

# Exhibit

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CAUSE NO.

LAZARO LOE, *et al.*,

*Plaintiffs,*

v.

THE STATE OF TEXAS, *et al.*,

*Defendants.*

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IN THE DISTRICT COURT OF  
TRAVIS COUNTY, TEXAS  
\_\_\_\_ JUDICIAL DISTRICT

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**EXPERT AFFIDAVIT 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 management of transgender adolescents.

9. I have published extensively on the topic of gender identity in pediatrics and the treatment of gender dysphoria, as well as reviewed the peer-reviewed literature concerning medical treatments for gender dysphoria, the current standards of care 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 education of medical trainees. I was previously the Fellowship Director in the Division of Pediatric Endocrinology, and am currently the Education Lead for the Division of Pediatric Endocrinology, and 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 600 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 400 patients with gender dysphoria. The majority of the patients receiving care range between 10 and 21 years old. Most patients attending clinic live in Michigan or Ohio. As the Clinical Director, I oversee the clinical practice, which currently includes 5 physicians (including 1 psychiatrist), 1 nurse practitioner, 2 social workers, 1 research coordinator, 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 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 influence 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: *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 et al v. Utah High School Activities*

*Association et al* (Third District Court in and for Salt Lake County, UT); *Menefee v. City of Huntsville Bd. of Educ.*, No. 5:18-cv-01481 (N.D. Ala.); and *Cooper v. USA Powerlifting and Powerlifting Minnesota*, No. 62-CV-21-211 (Ramsey Cnty. Dist. Ct., Minn.). I also provided expert witness testimony on behalf of a parent in a custody dispute involving a transgender child in the following case: *In the Interest of Younger*, No. DF-15-09887 (Dallas County, Texas).

### **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 \$350 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 text of Senate Bill 14 (hereafter, “SB 14”, “the Act”, or “the Ban”), enacted by the 88th Texas legislature and signed into law by Governor on June 2, 2023, as well as the House Research Organization bill analysis of SB 14, dated May 12, 2023.

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. To the best of my knowledge, I have not met or spoken with the Plaintiffs or their parents. My opinions are based solely 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, including, among others, internal reproductive organs, external genitalia, chromosomes, hormones, gender identity, and secondary sex characteristics (IOM, 2011).

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 (IOM, 2011). The term *transgender* refers to individuals whose gender identity does not align with their 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, 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 (Chung, et al., 2002).



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 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. 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. Female fetuses affected by congenital adrenal hyperplasia produce much higher levels of testosterone compared to fetuses without the condition. While most 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).

35. 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).

36. 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**

37. 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 both the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5-TR) (APA, 2022).

38. *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 important 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).

39. 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.

40. 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).

41. In children and adolescents, the diagnosis of gender dysphoria is made by 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.

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

43. 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**

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

45. 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).

46. 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).

47. 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.

48. 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, and hormonal interventions such as testosterone and estrogen administration. These treatment options are based on robust research and clinical experience, which consistently demonstrate safety and efficacy.

49. 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), as well as the UCSF Center for Excellence in Transgender Health (Deutsch (ed.), 2016). The clinical practice guidelines and standards of care published by these organizations provide a framework for treatment of gender dysphoria in adolescents.

50. 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).

51. 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.

52. 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).

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

54. 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).

55. 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).

56. Aside from the AAP, the tenets set forth by the Endocrine Society Clinical Practice Guidelines and the WPATH Standards of Care are supported by the major professional medical and mental health associations in the United States, including the American Medical Association, the American Psychological Association, the American Psychiatric Association, and American Academy of Family Physicians, among others (e.g., AMA, 2019; American Psychological Association, 2015; Drescher, et al., 2018 (American Psychiatric Association); Hembree, et al., 2017 (Endocrine Society); Klein, et al., 2018 (AAFP); National Academies, 2020; WPATH, 2016).

57. 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**

58. 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.

59. 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.

60. 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.

61. 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.

62. 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**

63. 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.

64. 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).

65. 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. 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.

66. 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 recommence.

67. Prior to initiation of GnRHa, providers counsel patients and their families extensively on potential benefits and risks. 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.

68. 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 to 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.

69. 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. And for both patient populations the risks are greatly outweighed by the benefits of treatment.

70. 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 concerns; minors with growth hormone deficiency who despite growth hormone treatment will have a very short adult height; and young women with endometriosis. 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 and not considered experimental. The same holds true for other common medications used in pediatric endocrinology: using metformin for weight loss; growth hormone for short stature not caused by growth hormone deficiency; 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**

71. 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, but rather medical decisions are focused more on testosterone or estrogen therapy.

72. 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.

73. 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 and informed consent/assent for treatment, other mental health concerns (if any) that may interfere with diagnostic clarity and capacity to consent have been addressed, 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).

74. Under the Endocrine Society Clinical Guidelines and SOC 8, hormone therapy is an appropriate treatment for transgender adults 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, the adult has capacity to understand risks and benefits of treatment and provide consent for treatment (Coleman, et al., 2022; Hembree, et al., 2017).

75. 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.

76. 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).

#### **E. SAFETY AND EFFICACY OF PUBERTY-DELAYING MEDICATIONS AND HORMONE THERAPY TO TREAT GENDER DYSPHORIA**

77. 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 suicide.

78. 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.

79. 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.

80. 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).

81. 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).

82. 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.

83. 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). 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).

84. 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.

85. 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, gonadotropin deficiency, premature ovarian failure, and disorders of sex development all require treatment with these hormones, often times starting in adolescence and continuing lifelong. 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. Side effects are rare, but most often related to overtreatment, which can be minimized with this monitoring. Additionally, side effects are considered, discussed, and easily managed in all individuals needing hormone therapy regardless of the diagnosis necessitating these medications.

86. Venous thromboembolism (blood clotting) is a known side effect of estrogen therapy in all individuals placed on 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, no patient has suffered a thromboembolism while on estrogen therapy.

87. 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; 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). To highlight examples, Green et al. (2022) describe that gender-affirming hormone therapy is correlated with reduced rates of depression and suicidality among transgender adolescents. Turban et al. (2022) documented 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.

88. I treat many patients with gender dysphoria GnRHa, testosterone, and estrogen. Side effects related to these medications is very rare and can be treated with dose adjustment and/or lifestyle changes.

89. 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, 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).

90. In sum, the use of GnRHa and hormones 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.

#### **F. Specific Observations and Criticisms for Justifications for the SB 14**



91. SB 14 is a threat to the health and wellness of transgender adolescents in Texas. The justifications for this Ban, which are outlined in the House Research Organization's bill analysis dated May 12, 2023, are not well founded as they are primarily based on misinformation, misrepresentation of scientific literature, or a lack of understanding.

92. For example, per the bill analysis, one of the justifications for the SB 14 is that "[c]hildren and adolescents are not able to give fully informed consent for such serious treatment." However, this demonstrates a lack of understanding of how medical care is provided to adolescents with gender dysphoria. Informed consent is essential in medicine. Medical providers become skilled in explaining risks and benefits of interventions so each patient can make the best medical decision for their situation. In the context of medical care for adolescents, it is the parents or legal guardians of the minor patient who provide consent while the patient provides assent. As noted above, the WPATH Standards of Care recommend that prior to the initiation of any medical intervention a provider determine whether the adolescent "demonstrates the emotional and cognitive maturity required to provide informed consent/assent for the treatment" (Coleman, et al., 2022).

93. Supporters of the Ban also argue that "in many cases adolescent gender dysphoria resolves itself over time." Presumably, in making such an argument, supporters refer (incorrectly) to the notion of desistance. This fallacy, repeated by many opponents of gender-affirming medical care, misrepresents the data completely. While it is true that the majority of prepubertal gender diverse children exploring their gender do not develop gender dysphoria and are not expected to become transgender adolescents or adults, that is because those children are not transgender in the first place. First, as noted above (paragraph 60), the studies included gay children and gender nonconforming children who were never transgender. Second, because prepubertal children are

not treated with hormonal medications for gender dysphoria, studies that look at prepubertal children have no relevance to the question of how to treat adolescents. Children whose gender dysphoria persists into adolescence are highly likely to be transgender (van der Loos, et al., 2022).

94. According to the bill analysis, supporters of the Act also assert that “[t]here is not conclusive evidence to suggest that treatments aimed at physical transition are effective in resolving dysphoria.” This is false. As I have explained in this declaration (e.g., paragraphs 83 and 87), there are numerous studies documenting the benefits of GnRHa and hormones as treatment for gender dysphoria on both short-term and long-term psychological functioning and quality of life of transgender adolescents.

95. The House Research Organization’s bill analysis further notes that the Act’s supporters argue that “[p]rofessional counseling remains the best and most scientifically supported treatment for minors with gender dysphoria.” This assertion is without any foundation. There is simply no evidence that psychotherapy alone is sufficient to resolve adolescent patient’s gender dysphoria particularly when medical interventions are medically indicated for such patient.

96. Finally, SB 14’s supporters have argued that “[r]egulatory authorities in several European nations where gender-related healthcare is long established have begun to reverse support for hormonal gender-related treatment for minors based on a lack of supporting evidence in systematic reviews.” Presumably, this is in reference to limited restrictions in *how* gender-affirming medical care is provided to adolescents with gender dysphoria in a small handful of countries (like Finland and Sweden). However, gender-affirming medical care as treatment for gender dysphoria is still available in the countries mentioned.

### **III. CONCLUSION**

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


98. Prohibiting gender-affirming medical care, and coverage thereof, for adolescents with gender dysphoria in Texas is likely to have devastating consequences and will result in worse outcomes for countless young persons in Texas. I am concerned that SB 14 might lead to a staggering increase in mental health problems including suicidality for adolescents with gender dysphoria in Texas.

99. 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.

100. Banning 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 under the laws of the United States of America that the foregoing is true and correct.

Executed this 10<sup>th</sup> day of July 2023.

  
Daniel Shumer, M.D.

**JURAT**

State of Michigan )  
County of Washtenaw )

Before me, a notary public, on this day personally appeared, Daniel Shumer, M.D., known to me or proved to me on the basis of satisfactory evidence to be the person whose name is subscribed to the foregoing instrument, and being first duly sworn by me states that the statements contained in the foregoing are true and correct to the best of his knowledge, information, and belief.

Sworn to and subscribed before me on the 10<sup>th</sup> day of July 2023, by Daniel Shumer, M.D.

IN TESTIMONY WHEREOF, I have set my hand and affixed my official seal on the day and year first written above.

HILLERY D KEEFER  
NOTARY PUBLIC - STATE OF MICHIGAN  
County of Washtenaw  
My Commission Expires 7/9/2025  
Acting in the County of Washtenaw

  
Notary Public



EXHIBIT A

*Curriculum vitae*

## **Daniel Shumer, MD MPH**

Clinical Associate Professor in Pediatrics - Endocrinology

Email: dshumer@umich.edu

### **EDUCATION AND TRAINING**

#### **Education**

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

#### **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**

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

09/2015-Present Michigan, DEA Registration

09/2015-Present Michigan, Controlled Substance

## **WORK EXPERIENCE**

### **Academic Appointment**

10/2015-9/2022 Clinical Assistant Professor 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-Present 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, Michigan  
Medicine, Ann Arbor

*Oversee the provision of care to transgender and gender non-  
conforming patients at Michigan Medicine.*

07/2020-Present Education Lead - Pediatric Endocrinology, University of  
Michigan - Department of Pediatrics, Ann Arbor

### **Clinical Appointments**

04/2022-05/2023 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**

### **Past Grants**

*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-Present 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-Present Jessica Jary, Michigan Medicine - Division of Adolescent Medicine

### **Medical Student**

09/2017-06/2020 Michael Ho, Michigan Medicine

07/2019-Present Hadrian Kinnear, University of Michigan Medical School (co-author on book chapter #3, abstract #3)

07/2019-Present 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

## **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-Present 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

**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 - present 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

## **VOLUNTEER SERVICE**

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

## **SCHOLARLY ACTIVITIES**

### **PRESENTATIONS**

#### **Extramural Invited Presentation Speaker**

1. Grand Rounds, Shumer D, Loyola University School of Medicine, 07/2022, Chicago, Illinois

#### **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. Transgender Medicine, Michigan Association of Clinical Endocrinologists Annual Symposium, 10/2020, Grand Rapids, MI (Virtual due to COVID)
23. Transgender Youth in Primary Care, Michigan Child Care Collaborative (MC3), 10/2020, Ann Arbor, MI (Virtual due to COVID)
24. Lets Talk About Hormones, Stand With Trans, 10/2020, Farmington Hills, 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

## **PUBLICATIONS/SCHOLARSHIP**

### **Peer-Reviewed Articles**

1. 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

### **Chapters**

1. Shumer: Coma. In Schwartz MW6, Lippincott Williams & Wilkins, Philadelphia, PA, (2012)
2. Shumer, Spack: Medical Treatment of the Adolescent Transgender Patient. In Đorđević M; Monstrey SJ; Salgado CJ Eds. CRC Press/Taylor & Francis, (2016)

3. Kinnear HA, **Shumer DE**: Duration of Pubertal Suppression and Initiation of Gender-Affirming Hormone Treatment in Youth. In Finlayson Elsevier, (2018)
4. Araya, **Shumer DE**: Endocrinology of Transgender Care – Children and Adolescents. In Poretsky; Hembree Ed. Springer, (2019)

### **Non-Peer Reviewed Articles**

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)01/2018
4. 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
5. Kim C, Harrall KK, Glueck DH, **Shumer DE**, 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
6. 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
7. 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
8. Araya AC, Warwick R, Shumer D, Selkie E, Rath T, Ibrahim M, Srinivasan A: Romantic Health in Transgender Adolescents, *Pediatrics*.Pediatrics01/2021
9. 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, 08/2021.  
PM34010528

### **Editorial Comment**

1. **Shumer DE**, Harris LH, Opiari VP: The Effect of Lesbian, Gay, Bisexual, and Transgender-Related Legislation on Children, 01/2016. PM27575000
2. **Shumer DE**: Health Disparities Facing Transgender and Gender Nonconforming Youth Are Not Inevitable, 01/2018. PM29437859
3. 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

### **Journal Articles**

1. **Shumer DE**, Thaker V, Taylor GA, Wassner AJ: Severe hypercalcaemia due to subcutaneous fat necrosis: Presentation, management and complications, *Archives of Disease in Childhood: Fetal and Neonatal Edition*.99(5)01/2014. PM24907163
2. Tishelman AC, Kaufman R, Edwards-Leeper L, Mandel FH, **Shumer DE**, Spack NP: Serving transgender youth: Challenges, dilemmas, and clinical examples, *Professional Psychology: Research and Practice*.46(1): 37-45, 02/2015. PM26807001
3. Reisner SL, Veters R, Leclerc M, Zaslow S, Wolfrum S, **Shumer DE**, Mimiaga MJ: Mental health of transgender youth in care at an adolescent Urban community health center: A matched retrospective cohort study, *Journal of Adolescent Health*.56(3): 274-279, 03/2015. PM25577670



4. **Shumer DE**, Tishelman AC: The Role of Assent in the Treatment of Transgender Adolescents, *International Journal of Transgenderism*.16(2): 97-102, 04/2015. PM27175107
5. **Shumer DE**, Roberts AL, Reisner SL, Lyall K, Austin SB: Brief Report: Autistic Traits in Mothers and Children Associated with Child's Gender Nonconformity, *Journal of Autism and Developmental Disorders*.45(5): 1489-1494, 05/2015. PM25358249
6. 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), *Professional Psychology: Research and Practice*.46(4): 307, 08/2015. PM26858509
7. **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
8. Tishelman AC, **Shumer DE**, Nahata L: Disorders of sex development: Pediatric psychology and the genital exam, *Journal of Pediatric Psychology*.42(5): 530-543, 01/2017. PM27098964
9. 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
10. **Shumer DE**, Abrha A, Feldman HA, Carswell J: Overrepresentation of adopted adolescents at a hospital-based gender dysphoria clinic, *Transgender Health*.2(1): 76-79, 07/2017. PM28861549
11. 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, Kushner 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, *Journal of Clinical Child and Adolescent Psychology*.47(1): 105-115, 01/2018. PM27775428

12. Selkie E, Adkins V, Masters E, Bajpai A, **Shumer DE**: Transgender Adolescents' Uses of Social Media for Social Support, *Journal of Adolescent Health*.66(3): 275-280, 03/2020. PM31690534
13. Warwick RM, **Shumer DE**: Gender-affirming multidisciplinary care for transgender and non-binary children and adolescents, *Children's Health Care*.01/2021
14. Araya AC, Warwick R, **Shumer DE**, Selkie E: Romantic relationships in transgender adolescents: A qualitative study, *Pediatrics*.147(2)02/2021. PM33468600
15. Warwick RM, Araya AC, **Shumer DE**, Selkie EM: Transgender Youths' Sexual Health and Education: A Qualitative Analysis, *Journal of Pediatric and Adolescent Gynecology*.35(2): 138-146, 04/2022. PM34619356

### **Letters**

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 DE**, Register-Brown K, Sadikova E, Anthony LG: Revisiting the Link: Evidence of the Rates of Autism in Studies of Gender Diverse Individuals, *Journal of the American Academy of Child and Adolescent Psychiatry*.57(11): 885-887, 11/2018. PM30392631

### **Letters to editor**

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

### **Notes**

1. **Shumer DE**, Mehringer J, Braverman L, Dauber A: Acquired hypothyroidism in an infant related to excessive maternal iodine intake: Food for thought, *Endocrine Practice*.19(4): 729-731, 07/2013. PM23512394

### **Podcasts**

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

## **Reviews**

1. **Shumer DE**, Spack NP: Current management of gender identity disorder in childhood and adolescence: Guidelines, barriers and areas of controversy, *Current Opinion in Endocrinology, Diabetes and Obesity*.20(1): 69-73, 02/2013. PM23221495
2. Guss C, **Shumer DE**, Katz-Wise SL: Transgender and gender nonconforming adolescent care: Psychosocial and medical considerations, *Current Opinion in Pediatrics*.27(4): 421-426, 08/2015. PM26087416
3. **Shumer DE**, Nokoff NJ, Spack NP: Advances in the Care of Transgender Children and Adolescents, *Advances in Pediatrics*.63(1): 79-102, 08/2016. PM27426896

## **Short Surveys**

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

## **Abstracts/Posters**

1. Shumer D, Kinnear H, McLain K, Morgan H: Development of a Transgender Medicine Elective for 4th Year Medical Students, National Transgender Health Summit, Oakland, CA, 2017
2. 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
3. Shumer D: Mental Health Presentation of Transgender Youth Seeking Medical Intervention, World Professional Association of Transgender Health Biennial International Symposium, Amsterdam, The Netherlands, 2016
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

EXHIBIT B  
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