters stated herein. If called to testify in this matter, I would testify truthfully and based on my expert opinion.

I. BACKGROUND AND QUALIFICATIONS

A. Qualifications

4. I am a Pediatric Endocrinologist, Associate Professor of Pediatrics, and the Clinical Director of the Child and Adolescent Gender Clinic at Mott Children's Hospital at Michigan Medicine. I am also the Medical Director of the Comprehensive Gender Services Program at Michigan Medicine, University of Michigan.

5. I am Board Certified in Pediatrics and Pediatric Endocrinology by the American Board of Pediatrics and licensed to practice medicine in the state of Michigan.

6. I received my medical degree from Northwestern University in 2008. After completing a Residency in Pediatrics at Vermont Children's Hospital, I began a Fellowship in Pediatric Endocrinology at Harvard University's Boston Children's Hospital. Concurrent with the Fellowship, I completed a Master of Public Health from Harvard's T.H. Chan School of Public Health. I completed both the Fellowship and the MPH degree in 2015.

7. I have extensive experience in working with and treating children and adolescents with endocrine conditions including differences in sex development (DSD) (also referred to as intersex conditions), gender dysphoria, type 1 diabetes, thyroid disorders, growth problems, and delayed or precocious puberty. I have been treating patients with gender dysphoria since 2015.

8. A major focus of my clinical, teaching, and research work pertains to the assessment and treatment of transgender adolescents.

9. I have published extensively on the topic of gender identity in pediatrics and the treatment of gender dysphoria. I have also reviewed the peer-reviewed literature concerning medical treatments for gender dysphoria, the current standards of care for the treatment of gender dysphoria, and research articles on a variety of topics with a focus on mental health in transgender adolescents.

10. I am involved in the education of medical trainees. I was previously the Fellowship Director in the Division of Pediatric Endocrinology and the Education Lead for the Division of Pediatric Endocrinology, and I am currently Course Director for a medical student elective in Transgender Medicine. My additional academic duties as an Associate Professor include teaching

several lectures, including those entitled "Puberty," "Transgender Medicine," and "Pediatric Growth and Development."

11. As a Fellow at Harvard, I was mentored by Dr. Norman Spack. Dr. Spack established the Gender Management Services Clinic (GeMS) at Boston Children's Hospital. While working and training at GeMS, I became a clinical expert in the field of transgender medicine within Pediatric Endocrinology and began conducting research on gender identity, gender dysphoria, and the evaluation and management of gender dysphoria in children and adolescents.

12. Based on my work at GeMS, I was recruited to establish a similar program assessing and treating gender diverse and transgender children and adolescents at the C.S. Mott Children's Hospital in Ann Arbor. In October 2015, I founded the hospital's Child and Adolescent Gender Services Clinic.

13. The Child and Adolescent Gender Services Clinic has treated over 1,500 patients since its founding. The clinic provides comprehensive assessment, and when appropriate, treatment with pubertal suppression and hormonal therapies, to patients diagnosed with gender dysphoria. I have personally evaluated and treated over 500 patients with gender dysphoria. The majority of the patients receiving care range between 10 and 21 years old. As the Clinical Director, I oversee the clinical practice, which currently includes 7 physicians, 1 nurse practitioner, 2 social workers, as well as nursing and administrative staff. I also actively conduct research related to transgender medicine, gender dysphoria treatment, and mental health concerns specific to transgender youth.

14. I also provide care in the Differences/Disorders of Sex Development (DSD) Clinic at Michigan Medicine at Mott Children's Hospital. The DSD Clinic is a multidisciplinary clinic focused on providing care to infants and children with differences in the typical path of sex

development, which may be influenced by the arrangement of sex chromosomes, the functioning of our gonads (i.e. testes, ovaries), and our bodies' response to hormones. The clinic is comprised of members from Pediatric Endocrinology, Genetics, Psychology, Urology, Gynecology, Surgery, and Social Work. In this clinic I have assessed and treated over 100 patients with DSD.

15. In my role as Medical Director of the Comprehensive Gender Services Program (CGSP), I lead Michigan Medicine's broader efforts related to transgender services. CGSP is comprised of providers from across the health system including pediatric care, adult hormone provision, gynecologic services, adult surgical services, speech/language therapy, mental health services, and primary care. I run monthly meetings with representatives from these areas to help coordinate communication between Departments. I coordinate strategic planning aimed to improve care within the health system related to our transgender population. I also serve as the medical representative for CGSP in discussions with health system administrators and outside entities.

16. I have authored numerous peer-reviewed articles related to treatment of transgender youth. I have also co-authored chapters of medical textbooks related to medical management of transgender patients. I have been invited to speak at numerous hospitals, clinics, and conferences on topics related to clinical care and standards for treating transgender children and youth.

17. The information provided regarding my professional background, experiences, publications, and presentations is detailed in my curriculum vitae, a true and correct copy of the most up-to-date version of which is attached as **Exhibit A**.

B. Prior Testimony

18. In the past four years, I have been retained as an expert and provided testimony at trial or by deposition in the following cases: *Dolney v. Wrigley*, No. 08-2023-CV-2189 (Burleigh

Cnty. Dist. Ct., North Dakota); *Misanin v. Wilson*, No. 2:24-cv-4734-RMG (D.S.C.); *Noe v. Parson*, No. 23AC-CC04530 (Cole Cnty. Cir. Ct., Mo.); *Voe v. Mansfield*, No. 1:23-cv-00864 (M.D.N.C.); *Roe v. Herrington*, 4:20-cv-00464 (D. Ariz.); *Doe v. Ladapo*, No. 4:23-cv-00114 (N.D. Fla.); *Loe v. Texas*, No. GN-23-003616 (Travis Cnty. Dist. Ct., Tex.); *Koe v. Noggle*, No. 1:23-cv-02904 (N.D. Ga.); *Dekker v. Weida*, No. 4:22-cv-00325 (N.D. Fla.); *K.C. v. The Individual Members of the Medical Licensing Board of Indiana*, No. 1:23-cv-00595 (S.D. Ind.); *Boe v. Marshall*, No. 2:22-cv-184 (M.D. Ala.); *Roe v. Utah High School Activities Association et al* (Third District Court in and for Salt Lake County, UT); and *Cooper v. USA Powerlifting and Powerlifting Minnesota*, No. 62-CV-21-211 (Ramsey Cnty. Dist. Ct., Minn.).

C. Compensation

19. I am being compensated at an hourly rate for the actual time that I devote to this case, at the rate of $400 per hour for any review of records, preparation of reports, declarations, and deposition and trial testimony. My compensation does not depend on the outcome of this litigation, the opinions that I express, or the testimony that I provide.

D. Bases for Opinions

20. This report sets forth my opinions in this case and the bases for my opinions.

21. In preparing this report, I reviewed the Executive Order 14187, titled "Protecting Children from Chemical and Surgical Mutilation," issued on January 28, 2025, and Executive Order 14168, titled "Defending Women from Gender Ideology Extremism and Restoring Biological Truth to The Federal Government," issued on January 20, 2025, as well as the Complaint in this case filed on February 4, 2025.

22. I have also reviewed the materials listed in the bibliography attached as **Exhibit B** to this report, as well as the materials listed within my curriculum vitae, which is attached as

Exhibit A. The sources cited therein include authoritative, scientific peer-reviewed publications. They include the documents specifically cited as supportive examples in particular sections of this report. I may rely on these materials as additional support for my opinions.

23. In addition, I have relied on my scientific education, training, and years of clinical and research experience, and my knowledge of the scientific literature in the pertinent fields.

24. The materials I have relied upon in preparing this report are the same types of materials that experts in my field of study regularly rely upon when forming opinions on these subjects.

25. My opinions are based on my extensive background and experience treating transgender patients.

26. I may wish to supplement or revise these opinions or the bases for them due to new scientific research or publications or in response to statements and issues that may arise in my area of expertise.

II. EXPERT OPINIONS

A. MEDICAL AND SCIENTIFIC BACKGROUND ON SEX AND GENDER IDENTITY

27. *Sex* is comprised of several components (National Academies, 2022). This includes, among others, internal reproductive organs, external genitalia, chromosomes, hormones, gender identity, and secondary sex characteristics.

28. *Gender identity* is the medical term for a person's internal, innate sense of belonging to a particular sex. Everyone has a gender identity. Diversity of gender identity and incongruence between assigned sex at birth and gender identity are naturally occurring and part of human biological diversity. The term *transgender* refers to individuals whose gender identity does

not align with the sex assigned at birth, and *cisgender* refers to individuals whose gender identity does align with the sex assigned at birth (Shumer, et al., 2013).

29. *Gender identity* does not refer to socially contingent behaviors, attitudes, or personality traits. It is an internal and largely biological phenomenon.

30. Living consistent with one's gender identity is critical to the health and well-being of any person, including transgender people (Hidalgo, et al., 2013; Shumer, et al., 2013; White Hughto, et al., 2015).

31. A person's understanding of their gender identity may evolve over time in the natural course of their life. However, attempts to force transgender people to align their gender identity with their birth sex (sometimes decried as "conversion therapy") have been found to be both harmful and ineffective. In one study, transgender adults who recall previous attempts from healthcare professionals to alter their gender identity reported an increase in lifetime suicide attempts and higher rates of severe psychological distress in the present (Turban, et al., 2020a). In another study, exposure to these types of attempts were found to increase the likelihood that a transgender adolescent will attempt suicide by 55% and more than double the risk for running away from home (Campbell, et al., 2002). Those practices have been denounced as unethical by all major professional associations of medical and mental health professionals, such as the American Medical Association, the American Academy of Pediatrics ("AAP"), the American Psychiatric Association, and the American Psychological Association, among others (Fish, et al., 2022).

32. Scientific research and medical literature across disciplines demonstrates that gender identity, like other components of sex, has a strong biological foundation. For example, there are numerous studies detailing the similarities in the brain structures of transgender and non-

transgender people with the same gender identity (Luders, et al., 2009; Rametti, et al., 2011; Berglund, et al., 2008). In one such study, the volume of the bed nucleus of the *stria terminalis* (a collection of cells in the central brain) in transgender women was equivalent to the volume found in cisgender women (Zhou, et al., 1995).

33. There are also studies highlighting the genetic components of gender identity. Twin studies are a helpful way to understand genetic influences on human diversity. Identical twins share 100% of the same DNA, while fraternal twins share roughly 50% of the same DNA. However, both types of twins share the same environment. Therefore, studies comparing differences between identical and fraternal twin pairs can help isolate the genetic contribution of human characteristics. Twin studies have shown that if an identical twin is transgender, the other twin is much more likely to be transgender compared to fraternal twins, a finding which points to genetic underpinnings to gender identity development (Heylens, et al., 2012).

34. Note that not *all* identical twins are concordant with gender identity, *i.e.* gender identity is not a Mendelian trait. For some human characteristics there is a clear inheritance pattern whereby a particular gene is responsible for the presence or absence of the characteristic and people with identical DNA (such as identical twins) will *always* be concordant with the characteristic. These characteristics are called Mendelian traits. For example: the presence or absence of freckles or a chin dimple; having medical conditions such as Huntington's disease or Duchenne muscular dystrophy; these are Mendelian traits and identical twins will be concordant with these characteristics 100% of the time (Klug, et al., 2012). Other human characteristics are not at all genetically based (non-heritable), and in these cases identical twins would be no more likely to be concordant in having or not having the characteristic than fraternal twins or siblings. An example of a non-heritable condition is a cancer caused by a mutation that occurs after

fertilization (Forsberg, et al., 2013). Clearly gender identity is not a Mendelian trait, but the fact that more identical twins are concordant for gender identity than fraternal twins *does* in fact suggest a biological underpinning.

35. There is also ongoing research on how differences in fetal exposures to hormones may influence gender identity. This influence can be examined by studying a medical condition called congenital adrenal hyperplasia. Fetuses assigned female affected by congenital adrenal hyperplasia produce much higher levels of testosterone compared to fetuses without the condition. While most assigned females with congenital adrenal hyperplasia have a female gender identity in adulthood, the percentage of those with gender dysphoria is higher than that of the general population. This suggests that fetal hormone exposures contribute to the later development of gender identity (Dessens, et al, 2005).

36. There has also been research examining specific genetic differences that appear associated with gender identity formation (Rosenthal, 2014). For example, one study examining differences in the estrogen receptor gene among transgender women and cisgender male controls found that the transgender individuals were more likely to have a genetic difference in this gene (Henningsson, et al., 2005).

37. The above studies are representative examples of scientific research demonstrating biological influences on gender identity. Gender identity, like other complex human characteristics, is rooted in biology with important contributions from neuroanatomic, genetic and hormonal variation (Roselli, 2018).

B. ASSESSMENT OF GENDER DYSPHORIA IN CHILDREN AND ADOLESCENTS

38. Due to the incongruence between their assigned sex and gender identity, transgender people experience varying degrees of gender dysphoria, a serious medical condition

defined in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR) (APA, 2022).

39. *Gender Dysphoria* is defined as an incongruence between a patient's assigned sex and their gender identity present for at least six months, which causes clinically significant distress in the person's life. This distress is further defined as impairment in social, occupational, or other important areas of functioning (APA, 2022). Additional features may include a strong desire to be rid of one's primary or secondary sex characteristics, a strong desire to be treated as a member of the identified gender, or a strong conviction that one has the typical feelings of identified gender (APA, 2022). Usually, patients presenting to pediatric gender clinics who do in fact meet criteria for the diagnosis of gender dysphoria have had symptoms of gender dysphoria much longer than 6 months.

40. The *Standards of Care for the Health of Transgender and Gender Diverse People, Version 8* ("SOC 8"), published by the World Professional Association for Transgender Health ("WPATH"), provides guidance to providers on how to provide comprehensive assessment and care to this patient population based on medical evidence. These standards recommend involving relevant disciplines, including mental health and medical professionals, to reach a decision with families about whether medical interventions are appropriate and remain indicated through the course of treatment.

41. In children and adolescents, a comprehensive biopsychosocial assessment is typically the first step in evaluation, performed by a mental health provider with experience in gender identity. The goals of this assessment are to develop a deep understanding of the young person's experience with gender identity, to consider whether the child or adolescent meets criteria for a diagnosis of gender dysphoria, and to understand what options may be desired and helpful

for the adolescent (Coleman, et al., 2022; Coleman, et al., 2012; Hembree, et al., 2017; Hembree, et al., 2009).

42. In children and adolescents, the diagnosis of gender dysphoria is made by a qualified health care provider, usually a mental health provider including but not limited to a psychiatrist, psychologist, social worker, or therapist, with expertise in gender identity concerns. It is recommended that children and adolescents diagnosed with gender dysphoria engage with a multidisciplinary team of mental health and medical professionals to formulate a treatment plan, in coordination with the parent(s) or guardian(s), with a goal of reduction of gender dysphoria.

43. For children younger than pubertal age, the only recommended treatments do not involve medications. For adolescents, additional treatments involving medications may be appropriate.

44. For transgender adolescents, all treatment decisions are made in consultation with the adolescent and the adolescent's parent or guardian with the parent or guardian providing ultimate consent for treatment.

C. EVIDENCE-BASED CLINICAL PRACTICE GUIDELINES FOR THE TREATMENT OF GENDER DYSPHORIA IN CHILDREN AND ADOLESCENTS

45. The goal of any intervention for gender dysphoria is to reduce dysphoria, improve functioning, and prevent the harms caused by untreated gender dysphoria.

46. Gender dysphoria is highly treatable and can be effectively managed. If left untreated, however, it can result in severe anxiety and depression, eating disorders, substance abuse, self-harm, and suicidality (Reisner, et al., 2015).

47. Based on longitudinal data, and my own clinical experience, when transgender adolescents are provided with appropriate medical treatment and have parental and social support, they are more likely to thrive and grow into healthy adults (de Vries, et al., 2014).

48. For pre-pubertal children with gender dysphoria, treatments may include supportive therapy, encouraging support from loved ones, and assisting the young person through elements of a social transition. Social transition may include adopting a new name and pronouns, appearance, and clothing, and correcting identity documents.

49. Options for treatment after the onset of puberty include the use of gonadotropin-releasing hormone agonists ("GnRHa") for purposes of preventing progression of pubertal development, hormonal interventions such as testosterone and estrogen administration. Gender-affirming chest surgery may be indicated for adults and on rare occasions, for older adolescents. Other surgeries may be indicated for adults (18-years-old or older). These treatment options are based on robust research and clinical experience, which consistently demonstrate safety and efficacy.

50. Clinical practice guidelines have been published by several long-standing and well-respected medical bodies: the World Professional Association for Transgender Health ("WPATH") and the Endocrine Society (Coleman, et al., 2022; Coleman, et al., 2012; Hembree, et al., 2017; Hembree, et al., 2009). The clinical practice guidelines and standards of care published by these organizations provide a framework for treatment of gender dysphoria in adolescents.

51. The tenets set forth by WPATH and the Endocrine Society are supported by the major professional medical and mental health associations in the United States, including the American Academy of Pediatrics, the American Medical Association, the American Psychological Association, the American Psychiatric Association, and American Academy of Family Physicians,

among others (e.g., Rafferty, et al., 2018 (American Academy of Pediatrics); AMA, 2019; American Psychological Association, 2015; Drescher, et al., 2018 (American Psychiatric Association); Klein, et al., 2018 (AAFP); National Academies, 2020.

52. WPATH has been recognized as the standard-setting organization for the treatment of gender dysphoria since its founding in 1979. The most recent WPATH Standards of Care ("SOC 8") were published in 2022 and represent expert consensus for clinicians related to medical care for transgender people, based on the best available science and clinical experience (Coleman, et al., 2022).

53. The purpose of the WPATH Standards of Care is to assist health providers in delivering necessary medical care to transgender people, to maximize their patients' overall health, psychological well-being, and self-fulfillment. The WPATH Standards of Care serve as one of the foundations for the care provided in my own clinic.

54. The WPATH SOC 8 is based on rigorous review of the best available science and expert professional consensus in transgender health. International professionals were selected to serve on the SOC 8 writing committee. Recommendation statements were developed based on data derived from independent systemic literature reviews. Grading of evidence was performed by an Evidence Review Team which determined the strength of evidence presented in each individual study relied upon in the document (Coleman, et al., 2022).

55. In addition, the Endocrine Society is a 100-year-old global membership organization representing professionals in the field of adult and pediatric endocrinology. In 2017, the Endocrine Society published clinical practice guidelines on treatment recommendations for the medical management of gender dysphoria, in collaboration with the Pediatric Endocrine Society,

the European Societies for Endocrinology and Pediatric Endocrinology, and WPATH, among others (Hembree, et al, 2017).

56. The Endocrine Society Clinical Guidelines were developed through rigorous scientific processes that "followed the approach recommended by the Grading of Recommendations, Assessment, Development, and Evaluation group, an international group with expertise in the development and implementation of evidence-based guidelines." The guidelines affirm that patients with gender dysphoria often must be treated with "a safe and effective hormone regimen that will (1) suppress endogenous sex hormone secretion determined by the person's genetic/gonadal sex and (2) maintain sex hormone levels within the normal range for the person's affirmed gender." (Hembree, et al., 2017).

57. The AAP is the preeminent professional body of pediatricians in the United States, with over 67,000 members. The AAP endorses a commitment to the optimal physical, mental, and social health and well-being for youth. The 2018 policy statement titled *Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents* further lends support to the treatment options outlined in the WPATH Standards of Care and the Endocrine Society's Clinical Practice Guidelines (Rafferty, et al., 2018).

58. As a board-certified pediatric endocrinologist, I follow the Endocrine Society Clinical Practice Guidelines and the WPATH Standards of Care when treating my patients.

D. TREATMENT PROTOCOLS FOR GENDER DYSPHORIA

59. Undergoing treatment to alleviate gender dysphoria is commonly referred to as a transition. The transition process in adolescence typically includes (i) social transition and/or (ii) medications, including puberty-delaying medication and hormone therapy. The steps that make up

a person's transition and their sequence will depend on that individual's medical and mental health needs and decisions made between the patient, family, and multidisciplinary care team.

60. There are no medications considered for transition until after the onset of puberty. Puberty is a process of maturation heralded by production of sex hormones—testosterone and estrogen—leading to the development of secondary sex characteristics. Secondary sex characteristics include testosterone-induced effects such as deepening of the voice, muscular changes, facial and body hair, and estrogen-induced effects such as breast development. There is diversity in the age of pubertal onset; however, most adolescents begin puberty between ages 10 and 12 years.

61. Gender exploration in childhood is expected and healthy. The majority of prepubertal children exploring their gender do not develop gender dysphoria and are not expected to become transgender adolescents or adults. In contrast, data and personal experience shows that children whose gender dysphoria persists into adolescence are highly likely to be transgender (van der Loos, et al., 2022). Some individuals in this field misinterpret older studies showing that a large percentage of children diagnosed with gender identity disorder did not grow up to be transgender. Those studies include children who would not fulfill the current diagnostic criteria for gender dysphoria and, in any case, have no relevance to this case because no medications are prescribed to prepubertal children.

62. After the onset of puberty, puberty-delaying medication and hormone-replacement therapy—both individually and in combination—can significantly improve the mental health of adolescents diagnosed with gender dysphoria. These treatments allow for a patient's physiological characteristics to more closely align with gender identity and decreases the likelihood that the

young person will be incorrectly identified with their assigned sex, further alleviating their gender dysphoria.

63. At the onset of puberty, adolescents begin to experience the onset of secondary sex characteristics. Adolescents with differences in gender identity may have intensification of gender dysphoria during this time due to development of secondary sex characteristics incongruent with gender identity. Persistence or intensification of gender dysphoria as puberty begins is used as a helpful diagnostic tool as it becomes more predictive of gender identity persistence into adolescence and adulthood (de Vries, et al., 2012).

i. Treatment with puberty-delaying medications

64. Adolescents diagnosed with gender dysphoria who have entered puberty (Tanner Stage 2) may be prescribed puberty-delaying medications (GnRHa) to prevent the distress of developing permanent, unwanted physical characteristics that do not align with the adolescent's gender identity. Tanner Stage 2 refers to the stage in puberty whereby the physical effects of testosterone or estrogen production are first apparent on physical exam. Specifically, this is heralded by the onset of breast budding in an individual assigned female at birth, or the onset of testicular enlargement in an individual assigned male at birth. For individuals assigned male at birth, Tanner Stage 2 typically occurs between age 9-14, and for those assigned female at birth between age 8-12.

65. The treatment works by pausing endogenous puberty at whatever stage it is at when the treatment begins, limiting the influence of a person's endogenous hormones on their body. For example, a transgender girl will experience no progression of physical changes caused by testosterone, including facial and body hair, an Adam's apple, or masculinized facial structures. And, in a transgender boy, those medications would prevent progression of breast development,

menstruation, and widening of the hips (Coleman, et al., 2022; de Vries, et al., 2012; Deutsch (ed.), 2016; Hembree, et al., 2017; Rosenthal, 2014).

66. GnRHa have been used extensively in pediatrics for several decades. Prior to their use for gender dysphoria, they were used (and still are used) to treat precocious puberty, puberty that begins at a younger-than-normal age. GnRHa work by suppressing the signal hormones from the pituitary gland (luteinizing hormone [LH] and follicle stimulating hormone [FSH]) that stimulate the testes or ovaries to produce sex hormones. Upon discontinuation of GnRHa, LH and FSH production resume and puberty will also resume.

67. GnRHa have no long-term implications on fertility. In transgender youth, it is most typical to use GnRHa from the onset of puberty (Tanner Stage 2) until mid-adolescence. While treating, the decision to continue treatment will be continually evaluated. Should pubertal suppression no longer be desired, GnRHa would be discontinued, and puberty would re-commence.

68. Prior to initiation of GnRHa, providers counsel patients and their families extensively on potential benefits and risks. The designed benefit of treatment is to reduce the risk of worsening gender dysphoria and mental health deterioration. More specifically, use of GnRHa in transmasculine adolescents allows for decreased chest development, reducing the need for breast binding and surgical intervention in adulthood. For transfeminine adolescents GnRHa limits facial and body hair growth, voice deepening, and masculine bone structure development, which greatly reduce distress both at the time of treatment and later in life and reduce the need for later interventions such as voice therapy, hair removal, and facial feminization surgery.

69. The goal in using GnRHa is to minimize the patient's dysphoria related to progression of puberty and allow for later initiation of puberty consistent with gender identity.

When a patient presents for care, the provider assesses the patient's pubertal stage, pubertal history, and individual needs. A patient may present prior to the onset of puberty (Tanner Stage 1), at the onset of puberty (Tanner Stage 2), or further along in puberty (Tanner Stages 3-5). The pubertal stage and individual needs of the patient then direct conversations regarding care options. A patient at Tanner Stage 2 may benefit from GnRHa, while an older patient who has completed puberty may benefit from pubertal initiation with hormones, as described below. I have observed that providing individualized care based on individual patient characteristics, using the WPATH Standards of Care as the foundation of this care, provides significant benefit to patients, minimizes gender dysphoria, and can eliminate the need for surgical treatments in adulthood.

70. As an experienced pediatric endocrinologist, I treat patients with these same medications for both precocious puberty and gender dysphoria and in both cases the side effects are comparable and easily managed; for both patient populations the risks are greatly outweighed by the benefits of treatment.

71. In addition, I regularly prescribe GnRHa for patients who do not meet criteria for precocious puberty but who require pubertal suppression. Examples include patients with disabilities who are unable to tolerate puberty at the typical age due to hygienic or behavioral concerns (Yaylacı, 2020); adolescents with short stature who despite growth hormone treatment will have a very short adult height (Pasquino, 2020); and young women with endometriosis (Shim, 2023).[1] GnRHa are also used off-label in adolescent girls undergoing cancer treatment to protect their fertility. Certain types of chemotherapy known as alkylating agents are toxic to the ovary. This toxicity is exacerbated when the ovary is active, as is the case during puberty. GnRHa can be

[1] Medications which suppress testosterone production and/or action are also used in non-transgender girls with Polycystic Ovarian Syndrome (PCOS) to reduce some symptoms of the condition, including excess facial hair.

used to downregulate ovarian activity which protects or shields the ovary during treatment with alkylating agents. Brancati et al. (2021) describe the utility of this treatment for adolescent girls despite the "off-label" status. As with gender dysphoria, the prescription of GnRHa to treat these conditions is "off-label," yet it is widely accepted within the field of endocrinology, supported by published, peer-reviewed literature, and not considered experimental. The same holds true for other common medications used in pediatric endocrinology: metformin for weight loss; growth hormone for short stature not caused by growth hormone deficiency; and countless medications used to control type 2 diabetes which have an adult indication but whose manufacturers have not applied for a pediatric indication.

ii. Treatment with hormone therapy

72. In mid-adolescence, the patient, their parents, and the patient's care team may discuss the possibility of beginning the use of testosterone or estrogen. In my practice we discuss these treatments for a patient who is currently receiving GnRHa, or patients who have already gone through their endogenous puberty and either did not have access to, desire, or elect for GnRHa treatment. In adult patients, use of GnRHa is uncommon, an instead medical decisions are focused more on testosterone or estrogen therapy.

73. These hormone therapies are used to treat gender dysphoria in adolescents and adults to facilitate development of sex-specific physical changes congruent with their gender identity. For example, a transgender man prescribed testosterone will develop a lower voice as well as facial and body hair, while a transgender woman prescribed estrogen will experience breast growth, female fat distribution, and softer skin.

74. Under the Endocrine Society Clinical Guidelines and SOC 8, hormone therapy is an appropriate treatment for transgender adolescents with gender dysphoria when the experience

of dysphoria is marked and sustained over time, the adolescent demonstrates emotional and cognitive maturity required to provide an informed consent/assent for treatment, other mental health concerns (if any) that may interfere with diagnostic clarity and capacity to consent have been addressed, and the adolescent has discussed reproductive options with their provider. SOC 8 also highlights the importance of involving parent(s)/guardian(s) in the assessment and treatment process for minors (Coleman, et al., 2022; Hembree, et al., 2017).

75. Under the Endocrine Society Clinical Guidelines and SOC 8, hormone therapy is an appropriate treatment for transgender adults (age 18 or older) with gender dysphoria when the experience of dysphoria is marked and sustained, other possible causes of apparent gender dysphoria are excluded, any mental and physical health conditions that could negatively impact the outcome of treatment are assessed, and the adult has the capacity to understand the risks and benefits of treatment and provide consent for treatment. There is no special differentiation, or justification for differentiation, between someone who aged 18 compared and someone aged 19(Coleman, et al., 2022; Hembree, et al., 2017).

76. Similar to GnRHa, the risks and benefits of hormone treatment are discussed with patients (and families, if the patient is a minor) prior to initiation of testosterone or estrogen. When treated with testosterone or estrogen, the goal is to maintain the patient's hormone levels within the normal range for their gender. Laboratory testing is recommended to ensure proper dosing and hormonal levels. If starting hormonal care after completing puberty, discussion of egg or sperm preservation prior to starting treatment is recommended.

77. Regardless of the treatment plan prescribed, at every encounter with the care team there is a re-evaluation of the patient's gender identity and their transition goals. Should a patient desire to discontinue a medical intervention, the intervention is discontinued. Discontinuation of

GnRHa will result in commencement of puberty. Findings from studies in which participants have undergone comprehensive evaluation prior to gender care show low levels of regret (de Vries, et al., 2011; van der Loos, et al., 2022; Wiepjes, et al., 2018). These extremely low rates of regret stand in stark contrast to the high rates of poor psychological functioning that has been documented in adolescents who have not been able to obtain medical treatment for their gender dysphoria (van der Miesen, et al., 2020). The findings of these studies match my own clinical experience. Patients and families undergo thoughtful and comprehensive assessment and counselling prior to initiation of any medical intervention. Treatment follows when appropriate, and always with fully informed patient assent and parental consent. Goals of care are re-evaluated at every visit. By practicing according these evidenced-based principles, I have witnessed the dramatic improvement in the lives of hundreds of patients initially suffering from debilitating gender dysphoria. Patients and parents often describe the care received as "life-saving" and regret regarding care decisions is incredibly low, lower than I experience in other areas of pediatric endocrine care.

E. SAFETY AND EFFICACY OF MEDICAL INTERVENTIONS TO TREAT GENDER DYSPHORIA

78. GnRHa, prescribed for delaying puberty in transgender adolescents, is both a safe and effective treatment. Patients under consideration for treatment are working within a multidisciplinary team of providers all dedicated to making informed and appropriate decisions with the patient and family in the best interest of the adolescent. Physicians providing this intervention are trained and qualified in gender identity concerns and childhood growth and development and are participating in this care out of a desire to improve the health and wellness of transgender youth and prevent negative outcomes such as depression and suicidality.

79. GnRHa, including injectable leuprolide and implantable histrelin, have rare side effects which are discussed with patients and families prior to initiation. Mild negative effects may

include pain at the injection or implantation site, sterile abscess formation, weight gain, hot flashes, abdominal pain, and headaches. These effects can be seen in patients receiving GnRHa for gender dysphoria, or for other indications such as precocious puberty. I counsel patients on maintaining a healthy diet and promote physical activity, and regularly document height and weight during treatment. Nutritional support can be provided for patients at risk for obesity.

80. Risk of lower bone mineral density in prolonged use of GnRHa can be mitigated by screening for, and treating, vitamin D deficiency when present, and by limiting the number of years of treatment based on a patient's clinical course (Rosenthal, 2014). An exceptionally rare but significant side effect, increased intracranial pressure, has been reported in six patients (five treated for precocious puberty, one for transgender care), prompting an FDA warning in July 2022 (AAP, 2022). These cases represent an extremely small fraction of the thousands of patients who have been treated with GnRHa over decades. Symptoms of this side effect (headache, vomiting, visual changes) are reviewed with families and if they occur the medication is discontinued. The rarity of this side effect was described by Karamanis et al. (2023) as zero cases of increased intracranial pressure were reported in the 410 adolescents prescribed GnRHa for gender dysphoria in Sweden between 2006 and 2016.

81. GnRHa do not have long-term implications on fertility. This is clearly proven from decades of use in the treatment of precocious puberty (Guaraldi, et al., 2016; Martinerie, et al, 2021). Progression through natal puberty is required for maturation of egg or sperm. If attempting fertility after previous treatment with GnRHa followed by hormone therapy is desired, an adult patient would withdraw from hormones and allow pubertal progression. Assistive reproduction could be employed if needed (T'Sjoen, et al., 2013).

82. Patients who initiate hormones after completing puberty are offered gamete preservation prior to hormonal initiation (Coleman, et al., 2022), but even when not undertaken, withdrawal of hormones in adulthood often is successful in achieving fertility when it is desired (Light, et al., 2014; Knudson, et al., 2017).

83. Discussing the topic of fertility is important, and not specifically unique to treatment of gender dysphoria. Medications used for other medical conditions, such as chemotherapeutics used in cancer treatment, can affect fertility. For all medications with potential impacts on fertility, the potential risks and benefits of both treatment and non-treatment should be reviewed and data regarding risk for infertility clearly articulated prior to the consent or assent of the patient. Risk for fertility changes must be balanced with the risk of withholding treatment.

84. Review of relevant medical literature clearly supports the benefits of GnRHa treatment on both short-term and long-term psychological functioning and quality of life (e.g., Achille, et al., 2020; Carmichael, et al., 2021; Costa, et al., 2015; de Vries, et al., 2014; de Vries, et al., 2011; Kuper, et al., 2020; Turban, et al., 2020b; van der Miesen, et al., 2020; McGregor, et al., 2024). For example, a 2014 long-term follow-up study following patients from early adolescence through young adulthood showed that gender-affirming treatment allowed transgender adolescents to make age-appropriate developmental transitions while living as their affirmed gender with positive outcomes as young adults (de Vries, et al., 2014). A cross-sectional study comparing 272 adolescents not yet receiving medical treatment,178 adolescents receiving pubertal suppression, and 651 adolescents from the general population demonstrated that transgender adolescents have poorer psychological well-being before treatment but similar or better psychological functioning when compared to cisgender peers from the general population after the start of specialized gender-affirming care involving pubertal suppression (van der Miesen,

et al., 2020). A longitudinal study followed adolescents with gender dysphoria who received psychological support alone followed by continued psychological support plus pubertal suppression. Participants had significantly better psychological functioning after 12 months of GnRHa treatment compared with when they had received psychological support alone (Costa, 2015).

85. In my own practice, adolescent patients struggling with significant distress at the onset of puberty routinely have dramatic improvements in mood, school performance, and quality of life with appropriate use of GnRHa. Side effects encountered are similar to those seen in other patients treated with these medications and easily managed.

86. Hormone therapy (testosterone or estrogen) is prescribed to older adolescents with gender dysphoria. As is the case with GnRHa, the need for hormone therapy is not unique to transgender adolescents. Patients with conditions such as delayed puberty, hypogonadism, Turner Syndrome, Klinefelter Syndrome, agonadism, premature ovarian failure, and disorders of sex development all require treatment with these hormones, often times starting in adolescence and continuing lifelong.[2] Without testosterone or estrogen treatment, these patients would be unable to progress through puberty normally, which would have serious medical and social consequences. Whether used in adolescents to treat gender dysphoria, or to treat any of these other conditions, testosterone and estrogen are prescribed with a goal to raise the testosterone or estrogen level into the normal male or female range for the patient's age. Careful monitoring of blood levels and clinical progress are required, however abnormal laboratory results are rare in adolescents

[2] Testosterone is used to treat delayed puberty, hypogonadism, Klinefelter Syndrome, agonadism, and disorders of sex development when a masculinizing puberty is required. Estrogen is used to treat delayed puberty, hypogonadism, Turner Syndrome, agonadism, and disorders of sex development when a feminizing puberty is required.

prescribed gender-affirming hormones (Millington, et al., 2024). Side effects are also rare, and most are often related to overtreatment, which can be minimized with laboratory monitoring. Additionally, side effects are considered, discussed, and easily managed in all individuals needing hormone therapy regardless of the diagnosis necessitating these medications.

87. Venous thromboembolism (blood clotting) is a known side effect of estrogen therapy in all individuals prescribed it, including transgender women. Risk is increased in old age, in patients with cancer, and in patients who smoke nicotine. This side effect is mitigated by careful and accurate prescribing and monitoring. In my career, none of my patients have suffered a thromboembolism while on estrogen therapy.

88. Elevated red blood cell concentration (hematocrit) can occur with treatment with testosterone in all individuals prescribed it, including transgender men. When present, elevated hematocrit is easily managed with reduction of the dose of testosterone.

89. Treatment of gender dysphoria with testosterone or estrogen is highly beneficial for both short-term and long-term psychological functioning of adolescents with gender dysphoria and withholding treatment from those who need it is harmful (e.g., Achille, et al., 2020; Allen, et al., 2019; Chelliah, et al., 2024; Chen, et al., 2023; de Lara, et al., 2020; de Vries, et al., 2014; Grannis, et al., 2021; Green, et al., 2022; Kaltiala, et al., 2020; Kuper, et al., 2020; Turban, et al., 2022).

90. Research demonstrating the benefits of hormonal intervention is robust, consisting of large cross-sectional studies and also evaluation of longitudinal cohorts of patients across time. Green et al. (2022) presented cross-sectional data from 11,914 adolescents and demonstrates that gender-affirming hormone therapy is correlated with reduced rates of depression and suicidality among transgender adolescents. Turban et al. (2022) analyzed cross-sectional data from 27,715 transgender adults and found that access to gender-affirming hormone therapy in adolescence is

associated with favorable mental health outcomes in adulthood, when compared to individuals who desired but could not access hormonal interventions.

91. Chen et al. (2023), a longitudinal study followed 315 adolescents for 2 years after starting gender-affirming hormonal treatment, demonstrated improved appearance congruence and psychosocial functioning as a result of treatment. Chelliah et al. (2024) presented longitudinal data from 115 transgender youth and demonstrated reductions in body dissatisfaction, victimization, depression, and anxiety along with improvements in psychosocial functioning when measured one year after initiating medical treatment at a multidisciplinary gender-affirming program.

92. The efficacy of hormone treatment in transgender adults is similarly robust. At least 11 longitudinal studies document improvement in various mental health parameters including depression, anxiety, self-confidence, body image and self-image, and general psychological functioning (e.g., Colizzi, et al., 2013; Colizzi, et al., 2014; Corda, et al., 2016; Defreyne, et al., 2018; Fisher, et al., 2016; Heylens, et al., 2014; Keo-Meier, et al., 2015; Manieri, et al., 2014; Motta, et al., 2018; Oda, et al., 2017; Turan, et al., 2018). Nolan, et al. (2023) presented a randomized controlled trial demonstrating reduction in gender dysphoria, depression, and suicidality in transgender adults prescribed testosterone therapy compared to those awaiting treatment.

93. Recently conducted systematic reviews have examined the effects of gender affirming hormone therapy on psychosocial functioning in adolescents and adults. Doyle, et al., (2023) and Baker, et al. (2021) included data from both adults and adolescents when presenting their findings. Doyle concluded that the body of literature consistently demonstrates that gender affirming hormone therapy reduces depressive symptoms and psychological distress. The systematic review published by Baker, et al., commissioned by WPATH, concluded that the body

of literature indicates hormone therapy is associated with increased quality of life, decreased depression and decreased anxiety.

94. Other systematic reviews restricted their analyses to studies of adolescents only, not including adult data. Taylor, et al. (2024) and RAND (Dopp, et al., 2024) both conducted systematic reviews of pubertal suppression and hormonal interventions in adolescents. The Taylor reviews were commissioned by the Cass Review and National Health Service in England. The RAND Review was published by the RAND Corporation, a nonprofit, nonpartisan United States-based research organization aiming to improve policy and decision-making through research and analysis. Both of these reviews analyzed a very similar and overlapping body of evidence.

95. Taylor and colleagues reviewed scientific literature related to the use of pubertal suppression (Talor 2024a) and gender affirming hormones (Taylor 2024b). These systematic reviews draw upon data from 50 studies related to pubertal suppression and 53 studies related to gender affirming hormone treatment. Using the Newcastle-Ottawa Scale, a validated scale for evaluating cohort studies, the Taylor reviews found there were 26 and 34 studies, respectively, of high (one each) to moderate quality documenting outcomes of adolescent patients receiving these treatments. The studies described in these reports are the same studies that I rely upon to make medical decisions with patients and families. It is also the same body of literature that I use when stating that these interventions are safe and effective in treating gender dysphoria in adolescence. Indeed, the findings of these studies, as documented in the Taylor reviews, are consistent with the opinions I have expressed in this case. The Taylor reviews conclusion, however, was that there was insufficient data to make conclusions on the effect of pubertal suppression and moderate-quality evidence suggesting mental health may be improved during hormonal treatments.

96. The RAND review (Dopp, et al., 2024), on the other hand, concluded that, “the

available research evidence – although limited – can inform recommendations on interventions for gender dysphoria and related health problems in TGE youth…" With regards to puberty-suppressing medications like GnRHa, the RAND review documented that the studies showed that the medications did suppress the pubertal changes targeted, improved gender dysphoria, and improved mental health functioning. With regards to hormones, the RAND review found that "the available evidence suggests that HRT produced expected changes in hormone levels and related physical changes targeted for initiation, with associated improvements in body satisfaction and gender dysphoria in each of the [] studies measuring that outcome." It also showed that hormones were associated with increases in mental health functioning and increases in bone density following puberty-suppressing hormones.

97. Notably, the review points out what is clear to clinicians across all areas of pediatric medicine as it states, "Challenges with certainty of evidence are not unique to interventions for gender dysphoria and related health problems in TGE youth; many fields of study encounter such challenges when using research evidence to inform standards of care. In fact, systemic reviews of the application of GRADE (Fleming et al., 2016; Howick et al., 2020) have found that 22-24 percent of evidence summaries for the primary study outcome were rated as very low certainty, and 81 percent of reviews included no outcomes with evidence that was high certainty…Yet such guidelines have been developed and are used to inform widely applicable population health assessments … Absence of high-certainty evidence on effectiveness is not equivalent to evidence that effects are absent."

98. The RAND review also speaks specifically about "policies to ban or restrict interventions." The review advises, "evidence-based policymaking decisions about banning or restricting gender dysphoria interventions for TGE youth ought to consider the certainty of whether

the policy is preventing harm that exceeds the potential harm of withholding clinical standards of care (Barbee, Deal, and Gonzales, 2022). In this review, the intervention for which harms were most clearly documented was GIECE [gender identity and expression change efforts, i.e. conversion therapy], an alternative to the standards of care. This finding is consistent with a much larger body of research documenting the harmful mental health effects of a broader category of interventions called sexual orientation and gender identity and expression change efforts (SOGIECE; see, e.g., Comer et al., 2024; Daniel and Butkus, 2015; Forsythe et al., 2022; Goodyear et al., 2023; Panozzo, 2013; Przeworski, Peterson, and Piedra, 2021). Therefore, policymakers could consider policies regarding GIECE as a high priority for preventing harm to TGE youth."

99. A note here regarding jargon related to the grading of evidence. Authors of practice guidelines and systematic reviews often employ standardized scales to denote the strength of evidence. Examples of these scales include GRADE and Newcastle-Ottawa. These scales help authors and readers consider the quantity and quality of evidence used in determining recommendations for care. Each scale utilizes its own jargon, such that a recommendation based on "low" quality evidence according to GRADE may be ranked "moderate" evidence according to Newcastle-Ottawa. As the authors of the RAND report explain, this jargon should not be used determine what is good care, appropriate care, or the standard of care. For example, recommendations based on what is labeled "low" quality evidence may be, and often is, the recommended standard of care.

100. In fact, across all aspects of care, including pubertal suppression and gender-affirming hormones, the RAND report findings indicated low regret, low dissatisfaction levels, and low side effects and complications in the adolescent patient population across the entire body of literature in the field. This is in-keeping with my own clinical experience.

101. In sum, the use of GnRHa, hormones, and chest surgery in adolescents for the treatment of gender dysphoria is the current standard of care and certainly not experimental. This is due to robust evidence of safety and efficacy. The sum of the data supports the conclusion that treatment of gender dysphoria with these interventions promotes wellness and helps to prevent negative mental health outcomes, including suicidality. The data to support these interventions are so strong that withholding such interventions would be negligent and unethical.

III. RESPONSE TO THE EXECUTIVE ORDERS

A. Response to Executive Order 14168

102. Section 2 of Executive Order 14168 presents scientific and medical inaccuracies and misstatements. The order defines "sex" as "an individual's immutable biological classification as either male or female … and does not include the concept of "gender identity." The terms "female" and "male" are further defined: "female" defined as "a person belonging, at conception, to the sex that produces the large reproductive cell," and "male" defined as "a person belonging, at conception, to the sex that produces the small reproductive cell." These definitions are oversimplifications that are inaccurate.

103. As described in Section II.A above, sex is comprised of several components. Sometimes the aspects that comprise a person's sex are discordant with one another. Such is the case for transgender people and those born with Differences/Disorders of Sex Development (DSDs).

104. At conception, a sperm cell and egg cell combine, each contributing genetic material called DNA to form a zygote (Oliver, Basit, 2023). The DNA contributed by the sperm and the egg are packaged in chromosomes. In humans both the sperm and egg typically contribute 23 chromosomes. The zygote therefore typically has 23 pairs of chromosomes, or a total of 46.

These chromosomes provide "instructions" for dividing, growing, and all other aspects of embryological and fetal development. Two of the chromosomes are termed "sex chromosomes". Typically, the egg contributes an X chromosome, and the sperm contributes either an X or Y chromosome, resulting in a zygote which is either XX (normal female chromosomal sex) or XY (normal male chromosomal sex). Variations in sex chromosomes exists, whereby a zygote may have only one X chromosome (Turner Syndrome), two X chromosomes and one Y chromosome (Klinefelter Syndrome), or other variations (e.g., XYY, XXXY, XYY). The chromosomal sex (sometimes called genetic sex) of the embryo is therefore established at fertilization with XY and XX being the most common variations, with less common variations possible (Rey, et al., 2020).

105. A zygote has a chromosomal sex but no gonadal sex, no hormonal sex, no anatomic sex, and no gender identity. A zygote may be described as carrying XX chromosomes, XY chromosomes, or other less common sex chromosome configurations, but to label a zygote "female" or "male" is premature. These labels cannot be assigned at conception prior to the process of sex differentiation. Thus, the definitions of "female" and "male" in Section 2 Executive Order 14168 are inaccurate.

106. As the zygote begins to multiply it becomes an embryo. Genes within the sex chromosomes helps to orchestrate a series of events whereby the embryo develops male or female characteristics in a process called sex differentiation. Embryos with XY chromosomes, for example, develop different in the gonads, genital tract, and external genitalia than embryos with XX chromosomes. The chromosomal or genetic sex drives the undifferentiated primitive gonad to differentiate into a testis or an ovary. Subsequently, internal and external genitalia will typically follow the male pathway in the presence of specific testicular hormones, or the female pathway in the absence of these hormones (Rey et al., 2020).

107. However, at every step along this pathway, typical sex differentiation depends on a complex interplay of genetic instructions, cellular changes, production of hormones, and tissue changes in response to these hormones. Individual differences, such as having an atypical chromosomal sex or having genetic mutations in genes required for hormonal production or synthesis of hormone receptors, result in a broad spectrum of variability in sex differentiation. In cases where these individual variation leads to atypical sex differentiation, a fetus will have hormonal production and/or anatomic development discordant with the chromosomal sex (Rey et al., 2020). According to a consensus statement by the Lawson Wilkins Pediatric Endocrine Society (now called the Pediatric Endocrine Society) and the European Society for Paediatric Endocrinology, the term "disorders of sex development" is defined as "congenital conditions in which development of chromosomal, gonadal, or anatomical sex is atypical. These situations, when chromosomal sex, hormonal sex, and or anatomic sex are not fully concordant, are termed DSDs" (Hughes, et al., 2006).

108. Approximately 1 in 1000 to 4500 infants have a DSD. As a pediatric endocrinologist, I am frequently paged to the nursery to evaluate babies born with genitals which are neither clearly male nor female. This is often a time of uncertainty and distress for parents and families. A multidisciplinary team of experienced providers perform laboratory, genetic, and imaging studies to better understand the sex of the infant. A karyotype test is performed to learn the chromosomal sex. An ultrasound can be helpful to evaluate the appearance of the gonads and internal sex organs. The sex assignment is ultimately made based on the best available evidence and considerations such as the type of DSD, prenatal hormone exposures, fertility considerations, and psychosocial factors (Mehmood, et al., 2023).

109. The understanding of this complex topic is aided by providing examples. Androgen insensitivity syndrome is a spectrum of conditions involving mutations involving the androgen receptor. In these conditions, individuals with XY sex chromosomes and testes make testosterone normally. However, the receptor to which testosterone attaches in every cell of the body is faulty. In *complete* androgen sensitivity syndrome (CAIS), testosterone has no ability to activate its receptor, and despite normal production of testosterone from normal testes, there is no masculinization of the genitals during fetal life. Infants with CAIS have normal appearing female genitals, no uterus, and testes in the abdomen. These infants have a male chromosomal sex, a male gonadal sex, an abnormal male internal anatomic sex, and a typical female external anatomic sex. Infants with CAIS are invariably assigned female at birth and typically have a female gender identity when they are able to express a gender identity (Acién, Acién, 2020).

110. In less severe mutations to the androgen receptor, an individual will have less than normal, or partial, response to testosterone at the receptor. The result is a spectrum of presentations at birth classified as *partial* androgen insensitivity syndrome (PAIS); some individuals with external genitals appearing more female, others more male, and some squarely ambiguous (Acién, Acién, 2020). Sex assignment following birth is variable for patients with PAIS despite all of these patients having a male chromosomal sex and gonadal sex. In a report of 118 cases of PAIS, 87 (74%) were assigned male and raised as boys and 31 (26%) were assigned female and raised as girls (Kolesinska, et al., 2014). A separate review of 99 individuals with PAIS found that 9 (9.1%) later expressed a gender identity opposite that of the sex assigned at birth and transitioned to the identified sex (Mazur, 2005).

111. Congenital adrenal hyperplasia (CAH) is a DSD previously described in this report (¶ 35). Fetuses with XX chromosomes affected by CAH produce much higher levels of

testosterone compared to fetuses without the condition. This is due to deficiencies in enzymes involved in the synthesis of hormones within the adrenal gland. Sex assignment at birth is variable, with some infants with this condition assigned female, and others male. A literature review including 283 individuals with CAH demonstrated that in patients assigned female 5.3% (13 of 250) had gender identity concerns later in life; in patients assigned male 12.1% (4 of 33) had gender concerns (Dessens, et al., 2005).

112. 5-alpha reductase deficiency (5aRD) is a condition where individuals with typical XY chromosomal sex, normal testes, and normal ability to produce testosterone have an enzymatic deficiency whereby testosterone cannot be converted to the more potent activated version of testosterone called dihydrotestosterone (DHT) (Acién, Acién, 2020). Infants with 5aRD typically have a genital appearance ranging from more female, more male, or frankly ambiguous. Gender identity concerns are extremely common in this condition, with one study suggesting that 63% of infants assigned female at birth later express having a male gender (Cohen-Kettenis, 2005). In the 1970's scientists discovered that in an isolated village in the Dominican Republic approximately 2% of the population carried a XY chromosomal sex with apparent female genitals at birth. These children were raised as girls until puberty, at which time the clitoral structure grew into a small phallus, the body became more masculinized, the voice deepened, and the adolescent lived a life typical of other males in the village. This variation of sex was so common that individuals with this condition were referred to as *guevedoce* (translated as "penis at 12") and were accepted as a normal and valued part of the community (Marks, 2005). In the United States today, when a DSD team and parents elect to assign a female sex to an infant with 5aRD the decision is often made to remove the testes in order to prevent masculinization at puberty (Kumar, Barboza-Meca, 2022).

113. McGee, et al. (2022) describe a case of a patient with ambiguous genitalia born in China and assigned male at birth. Upon adoption in the United States the child clearly identified as female and presented to a pediatric endocrinologist at age 4. The child was reared female and her legal name and gender were changed. At age 11 she entered puberty and developed gender dysphoria related to masculinizing changes. She was treated with puberty blockers at Tanner stage 2, followed by estrogen. She later was treated with gender affirming feminizing genital surgery.

114. This case highlights the folly and short-sightedness of Section 2 of Executive Order 14168, and by extension, Executive Order 14187. The child described received a sex assignment of male at birth, which, upon learning the child's gender identity, was determined to be incorrect. If the child had been assigned female at birth and born in the United States, she may have had a gonadectomy in infancy. Her providers could have also elected to perform gonadectomy at age 4. Instead, they placed a higher priority on patient autonomy and assent, and used lessons learned from the management of gender dysphoria to make a more careful and cautious, and ultimately successful medical plan.

115. Across all DSDs the variability of gender identity requires re-evaluation of sex assignment when the infant becomes a child and expresses a gender identity. For this reason, it is recommended that children and adolescents with DSD receive multidisciplinary care and long-term psychological support as it pertains to gender identity (Babu, Shah, 2021). Section 2 of Executive Order 14168 ignores this science and places individuals with DSDs in a precarious and confusing position.

116. The majority of transgender adolescents to not have a DSD. But the Executive Orders' failure to acknowledge the existence of DSDs illustrates that the definitions in the Executive Orders do not actually reflect "biological truth" or "the biological reality of sex."

Instead, the Orders ignore the "biological reality" that not every person can be classified as male or female at conception. The Executive Orders' complete exclusion of gender identity as a sex characteristic with a biological basis is similarly not rooted in "biological truth." They ignore biological basis from which gender identity is derived, as described in paragraphs 32-37 above.

117. "Gender ideology" is not a medical term. The order claims this term "replaces the biological category of sex with an ever-shifting concept of self-assessed gender identity, permitting the false claim that males can identify as and thus become women and vice versa, and requiring all institutions of society to regard this false claim as true." It is fact that some individuals identify with a sex different from what was assigned at birth. Acceptance or lack-of-acceptance of this fact by any "institutions of society" does not make it any more or less true.

118. "Gender dysphoria" is defined as "disconnected from biological reality" and again ignores there are biological factors underpinning of gender identity. Gender identity is not used as "a replacement for sex" but rather an important aspect of sex.

B. Response to Section 1 of Executive Order 14187

119. Section 1 of Executive Order 14187 contains gross mischaracterizations and falsehoods related to the provision of gender-affirming care for adolescents with gender dysphoria. The order claims that medical professionals are "maiming and sterilizing" patients and that the professionals themselves are changing a child's sex. Adolescents with gender dysphoria have a medical condition for which safe, effective, and evidence-based treatment exists, as described throughout this report. Furthermore, the statement omits the critical importance of the informed consent discussions that must occur between medical providers, patients and their parents at every stage of medical decision making.

120. This section proceeds to hyperbolically misconstrue the rate of regret amongst

adolescents receiving gender affirming care, a rate that is exceedingly low, especially comparted to the extremely high rates of depression and suicidality in untreated patients. In a study of 720 individuals treated with puberty blockers followed by hormones in adolescents, van der Loos et al. (2022) found only 2% had discontinued hormonal treatment in adulthood. Furthermore, the study found no evidence that this 2% discontinued due to regret. More recently, a study by Boskey et al. (2024) sought to the rate of, and reasons for, discontinuation of gender-affirming hormones in transgender adolescents and found that of the 1,050 eligible individuals, only 37 (4%) had discontinued gender-affirming hormones without later restarting hormones and of those who discontinued hormones without restarting, only 5 (0.5%) individuals did so because they reidentified with the gender associated with their sex assigned at birth. By contrast, analysis of survey data of transgender adolescents age 13-17 by Green et al. (2022) suggests treatment with hormonal interventions are associated with nearly 40% lower odds of recent depression and attempting suicide in the past year.

121. The order suggests that "vulnerable youths' medical bills may rise throughout their lifetimes, as they are often trapped with lifelong medical complications, a losing war with their own bodies, and, tragically, sterilization." While the meaning of this sentence is unclear to me, I contend that just like any chronic medical problem, appropriate treatment of gender dysphoria, especially in adolescence, reduces the cumulative expense of health care costs throughout one's life. A patient never developing unwanted secondary sex characteristics won't require surgical interventions in adulthood. A patient spending a $10 co-pay for estrogen each month (if covered by insurance) may save a lifetime worth of mental health treatments, including hospital admissions to address suicidality. Patients appropriately treated for gender dysphoria are not "losing a war with their own bodies" but rather receiving care which allows them to love their bodies. The

flippant comment regarding sterilization is misleading in that the uninformed reader might assume that any-and-all gender affirming medical interventions render patients completely and permanently sterile. As discussed above (¶¶ 81-83) fertility risks are variable and unique to each individual patient's circumstances, fertility preservation options are discussed and utilized when desired, and risk for fertility changes must be balanced with the risk of withholding treatment. This is true for gender affirming care just as it is for all medical treatments with potential impact on fertility. The Executive order oversimplifies a complex and important topic.

C. Response to Section 2 of Executive Order 14187

122. Section 2 of Executive Order 14187 defines "child" or "children" to mean "an individual or individuals under 19 years of age." The basis for this definition is not provided; however, in the United States, individuals aged 18 are characterized as adults for purposes of providing informed consent for medical interventions, including gender-affirming medical care.

123. This section also proceeds to relabel gender-affirming medical care as "chemical and surgical mutilation", a term not only offensive to transgender adolescents and medical providers dedicated to improving their health and well-being, but medically and scientifically inaccurate for reasons made clear throughout this declaration.

124. Finally, prohibiting medical care to individuals under 19 that "attempt to alter or remove an individual's sexual organs to minimize or destroy their natural biological functions" is written in a way that unintentionally includes care unrelated to gender affirmation. It is medically ambiguous as to whether this order would impact medical management of menstrual irregularities, surgeries to treat testicular or ovarian cancer, use of GnRH agonists to treat precocious puberty, and management of DSDs, for example.

D. Response to Section 3(a) of Executive Order 14187

125. This section attacks the credibility of WPATH, which as described above publishes evidence-based clinical guidelines for the treatment of gender dysphoria that are considered authoritative by, and whose recommendations receive broad support from, a wide spectrum of medical professional organizations including the American Academy of Pediatrics, the American Medical Association, the American Psychological Association, the American Psychiatric Association, and American Academy of Family Physicians.

126. The call to action contained in this paragraph, commissioning a review while simultaneously dictating what the result of the review must be, is contrary to the foundation of science and scientific integrity.

127. One of the most important aspects of the WPATH Standards of Care is the recommendation that gender affirming care be provided by medical professionals working within multidisciplinary care teams. The bringing together of providers with high levels of knowledge and expertise in the assessment and management of gender dysphoria is most practically done at large academic medical institutions, which have the organizational structure and financial resources to develop comprehensive models of care in line with WPATH standards. This Executive order kneecaps the ability to provide multidisciplinary care at the institutions best situated to provide this care.

IV. CONCLUSION

128. In summary, banning gender-affirming medical care for adolescents and young adults regardless of individual patient need runs counter to evidence-based best practices and standards of care for the treatment of gender dysphoria.

129. Prohibiting gender-affirming medical care, and coverage thereof, for adolescents with gender dysphoria is likely to have devastating consequences and will result in worse outcomes for countless young persons. I am concerned that by conditioning federal funding for healthcare institutions on refusing to provide medical treatment for gender dysphoria for people under 19, Executive Order 14187 and Executive Order 14168 might lead to a staggering increase in mental health problems, including depression, anxiety, and suicidality, for adolescents with gender dysphoria across the United States.

130. In my own clinical practice in Michigan, I have seen an influx of patients from states banning medically proven treatments for gender dysphoria who report not feeling safe living in the community that they have always called home. These patients unfortunately often have to wait long periods of time to resume care and when they are seen, the impact of this delay is devastating on their mental health. They have described themselves as "refugees" in their own country, moving to avoid discriminatory laws which they know would clearly harm their health or the health of their child. Executive Order 14187 and Executive Order 14168 now seeks to make these medical interventions, consistent with established and medically guidelines, largely unattainable for people under the 19 in the United States.

131. Barring effective treatment for gender dysphoria will not eliminate transgender people, but will, unfortunately, lead to an increase in mental health problems and suicidality in an already vulnerable population.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 17th day of February 2025.

Daniel Shumer, M.D.

Exhibit A

Daniel Shumer

Clinical Associate Professor

Education and Training

Education

08/2000-08/2003	BA, Northwestern University, Evanston, IL
08/2004-05/2008	MD, Northwestern University, Feinberg School of Medicine, Chicago, IL
07/2013-05/2015	MPH, Harvard T.H. Chan School of Public Health, Boston, MA

Postdoctoral Training

06/2008-06/2011	Residency, Pediatrics, Vermont Children's Hospital at Fletcher Allen Health Care, Burlington, VT
07/2011-06/2012	Chief Resident, Chief Resident, Vermont Children's Hospital at Fletcher Allen Health Care, Burlington, VT
07/2012-06/2015	Clinical Fellow, Pediatric Endocrinology, Boston Children's Hospital, Boston, MA

Certification And Licensure

Certification

10/2011-Present	American Board of Pediatrics, General

Licensure

08/2015-Present	Michigan, Medical License
09/2015-Present	Michigan, DEA License
09/2015-Present	Michigan, Controlled Substance

Work Experience

Academic Appointment

10/2015-Present	Clinical Assistant Professor in Pediatrics - Endocrinology, University of Michigan - Ann Arbor, Ann Arbor
04/2022-Present	in Pediatrics - Endocrinology, University of Michigan - Ann Arbor, Ann Arbor
09/2022-Present	Clinical Associate Professor in Pediatrics - Endocrinology, University of Michigan - Ann Arbor, Ann Arbor

Administrative Appointment

07/2019-01/2023	Fellowship Director - Pediatric Endocrinology, Michigan Medicine, Department of Pediatrics, Ann Arbor
07/2020-Present	Medical Director of the University of Michigan Comprehensive Gender Services Program, Oversee the provision of care to transgender and gender non-conforming patients at Michigan Medicine, Michigan Medicine, Ann Arbor
07/2020-01/2023	Education Lead - Pediatric Endocrinology, University of Michigan - Department of Pediatrics, Ann Arbor

Clinical Appointments

04/2022-Present	Medical Director in UMMG Faculty Benefits Appt., University of Michigan - Ann Arbor, Ann Arbor

Private Practice

08/2013-09/2015	Staff Physician, Harvard Vanguard Medical Associates, Braintree

Research Interests

- Gender dysphoria
- Prader Willi Syndrome

Clinical Interests

- Gender dysphoria
- Disorders of Sex Development
- Prader Willi Syndrome

Grants

Current Grants

Newborn Screening Coordinating Center:
Co-I (Principal Investigator: Ram Menon)
MDHHS
10/2024 - 09/2025

Transgender Health Outcomes in Orthopedics: A Mixed-Methods Study of Patient and Provider Experiences:
Co-I (Principal Investigator:Jaimo Ahn)
BCBSF
08/2024 - 07/2026

Submitted - Open

U54:*Variations of Sex Development - Translational Research Network:*
Co-I (Principal Investigator:David Sandberg)
NIH-DHHS-US-SubK sourced funding through University of California - Irv
07/2025 - 06/2030

Past Grants

Newborn Screening Coordinating Center:
Co-I (Principal Investigator:Ram Menon)
MDHHS
10/2023 - 09/2024

FY23-Project AW (NEWBRSC-UM): Newborn Screening Coordinating Center:
Co-I (Principal Investigator:Ram Menon)
MDHHS
10/2022 - 09/2023

A Phase 2b/3 study to evaluate the safety, tolerability, and effects of Livoletide (AZP-531), an unacylated ghrelin analog, on food-related behaviors in patients with Prader-Willi syndrome:
PI
Millendo Therapeutics
04/2019 - 04/2021

Honors and Awards

National

2014	Annual Pediatric Endocrine Society Essay Competition: Ethical Dilemmas in Pediatric Endocrinology: competition winner - The Role of Assent in the Treatment of Transgender Adolescents

Institutional

2012 - 2015	Harvard Pediatric Health Services Research Fellowship; funded my final two years of pediatric endocrine fellowship and provided tuition support for my public health degree
2016	The University of Michigan Distinguished Diversity Leaders Award, awarded by The Office of Diversity, Equity and Inclusion to the Child and Adolescent Gender Services Team under my leadership
2019	Lecturer of the Month, Department of Pediatrics, Michigan Medicine

Teaching

Mentorship

Resident

07/2020-06/2021	Rebecca Warwick, Michigan Medicine (co-author on publication #22)

Clinical Fellow

07/2017-06/2020	Adrian Araya, Michigan Medicine (co-author on publication #22, book chapter #4)
12/2020-06/2023	Jessica Jary, Michigan Medicine - Division of Adolescent Medicine, Clinical and research mentorship

Medical Student

09/2017-06/2020	Michael Ho, Michigan Medicine
07/2019-06/2020	Hadrian Kinnear, University of Michigan Medical School (co-author on book chapter #3, abstract #3)
07/2019-06/2020	Jourdin Batchelor, University of Michigan

Teaching Activity

Regional

08/2018-Present	Pediatric Boards Review Course sponsored by U-M: "Thyroid Disorders and Diabetes". Ann Arbor, MI
06/2023-Present	Care for Transgender Children and Adolescents, Wayne State University School of Social Work, Guest Lecturer
10/2023-Present	Care for Transgender Children and Adolescents, Stand With Trans, Guest Lecturer

Institutional

12/2015-12/2015	Pediatric Grand Rounds: "Transgender Medicine - A Field in Transition". Michigan Medicine, Ann Arbor, MI
02/2016-02/2016	Medical Student Education: Panelist for M1 Class Session on LGBT Health, Doctoring Curriculum. Michigan Medicine, Ann Arbor, MI
02/2016-02/2016	Psychiatry Grand Rounds: "Transgender Medicine - A Field in Transition". Michigan Medicine, Ann Arbor, MI
03/2016-03/2017	Pharmacy School Education: "LGBT Health". University of Michigan School of Pharmacy, Ann Arbor, MI

04/2016-Present	Course Director: Medical Student (M4) Elective in Transgender Medicine. Michigan Medicine, Ann Arbor, MI
04/2016-04/2016	Rheumatology Grand Rounds: "Gender Identity". Michigan Medicine, Ann Arbor, MI
05/2016-05/2016	Lecture to Pediatric Rheumatology Division: "Gender Dysphoria". Michigan Medicine, Ann Arbor, MI
07/2016-07/2016	Internal Medicine Resident Education: "Gender Identity". Michigan Medicine, Ann Arbor, MI
09/2016-09/2016	Presentation to ACU Leadership: "Gender Identity Cultural Competencies". Michigan Medicine, Ann Arbor, MI
10/2016-10/2016	Presentation to Department of Dermatology: "The iPledge Program and Transgender Patients". Michigan Medicine, Ann Arbor, MI
02/2017-02/2017	Swartz Rounds Presenter. Michigan Medicine, Ann Arbor, MI
02/2017-02/2017	Lecture to Division of General Medicine: "Transgender Health". Michigan Medicine, Ann Arbor, MI
02/2017-02/2017	Presentation at Collaborative Office Rounds: "Transgender Health". Michigan Medicine, Ann Arbor, MI
10/2017-10/2017	Family Medicine Annual Conference: "Transgender Medicine". Michigan Medicine, Ann Arbor, MI
12/2017-12/2017	Presenter at Nursing Unit 12-West Annual Educational Retreat: "Gender Identity at the Children's Hospital". Michigan Medicine, Ann Arbor, MI
02/2018-Present	Pediatrics Residency Lecturer: "Puberty". Michigan Medicine, Ann Arbor, MI
02/2019-Present	Medical Student (M1) Lecturer: "Pediatric Growth and Development". Michigan Medicine, Ann Arbor, MI
02/2019-02/2020	Doctors of Tomorrow Preceptor: offering shadowing opportunities to students from Cass Technical High School in Detroit. Michigan Medicine, Ann Arbor, MI
03/2019-03/2019	Lecture to Division of Orthopedic Surgery: "Transgender Health". Michigan Medicine, Ann Arbor, MI
07/2021-Present	Guest Lecturer, Recurring - SW726 Counseling and Advocacy for LGBTQIA2S+ Youth, University of Michigan School of Social Work
04/2023-Present	Guest Lecturer in Woman and Gender Studies 400 undergraduate course, University of Michigan
07/2023-07/2023	Care for Transgender Children and Adolescents, University of Michigan School of Nursing, Pediatric Nurse Practitioner Students, Guest Lecturer
10/2023-10/2023	Morning Report: Serving as an Expert Witness, Michigan Medicine: Pediatrics Residency Program
10/2023-10/2023	Care for Transgender Children and Adolescents, University of Michigan School of Nursing, Guest Lecturer
10/2024-10/2024	Early Career Faculty Professional Development Series, Michigan Medicine, Department of Psychiatry, Guest Lecturer

Memberships in Professional Societies

2012 - Present	Pediatric Endocrine Society

Committee/Service

National

2014 - 2016	Pediatric Endocrine Society - Ethics Committee, Other, Member
2017 - Present	Pediatric Endocrine Society - Special Interest Group on Gender Identity, Other, Member

2018 - 2023	Pediatric Endocrine Society - Program Directors Education Committee, Other, Member

Regional

2013 - 2015	Investigational Review Board - The Fenway Institute, Boston, MA, Other, Voting Member

Institutional

2017 - 2019	Department of Pediatrics at Michigan Medicine; Diversity, Equity, and Inclusion Committee, Other, Fellowship Lead
2017 - 2019	University of Michigan Transgender Research Group, Other, Director
2020 - Present	AOA Selection Committee, University of Michigan Medical School, Member
2023 - Present	Admissions Committee, University of Michigan Medical School, Member

Volunteer Service

Volunteer

2014	Camp Physician, Massachusetts, Served at a camp for youth with Type 1 Diabetes

Scholarly Activities

Presentations

Extramural Invited Presentation

Keynote

1. Gender-affirming care for pediatric providers, Michigan Chapter of the American Academy of Pediatrics Annual Conference, 09/2021, Grand Rapids, Michigan (virtual due to COVID)

Speaker

1. Grand Rounds, **Shumer D**, Loyola University School of Medicine, 07/2022, Chicago, Illinois
2. Gender Affirming Care for Adolescents, **Shumer D**, Children's Hospital Detroit, 02/2024, Detroit, MI

Other

1. Gender Identity, Groton School, 04/2015, Groton, MA
2. Television Appearance: Gender Identity in Youth, Channel 7 WXYZ Detroit, 04/2016, Southfield, MI
3. It Gets Better: Promoting Safe and Supportive Healthcare Environments for Sexual Minority and Gender Non-Conforming Youth, Adolescent Health Initiative: Conference on Adolescent Health, 05/2016, Ypsilanti, MI
4. Gender Identity, Humanists of Southeast Michigan, 09/2016, Farmington Hills, MI
5. Gender Identity, Pine Rest Christian Mental Health Services, 10/2016, Grand Rapids, MI
6. Pediatric Grand Rounds - Hormonal Management of Transgender Youth, Beaumont Children's Hospital, 11/2016, Royal Oak, MI
7. Transgender Youth: A Field in Transition, Temple Beth Emeth, 11/2016, Ann Arbor, MI
8. Transgender Youth: A Field in Transition, Washtenaw County Medical Society, 11/2016, Ann Arbor, MI
9. Pediatric Grand Rounds: Transgender Youth - A Field in Transition, St. John Hospital, 02/2017, Detroit, MI
10. Transgender Medicine, Veterans Administration - Ann Arbor Healthcare System, 05/2017, Ann Arbor, MI
11. Gender Identity, Hegira Programs, 05/2017, Detroit, MI
12. Care of the Transgender Adolescent, Partners in Pediatric Care, 06/2017, Traverse City, MI
13. Conference planner, host, and presenter: Transgender and Gender Non-Conforming Youth: Best

Practices for Mental Health Clinicians, Educators, & School Staff; 200+ attendees from fields of mental health and education from across Michigan, Michigan Medicine, 10/2017, Ypsilanti, MI

14. Endocrinology Grand Rounds: Transgender Medicine, Wayne State University, 11/2017, Detroit, MI

15. Care of the Transgender Adolescent, St. John Hospital Conference: Transgender Patients: Providing Compassionate, Affirmative and Evidence Based Care, 11/2017, Grosse Pointe Farms, MI

16. Hormonal Care in Transgender Adolescents, Michigan State University School of Osteopathic Medicine, 11/2017, East Lansing, MI

17. Working with Transgender and Gender Non-Conforming Youth, Michigan Association of Osteopathic Family Physicians, 01/2018, Bellaire, MI

18. Community Conversations, Lake Orion, 01/2018, Lake Orion, MI

19. "I Am Jazz" Reading and Discussion, St. James Episcopal Church, 03/2019, Dexter, MI

20. Gender Identity, Michigan Organization on Adolescent Sexual Health, 10/2019, Brighton, MI; Port Huron, MI

21. Ask The Expert, Stand With Trans, 05/2020, Farmington Hills, MI (Virtual due to COVID)

22. Lets Talk About Hormones, Stand With Trans, 10/2020, Farmington Hills, MI (Virtual due to COVID)

23. Transgender Medicine, Michigan Association of Clinical Endocrinologists Annual Symposium, 10/2020, Grand Rapids, MI (Virtual due to COVID)

24. Transgender Youth in Primary Care, Michigan Child Care Collaborative (MC3), 10/2020, Ann Arbor, MI (Virtual due to COVID)

25. Gender Identity, Universalist Unitarian Church of East Liberty, 04/2021, Virtual due to COVID

26. Unconscious Bias, Ascension St. John Hospital, 05/2021, Virtual due to COVID

Intramural Invited Presentation

Speaker

1. Grand Rounds: Assessment and Management of Gender Dysphoria in Pediatrics, **Shumer D**, Michigan Medicine - Department of Pediatrics, 04/2024, Ann Arbor, MI

2. Grand Rounds: Care for Transgender Children and Adolescents, **Shumer D**, Goldman P, University of Michigan Department of Family Medicine, 11/2024, Ann Arbor, MI

3. Grand Rounds: Gender Affirming Care, Evergreen L, **Shumer D**, Michigan Medicine - Department of Psychiatry, 01/2025, Ann Arbor, MI

Panel

1. Gender and Health Panel: Gender Affirming Care for Adolescents, Elevate at The University of Michigan in conjunction with Partners in Health,, 03/2022, Ann Arbor, MI

2. Providing Gender-Affirming Care, University of Michigan Medical School, OutMD, 10/2023, Ann Arbor, MI

Publications/Scholarship

(Co-First Author *; Corresponding author **; Co-Last author ***)

Peer-Reviewed Manuscripts

Journal Article

1. **Shumer DE**, Mehringer JE, Braverman LE, Dauber A: Acquired hypothyroidism in an infant related to excessive maternal iodine intake: food for thought. *Endocr Pract*.19(4): 729-731, 01/2013. PM23512394

2. **Shumer DE**, Spack NP: Current management of gender identity disorder in childhood and adolescence: guidelines, barriers and areas of controversy. *Curr Opin Endocrinol Diabetes Obes*.20(1): 69-73, 02/2013. PM23221495

3. **Shumer DE**, Thaker V, Taylor GA, Wassner AJ: Severe hypercalcaemia due to subcutaneous fat necrosis: presentation, management and complications. *Arch Dis Child Fetal Neonatal Ed*.99(5): F419-

F421, 09/2014. PM24907163

4. Tishelman AC, Kaufman R, Edwards-Leeper L, Mandel FH, **Shumer DE**, Spack NP: Serving Transgender Youth: Challenges, Dilemmas and Clinical Examples. *Prof Psychol Res Pr*.46(1): 37-45, 01/2015. PM26807001

5. **Shumer DE**, Tishelman AC: The Role of Assent in the Treatment of Transgender Adolescents. *Int J Transgend*.16(2): 97-102, 01/2015. PM27175107

6. **Shumer DE**, Roberts AL, Reisner SL, Lyall K, Austin SB: Brief Report: Autistic Traits in Mothers and Children Associated with Child's Gender Nonconformity. *J Autism Dev Disord*.45(5): 1489-1494, 05/2015. PM25358249

7. Tishelman AC, Kaufman R, Edwards-Leeper L, Mandel FH, **Shumer DE**, Spack NP: Reply to comment on "Serving Transgender Youth: Challenges, Dilemmas, and Clinical Examples" by Tishelman et al. (2015). *Prof Psychol Res Pr*.46(4): 307, 08/2015. PM26858509

8. Guss C, **Shumer D**, Katz-Wise SL: Transgender and gender nonconforming adolescent care: psychosocial and medical considerations. *Curr Opin Pediatr*.27(4): 421-426, 08/2015. PM26087416

9. **Shumer DE**, Nokoff NJ, Spack NP: Advances in the Care of Transgender Children and Adolescents. *Adv Pediatr*.63(1): 79-102, 08/2016. PM27426896

10. **Shumer DE**, Reisner SL, Edwards-Leeper L, Tishelman A: Evaluation of Asperger Syndrome in Youth Presenting to a Gender Dysphoria Clinic. *LGBT Health*.3(5): 387-390, 10/2016. PM26651183

11. **Shumer DE**, Harris LH, Opipari VP: The Effect of Lesbian, Gay, Bisexual, and Transgender-Related Legislation on Children. *J Pediatr*.178: 5-6.e1, 11/2016. PM27575000

12. **Shumer DE**, Abrha A, Feldman HA, Carswell J: Overrepresentation of Adopted Adolescents at a Hospital-Based Gender Dysphoria Clinic. *Transgend Health*.2(1): 76-79, 01/2017. PM28861549

13. Edwards-Leeper L, **Shumer DE**, Feldman HA, Lash BR, Tishelman AC: Psychological profile of the first sample of transgender youth presenting for medical intervention in a U.S. pediatric gender center. *Psychology of Sexual Orientation and Gender Diversity*.4(3): 374-382, 01/2017

14. Tishelman AC, **Shumer DE**, Nahata L: Disorders of Sex Development: Pediatric Psychology and the Genital Exam. *J Pediatr Psychol*.42(5): 530-543, 06/2017. PM27098964

15. Strang JF, Meagher H, Kenworthy L, de Vries AL C, Menvielle E, Leibowitz S, Janssen A, Cohen-Kettenis P, **Shumer DE**, Edwards-Leeper L, Pleak RR, Spack N, Karasic DH, Schreier H, Balleur A, Tishelman A, Ehrensaft D, Rodnan L, Kuschner ES, Mandel F, Caretto A, Lewis HC, Anthony LG: Initial Clinical Guidelines for Co-Occurring Autism Spectrum Disorder and Gender Dysphoria or Incongruence in Adolescents. *J Clin Child Adolesc Psychol*.47(1): 105-115, 01/2018. PM27775428

16. Mohnach L, Mazzola S, **Shumer D**, Berman DR: Prenatal diagnosis of 17-hydroxylase/17,20-lyase deficiency (17OHD) in a case of 46,XY sex discordance and low maternal serum estriol. *Case Reports in Perinatal Medicine*.8(1)01/2018

17. Kim C, Harrall KK, Glueck DH, **Shumer D**, Dabelea D: Childhood adiposity and adolescent sex steroids in the EPOCH (Exploring Perinatal Outcomes among Children) study. *Clin Endocrinol (Oxf)*.91(4): 525-533, 01/2019. PM31278867

18. Selkie E, Adkins V, Masters E, Bajpai A, **Shumer D**: Transgender Adolescents' Uses of Social Media for Social Support. *J Adolesc Health*.66(3): 275-280, 03/2020. PM31690534

19. Araya AC, Warwick R, **Shumer D**, Selkie E: Romantic Relationships in Transgender Adolescents: A Qualitative Study. *Pediatrics*.147(2)02/2021. PM33468600

20. Vengalil N, **Shumer D**, Wang F: Developing an LGBT curriculum and evaluating its impact on dermatology residents. *Int J Dermatol*.61: 99-102, 01/2022. PM34416015

21. Warwick RM, Araya AC, **Shumer DE**, Selkie EM: Transgender Youths' Sexual Health and Education: A Qualitative Analysis. *J Pediatr Adolesc Gynecol*.35(2): 138-146, 04/2022. PM34619356

22. Warwick RM, **Shumer DE**: Gender-affirming multidisciplinary care for transgender and non-binary children and adolescents. *Children's Health Care*.52(1): 91-115, 01/2023

23. Diaz-Thomas AM, Golden SH, Dabelea DM, Grimberg A, Magge SN, Safer JD, **Shumer DE**, Stanford FC: Endocrine Health and Health Care Disparities in the Pediatric and Sexual and Gender Minority Populations: An Endocrine Society Scientific Statement. *J Clin Endocrinol Metab*.108(7): 1533-1584,

06/2023. PM37191578

24. Waselewski AC, Klumpner TT, Kountanis JA, Sandberg ES, **Shumer DE**: Dexamethasone for postoperative nausea and vomiting prophylaxis in cesarean delivery and a delayed diagnosis of neonatal congenital adrenal hyperplasia. *International Journal of Obstetric Anesthesia*.Available on line12/2023. PM38195332

25. Roszell K, **Shumer D**, Orringer J, Wang F: Limited health insurance coverage of injectable neurotoxins and fillers for gender affirmation: a cross-sectional study of Affordable Care Act silver and Medicaid plans. *Int J Womens Dermatol*.10(1): e126, 03/2024. PM38313363

26. Blaszczak J, Wiener S, Plegue M, **Shumer D**, Shatzer J, Hernandez A: Evaluating the effectiveness of an online curriculum on caring for transgender and nonbinary patients. *Med Educ Online*.29(1): 2311481, 12/2024. PM38320110

Books

1. Clara A-V, Bizic M, Bockting WO, Bouman M-B, Bowers ML, Buncamper ME, Capitán L, Castillo M, Chim HW, Colebunders B, Crane C, D'Arpa S, Djordjevic ML, Estes C, Fein LA, Gasgarth R, Hoebeke P, Horne M, Joumblat NR, Kojic S, Levine JP, Lumen N, Meijerink WJ H J, Monstrey SJ, Salgado CJ, **Shumer DE**, Simon D, Sinha VR, Sinha VK, Spack NP, Sputova K, Stanojevic D, Stojanovic B, Tarsha AA, Thomas JP, van der Sluis WB, Volker MK, Weiss RE, Yamaguchi Y, Zhao LC, Zoghbi Y. *Gender Affirmation Medical & Surgical Perspectives*. Thieme, (2017)

Chapters

1. **Shumer D**: Coma. In Schwartz MW *The 5-Minute Pediatric Consult*,6, Lippincott Williams & Wilkins, Philadelphia, PA, (2012)

2. **Shumer D**, Spack N: Medical Treatment of the Adolescent Transgender Patient. In Đorđević M, Monstrey SJ, Salgado CJ Eds. *Gender Affirmation: Medical and Surgical Perspectives*,CRC Press/Taylor & Francis, (2016)

3. **Shumer DE**, Kinnear HA: Duration of Pubertal Suppression and Initiation of Gender-Affirming Hormone Treatment in Youth. In Finlayson *Pubertal Suppression in Transgender Youth*,Elsevier, (2018)

4. Araya A, **Shumer DE**: Endocrinology of Transgender Care – Children and Adolescents. In Poretsky, Hembree Ed. *Transgender Medicine: A Multidisciplinary Approach*,Springer, (2019)

5. **Shumer D**: Health Disparities Facing Transgender and Gender Nonconforming Youth Are Not Inevitable. *Pediatric Collections: LGBTQ+: Support and Care (Part 2: Health Concerns and Disparities)*,American Academy of Pediatrics (AAP), (2021), 71-72

Other

Commentary

1. Martin S, Sandberg ES, **Shumer DE**: Criminalization of Gender-Affirming Care - Interfering with Essential Treatment for Transgender Children and Adolescents. *New England Journal of Medicine*.385(7): 579-581, 05/2021. PM34010528

Comparative Study

1. Reisner SL, Vetters R, Leclerc M, Zaslow S, Wolfrum S, **Shumer D**, Mimiaga MJ: Mental health of transgender youth in care at an adolescent urban community health center: a matched retrospective cohort study. *J Adolesc Health*.56(3): 274-279, 03/2015. PM25577670

Editorial

1. **Shumer D**, Roberts SA: Placing a Report of Bicalutamide-Induced Hepatotoxicity in the Context of Current Standards of Care for Transgender Adolescents. *J Adolesc Health*.74(1): 5-6, 01/2024. PM38103922

Editorial comment

1. **Shumer DE**: Health Disparities Facing Transgender and Gender Nonconforming Youth Are Not Inevitable, 01/2018. PM29437859

2. Martin S, Sandberg ES, **Shumer DE**: Criminalization of Gender-Affirming Care - Interfering with Essential Treatment for Transgender Children and Adolescents, 01/2021

Erratum

1. Tishelman AC, Kaufman R, Edwards-Leeper L, Mandel FH, **Shumer DE**, Spack NP: Correction to Serving Transgender Youth: Challenges, Dilemmas, and Clinical Examples, [Professional Psychology: Research and Practice, 46(1), (2015) 37-45]. *Professional Psychology: Research and Practice*.46(4): 249, 08/2015

Letter

1. Strang JF, Janssen A, Tishelman A, Leibowitz SF, Kenworthy L, McGuire JK, Edwards-Leeper L, Mazefsky CA, Rofey D, Bascom J, Caplan R, Gomez-Lobo V, Berg D, Zaks Z, Wallace GL, Wimms H, Pine-Twaddell E, **Shumer D**, Register-Brown K, Sadikova E, Anthony LG: Revisiting the Link: Evidence of the Rates of Autism in Studies of Gender Diverse Individuals. *J Am Acad Child Adolesc Psychiatry*.57(11): 885-887, 11/2018. PM30392631

Letter to editor

1. **Shumer D**: Doctor as environmental steward, 01/2009. PM19364173

News

1. **Shumer DE**, Spack NP: Paediatrics: Transgender medicine--long-term outcomes from 'the Dutch model'. *Nat Rev Urol*.12(1): 12-13, 01/2015. PM25403246

Other

1. **Shumer D**: The Effect of Race and Gender Labels in the Induction of Traits. *Northwestern Journal of Race and Gender Criticism*.NA01/2014

2. **Shumer D**: A Tribute to Medical Stereotypes. *The Pharos, Journal of the Alpha Omega Alpha Medical Society*.Summer07/2017

3. Mohnach L, Mazzola S, **Shumer D**, Berman DR: Prenatal Diagnosis of 17-hydroxylase/17,20-lyase deficiency (17OHD) in a case of 46,XY sex discordance and low maternal serum estriol. *Case Reports in Perinatal Medicine*.8(1)12/2018

4. Araya A, **Shumer D**, Warwick R, Selkie E: 37. “I’ve Been Happily Dating For 5 Years” - Romantic and Sexual Health, Experience and Expectations in Transgender Youth. *Journal of Adolescent Health*.66(2): s20, 02/2020

5. Araya A, **Shumer D**, Warwick R, Selkie E: 73. "I think sex is different for everybody" - Sexual Experiences and Expectations in Transgender Youth. *Journal of Pediatric and Adolescent Gynecology*.33(2): 209-210, 04/2020

6. Araya AC, Warwick R, **Shumer D**, Selkie E, Rath T, Ibrahim M, Srinivasan A: Romantic Health in Transgender Adolescents. *Pediatrics*.Pediatrics01/2021

7. Chiang N, **Shumer D**: Understanding cytomorphologic changes in Pap tests of transgender men on testosterone therapy. *American Journal of Clinical Pathology*.160(Supplement_1): s66-s66, 11/2023

Podcast

1. Gaggino L, Shumer WG D: Pediatric Meltdown: Caring for Transgender Youth with Compassion: What Pediatricians Must Know, 01/2020

Abstract/Posters

1. **Shumer D**: Overrepresentation of Adopted Children in a Hospital Based Gender Program, World Professional Association of Transgender Health Biennial International Symposium, Amsterdam, The Netherlands, 2016

2. **Shumer D**: Mental Health Presentation of Transgender Youth Seeking Medical Intervention, World Professional Association of Transgender Health Biennial International Symposium, Amsterdam, The Netherlands, 2016

3. **Shumer D**, Kinnear H, McLain K, Morgan H: Development of a Transgender Medicine Elective for 4th Year Medical Students, National Transgender Health Summitt, Oakland, CA, 2017

4. Adkins V, Masters E, **Shumer D**, Selkie E: Exploring Transgender Adolescents' Use of Social Media for Support and Health Information Seeking (Poster Presentation), Pediatric Research Symposium, Ann Arbor, MI, 2017

5. Sandberg E, Baines HK, Aye T, Hart-Unger S, Lopez X, Nikita ME, Nokoff NJ, Persky R, **Shumer D**, Harris RM, Roberts SA: National Assessment for the Need of a Comprehensive Pediatric Gender Affirming Care Curriculum, Poster, Pediatric Endocrine Society Meeting, Virtual, 2021

Exhibit B

Exhibit B

Bibliography

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Babu, R., & Shah, U. (2021). Gender identity disorder (GID) in adolescents and adults with differences of sex development (DSD): A systematic review and meta-analysis. *Journal of pediatric urology*, *17*(1), 39–47. https://doi.org/10.1016/j.jpurol.2020.11.017

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