224. Monstrey S , Hoebeke P , Dhont M , De Cuypere G , Rubens R , Moerman M , Hamdi M , Van Landuyt K , Blondeel P . Surgical therapy in transsexual patients: a multi-disciplinary approach. *Acta Chir Belg*. 2001;101(5):200–209.
Google Scholar PubMed WorldCat

225. Selvaggi G , Ceulemans P , De Cuypere G , VanLanduyt K , Blondeel P , Hamdi M , Bowman C , Monstrey S . Gender identity disorder: general overview and surgical treatment for vaginoplasty in male-to-female transsexuals. *Plast Reconstr Surg*. 2005;116(6):135e–145e.
Google Scholar Crossref PubMed WorldCat

226. Tugnet N , Goddard JC , Vickery RM , Khoosal D , Terry TR . Current management of male-to-female gender identity disorder in the UK. *Postgrad Med J*. 2007;83(984):638–642.
Google Scholar Crossref PubMed WorldCat

227. Horbach SER , Bouman M-B , Smit JM , Özer M , Buncamper ME , Mullender MG . Outcome of vaginoplasty in male-to-female transgenders: a systematic review of surgical techniques. *J Sex Med*. 2015;12(6):1499–1512.
Google Scholar Crossref PubMed WorldCat

228. Wroblewski P , Gustafsson J , Selvaggi G . Sex reassignment surgery for transsexuals. *Curr Opin Endocrinol Diabetes Obes*. 2013;20(6):570–574.
Google Scholar Crossref PubMed WorldCat

229. Morrison SD , Satterwhite T , Grant DW , Kirby J , Laub DR, Sr , VanMaasdam J . Long-term outcomes of rectosigmoid neocolporrhaphy in male-to-female gender reassignment surgery. *Plast Reconstr Surg*. 2015;136(2):386–394.
Google Scholar Crossref PubMed WorldCat

230. Dessy LA , Mazzocchi M , Corrias F , Ceccarelli S , Marchese C , Scuderi N . The use of cultured autologous oral epithelial cells for vaginoplasty in male-to-female transsexuals: a feasibility, safety, and advantageousness clinical pilot study. *Plast Reconstr Surg*. 2014;133(1):158–161.
Google Scholar Crossref PubMed WorldCat

231. Li FY , Xu YS , Zhou CD , Zhou Y , Li SK , Li Q . Long-term outcomes of

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

232. Kanhai RC . Sensate vagina pedicled-spot for male-to-female transsexuals: the experience in the first 50 patients. *Aesthetic Plast Surg*. 2016;40(2):284–287.
Google Scholar Crossref PubMed WorldCat

233. Straayer C . Transplants for transsexuals? Ambitions, concerns, ideology. Paper presented at: Trans*Studies: An International Transdisciplinary Conference on Gender, Embodiment, and Sexuality; 7–10 September 2016; University of Arizona, Tucson, AZ.

234. Bucci S , Mazzon G , Liguori G , Napoli R , Pavan N , Bormioli S , Ollandini G , De Concilio B , Trombetta C. Neovaginal prolapse in male-to-female transsexuals: an 18-year-long experience. *Biomed Res Int*. 2014;2014:240761.
Google Scholar Crossref PubMed WorldCat

235. Raigosa M , Avvedimento S , Yoon TS , Cruz-Gimeno J , Rodriguez G , Fontdevila J . Male-to-female genital reassignment surgery: a retrospective review of surgical technique and complications in 60 patients. *J Sex Med*. 2015;12(8):1837–1845.
Google Scholar Crossref PubMed WorldCat

236. Green R . Sexual functioning in post-operative transsexuals: male-to-female and female-to-male. *Int J Impot Res*. 1998;10(Suppl 1):S22–S24.
Google Scholar PubMed WorldCat

237. Hess J , Rossi Neto R , Panic L , Rübben H , Senf W . Satisfaction with male-to-female gender reassignment surgery. *Dtsch Arztebl Int*. 2014;111(47):795–801.
Google Scholar PubMed WorldCat

238. Nygren U , Nordenskjold A , Arver S , Sodersten M . Effects on voice fundamental frequency and satisfaction with voice in trans men during testosterone treatment—a longitudinal study. *J Voice*. 2016;**30**(6):766.e23-766.e34.

239. Becking AG , Tuinzing DB , Hage JJ , Gooren LJG . Transgender feminization of the facial skeleton. *Clin Plast Surg*. 2007;34(3):557–564.

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

240. Giraldo F , Esteva I , Bergero T , Cano G , González C , Salinas P , Rivada E , Lara JS , Soriguer F ; Andalusia Gender Team . Corona glans clitoroplasty and urethropreputial vestibuloplasty in male-to-female transsexuals: the vulval aesthetic refinement by the Andalusia Gender Team. *Plast Reconstr Surg*. 2004;114(6):1543–1550.
Google Scholar Crossref PubMed WorldCat

241. Goddard JC , Vickery RM , Terry TR . Development of feminizing genitoplasty for gender dysphoria. *J Sex Med*. 2007;4(4 Pt 1):981–989.
Google Scholar Crossref PubMed WorldCat

242. Hage JJ , de Graaf FH , Bouman FG , Bloem JJAM . Sculpturing the glans in phalloplasty. *Plast Reconstr Surg*. 1993;92(1):157–161, discussion 162.
Google Scholar Crossref PubMed WorldCat

243. Thiagaraj D , Gunasegaram R , Loganath A , Peh KL , Kottegoda SR , Ratnam SS . Histopathology of the testes from male transsexuals on oestrogen therapy. *Ann Acad Med Singapore*. 1987;16(2):347–348.
Google Scholar PubMed WorldCat

244. Monstrey SJ , Ceulemans P , Hoebeke P . Sex reassignment surgery in the female-to-male transsexual. *Semin Plast Surg*. 2011;25(3):229–244.
Google Scholar Crossref PubMed WorldCat

245. Perovic SV , Djinovic R , Bumbasirevic M , Djordjevic M , Vukovic P . Total phalloplasty using a musculocutaneous latissimus dorsi flap. *BJU Int*. 2007;100(4):899–905, discussion 905.
Google Scholar Crossref PubMed WorldCat

246. Vesely J , Hyza P , Ranno R , Cigna E , Monni N , Stupka I , Justan I , Dvorak Z , Novak P , Ranno S . New technique of total phalloplasty with reinnervated latissimus dorsi myocutaneous free flap in female-to-male transsexuals. *Ann Plast Surg*. 2007;58(5):544–550.
Google Scholar Crossref PubMed WorldCat

247. Ranno R , Veselý J , Hýza P , Stupka I , Justan I , Dvorák Z , Monni N , Novák P , Ranno S . Neo-phalloplasty with re-innervated latissimus dorsi free flap: a

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

248. Garcia MM , Christopher NA , De Luca F , Spilotros M , Ralph DJ . Overall satisfaction, sexual function, and the durability of neophallus dimensions following staged female to male genital gender confirming surgery: the Institute of Urology, London U.K. experience. *Transl Androl Urol*. 2014;3(2):156–162.
Google Scholar PubMed WorldCat

249. Chen H-C , Gedebou TM , Yazar S , Tang Y-B . Prefabrication of the free fibula osteocutaneous flap to create a functional human penis using a controlled fistula method. *J Reconstr Microsurg*. 2007;23(3):151–154.
Google Scholar Crossref PubMed WorldCat

250. Hoebeke PB , Decaestecker K , Beysens M , Opdenakker Y , Lumen N , Monstrey SM . Erectile implants in female-to-male transsexuals: our experience in 129 patients. *Eur Urol*. 2010;57(2):334–341.
Google Scholar Crossref PubMed WorldCat

251. Hage JJ . Metaidoioplasty: an alternative phalloplasty technique in transsexuals. *Plast Reconstr Surg*. 1996;97(1):161–167.
Google Scholar Crossref PubMed WorldCat

252. Cohanzad S . Extensive metoidioplasty as a technique capable of creating a compatible analogue to a natural penis in female transsexuals. *Aesthetic Plast Surg*. 2016;40(1):130–138.
Google Scholar Crossref PubMed WorldCat

253. Selvaggi G , Hoebeke P , Ceulemans P , Hamdi M , Van Landuyt K , Blondeel P , De Cuypere G , Monstrey S . Scrotal reconstruction in female-to-male transsexuals: a novel scrotoplasty. *Plast Reconstr Surg*. 2009;123(6):1710–1718.
Google Scholar Crossref PubMed WorldCat

254. Bjerrome Ahlin H , Kölby L , Elander A , Selvaggi G . Improved results after implementation of the Ghent algorithm for subcutaneous mastectomy in female-to-male transsexuals. *J Plast Surg Hand Surg*. 2014;48(6):362–367.
Google Scholar Crossref PubMed WorldCat

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

255. Wolter A , Diedrichson J , Scholz T , Arens-Landwehr A , Liebau J . Sexual reassignment surgery in female-to-male transsexuals: an algorithm for subcutaneous mastectomy. *J Plast Reconstr Aesthet Surg*. 2015;68(2):184–191.
Google Scholar Crossref PubMed WorldCat

256. Richards C , Barrett J . The case for bilateral mastectomy and male chest contouring for the female-to-male transsexual. *Ann R Coll Surg Engl*. 2013;95(2):93–95.
Google Scholar Crossref PubMed WorldCat

257. Sutcliffe PA , Dixon S , Akehurst RL , Wilkinson A , Shippam A , White S , Richards R , Caddy CM . Evaluation of surgical procedures for sex reassignment: a systematic review. *J Plast Reconstr Aesthet Surg*. 2009;62(3):294–306, discussion 306–308.
Google Scholar Crossref PubMed WorldCat

258. Selvaggi G , Elander A . Penile reconstruction/formation. *Curr Opin Urol*. 2008;18(6):589–597.
Google Scholar Crossref PubMed WorldCat

259. Dhejne C , Lichtenstein P , Boman M , Johansson ALV , Långström N , Landén M . Long-term follow-up of transsexual persons undergoing sex reassignment surgery: cohort study in Sweden. *PLoS One*. 2011;6(2):e16885.
Google Scholar Crossref PubMed WorldCat

260. Kuhn A , Bodmer C , Stadlmayr W , Kuhn P , Mueller MD , Birkhäuser M . Quality of life 15 years after sex reassignment surgery for transsexualism. *Fertil Steril*. 2009;92(5):1685–1689.e3.
Google Scholar Crossref PubMed WorldCat

261. Papadopulos NA , Lellé JD , Zavlin D , Herschbach P , Henrich G , Kovacs L , Ehrenberger B , Kluger AK , Machens HG , Schaff J . Quality of life and patient satisfaction following male-to-female sex reassignment surgery. *J Sex Med*. 2017;14(5):721–730.
Google Scholar Crossref PubMed WorldCat

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

262. Simonsen RK , Hald GM , Kristensen E , Giraldi A . Long-term follow-up of individuals undergoing sex-reassignment surgery: somatic morbidity and cause of death. *Sex Med*. 2016;4(1):e60–e68.
Google Scholar Crossref PubMed WorldCat

263. Djordjevic ML , Bizic MR , Duisin D , Bouman MB , Buncamper M . Reversal Surgery in regretful male-to-female transsexuals after sex reassignment surgery. *J Sex Med*. 2016;13(6):1000–1007.
Google Scholar Crossref PubMed WorldCat

264. Liberopoulos EN , Florentin M , Mikhailidis DP , Elisaf MS . Compliance with lipid-lowering therapy and its impact on cardiovascular morbidity and mortality. *Expert Opin Drug Saf*. 2008;7(6):717–725.
Google Scholar Crossref PubMed WorldCat

265. Forbes SS , Stephen WJ , Harper WL , Loeb M , Smith R , Christoffersen EP , McLean RF . Implementation of evidence-based practices for surgical site infection prophylaxis: results of a pre- and postintervention study. *J Am Coll Surg*. 2008;207(3):336–341.
Google Scholar Crossref PubMed WorldCat

266. Davis PJ , Spady D , de Gara C , Forgie SE . Practices and attitudes of surgeons toward the prevention of surgical site infections: a provincial survey in Alberta, Canada. *Infect Control Hosp Epidemiol*. 2008;29(12):1164–1166.
Google Scholar Crossref PubMed WorldCat

Author notes

* Cosponsoring Associations: American Association of Clinical Endocrinologists, American Society of Andrology, European Society for Pediatric Endocrinology, European Society of Endocrinology, Pediatric Endocrine Society, and World Professional Association for Transgender Health.

Copyright © 2017 Endocrine Society

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

Supplementary data

Supplemental Materials - docx file

Oxford University Press uses cookies to enhance your experience on our website. By selecting are agreeing to our use of cookies. You can change your cookie settings at any time. More info found in our Cookie Policy.

Gender Dysphoria in Children

American College of Pediatricians – November 2018

ABSTRACT: Gender dysphoria (GD) of childhood describes a psychological condition in which children experience a marked incongruence between their experienced gender and the gender associated with their biological sex. When this occurs in the pre-pubertal child, GD resolves in the vast majority of patients by late adolescence. Currently there is a vigorous, albeit suppressed, debate among physicians, therapists, and academics regarding what is fast becoming the new treatment standard for GD in children. This new paradigm is rooted in the assumption that GD is innate, and involves pubertal suppression with gonadotropin releasing hormone (GnRH) agonists followed by the use of cross-sex hormones—a combination that results in the sterility of minors. A review of the current literature suggests that this protocol is founded upon an unscientific gender ideology, lacks an evidence base, and violates the long-standing ethical principle of "First do no harm."

Gender Dysphoria in Children: This Debate Concerns More than Science

Gender is a term that refers to the psychological and cultural characteristics associated with biological sex.[1] It is a psychological concept and sociological term, not a biological one. Gender identity refers to an individual's awareness of being male or female and is sometimes referred to as an individual's "experienced gender." Gender dysphoria (GD) in children describes a psychological condition in which they experience marked incongruence between their experienced gender and the gender associated with their biological sex. They often express the belief that they are the opposite sex.[2] The prevalence rates of GD among children has been estimated to be less than 1%.[3] Sex differences in rate of referrals to specialty clinics vary by age. In pre-pubertal children, the ratio of boys to girls ranges from 2:1 to 4.5:1. In adolescents, the sex ratio is close to parity; in adults, the ratio of males to females range from 1:1 to 6.1:1.2

The debate over how to treat children with GD is primarily an ethical dispute; one that concerns physician worldview as much as science. Medicine does not occur in a moral vacuum; every therapeutic action or inaction is the result of a moral judgment of some kind that arises from the physician's philosophical worldview.

Medicine also does not occur in a political vacuum and being on the wrong side of sexual politics can have severe consequences for individuals who hold the politically incorrect view.

As an example, Dr. Kenneth Zucker, long acknowledged as a foremost authority on gender identity issues in children, has also been a lifelong advocate for gay and transgender rights. However, much to the consternation of adult transgender activists, Zucker believes that gender-dysphoric pre-pubertal children are best served by helping them align their gender identity with their anatomic sex. This view ultimately cost him his 30-year directorship of the Child Youth and Family Gender Identity Clinic (GIC) at the Center for Addiction and Mental Health in Toronto.[4,5]

Many critics of pubertal suppression hold a modernist teleological worldview. They find it self-evident that there is a purposeful design to human nature, and that cooperation with this design leads to human flourishing. Others, however, identify as post-modernists who reject teleology. What unites the two groups is a traditional interpretation of "First do no harm." For example, there is a growing online community of gay-affirming physicians, mental health professionals, and academics with a webpage entitled "First, do no harm: youth trans critical professionals." They write:

We are concerned about the current trend to quickly diagnose and affirm young people as transgender, often setting them down a path toward medical transition.... We feel that unnecessary surgeries and/or hormonal treatments which have not been proven safe in the long-term represent significant risks for young people. Policies that encourage—either directly or indirectly—such medical treatment for young people who may not be able to evaluate the risks and benefits are highly suspect, in our opinion.[6]

Advocates of the medical interventionist paradigm, in contrast, are also post-modernists but hold a subjective view of "First do no harm." Dr. Johanna Olson-Kennedy, an adolescent medicine specialist at Children's Hospital Los Angeles, and leader in pediatric gender transitioning, has stated that "[First do no harm] is really subjective. [H]istorically we come from a very paternalistic perspective… [in which] doctors are really given the purview of deciding what is going to be harmful and what isn't. And that, in the world of gender, is really problematic."[7] Not only does she claim that "First do no harm" is subjective, but she later also states that it should be left to the child decide what constitutes harm based upon their own subjective thoughts and feelings.[7] Given the cognitive and experiential immaturity of the child and adolescent, the American College of Pediatricians (ACPeds) finds this highly problematic and unethical.

Gender dysphoria as the result of an innate internal sexed identity

Professor of social work, Dr. William Brennan, has written that "[t]he power of language to color one's view of reality is profound."[8] It is for this reason that linguistic engineering always precedes social engineering — even in medicine. Many hold the mistaken belief that gender once meant biological sex. Though the terms are often used interchangeably they were never truly synonymous.[9,10] Feminists of the late 1960's and 1970's used gender to refer to a "social sex" that could differ from one's "biological sex" in order to overcome unjust discrimination against women rooted in sex stereotypes. These feminists are largely responsible for mainstreaming the use of the word gender in place of sex. More recently, in an attempt to eliminate heteronormativity, queer theorists have expanded gender into an excess of 50 categories by merging the concept of a social sex with sexual attractions.[9] However, neither usage reflects the original meaning of the term.

Prior to the 1950s, gender meant male or female, but applied only to grammar not persons.[9,10] Latin based languages categorize nouns and their modifiers as masculine or feminine and for this reason are still referred to as having a gender. This changed during the 1950s and 1960s as sexologists realized that their sex reassignment agenda could not be sufficiently defended using the words sex and transsexual. From a purely scientific standpoint, human beings possess a biologically determined sex and innate sex differences. No sexologist could actually change a person's genes through hormones and surgery. Sex change is objectively impossible. Their solution was to hijack the word gender and infuse it with a new meaning that applied to persons.

John Money, PhD was among the most prominent of these sexologists who redefined gender to mean "the social performance indicative of an internal sexed identity".[10] In essence, these sexologists invented the ideological foundation necessary to justify their treatment of transsexualism with sex reassignment surgery and called it gender. It is this man-made ideology of an innate and immutable "internal sexed identity" that now dominates mainstream medicine, psychiatry and academia. This linguistic history makes it clear that gender is not and never has been a biological or scientific entity. Rather, gender is a socially and politically constructed concept.

In their "Overview of Gender Development and Gender Nonconformity in Children and Adolescents," Forcier and Olson-Kennedy dismiss the binary model of human sexuality as "ideology" and present an "alternate perspective" of "innate gender identity" that presents along a "gender continuum." They recommend that pediatricians tell parents that a child's "real gender" is what he or she feels it to be because "a child's brain and body may not be on the same page."[11]

Forcier and Olson-Kennedy's claim of an innate discordance between a child's brain and the rest of the body derives from diffusion-weighted MRI scans that demonstrate the pubertal testosterone surge in boys increases white matter volume, as well as from brain studies of adults who identify as transgender. A study by Rametti and colleagues found that the white matter microstructure of the brains of female-to-male (FtM) transsexual adults, who had not begun testosterone treatment, more closely resembled that of men than that of women.[12] Other diffusion-weighted MRI studies have concluded that the white matter microstructure in both FtM and male-to-female (MtF) transsexuals falls halfway between that of genetic females and males.[13] These and more recent studies, however, fail to prove causation due to several design flaws. A properly designed brain difference study needs to be prospective and longitudinal; it would require a large randomly selected population based sample of a fixed set of individuals, would follow them with serial brain imaging from infancy through adulthood, and would have to be replicated. Not one brain study to date meets a single one of these requirements to be considered rigorous research design. Even if they did, causation would not be certain due to neuroplasticity.

Neuroplasticity

Neuroplasticity is the well-established phenomenon in which thinking and behavior alters brain microstructure. There is no evidence that people are born with brain microstructures that are forever unalterable, but there is significant evidence that experience changes brain microstructure.[14] Therefore, if scientifically rigorous studies ever do identify transgender brain differences, these differences will still more likely be the result of transgender behavior rather than its cause.

More importantly, however, is the fact that the brains of all male infants are masculinized prenatally by their own endogenous testosterone, which is secreted from their testes beginning at approximately eight weeks' gestation. Female infants, of course, lack testes, and therefore, do not have their brains masculinized by endogenous testosterone.[15,16,17] For this reason, barring maternal exposure to androgens or one of the rare disorders of sex development (DSDs), boys are not born with feminized brains, and girls are not born with masculinized brains.

Genetic Determinism

Might gender identity be genetically determined? Behavior geneticists have known for decades that while genes *influence* behavior, they do not hard-wire a person to think, feel, or behave in a particular way. The science of epigenetics has established that genes are not analogous to rigid "blueprints" for behavior. Rather, humans "develop traits through the dynamic process of gene-environment interaction… [genes alone] don't determine who we are."[18] Regarding the etiology of transgenderism, twin studies of adult transsexuals prove definitively that genetic influence is far less than that of environmental factors.

Twin studies are instrumental in elucidating whether genes or environmental factors contribute more significantly to a particular trait. Since monozygotic twins are conceived with exactly the same DNA, and spontaneous mutations before birth are rare, traits that are solely determined by genes, will manifest in both

identical twins close to if not exactly 100 percent of the time. Skin color is an example of a trait that identical twins share virtually 100 percent of the time because it is solely determined by genes.

The largest transsexual twin study to date examines 110 twin pairs and was published by Dr. Milton Diamond in the May 2013 issue of the International Journal of Transgenderism.[19] Table 5 documents that the number of monozygotic twin pairs concordant for transsexualism is greater than that of dizygotic twin pairs. This suggests a possible biological predisposition for gender dysphoria. The most significant data entry, however, is the low number of concordant monozygotic twin pairs. Only 21 monozygotic twin pairs out of a total of 74 monozygotic pairs, or 28 percent, were concordant for transsexualism; the remaining 72 percent of identical twins were discordant for transsexualism.

This means that environmental factors trump any biological predisposition. Environmental factors account for nearly 75 percent of what causes transsexualism in one twin and not in the other; and since identical twins develop in the same uterus, non-shared post-birth experiences are likely to have a greater influence than the prenatal environment. A high 72 percent discordance rate among identical twins proves that no one is born pre-determined to have gender dysphoria let alone pre-determined to identify as transgender or transsexual.

This is what would be expected given the dramatic rates of resolution of gender dysphoria documented among children when they are not encouraged to impersonate the opposite sex. The low concordance rate also supports the theory that persistent GD is due predominantly to the impact of non-shared environmental influences upon certain biologically vulnerable children. To be clear, twin studies alone establish that the "alternative perspective" of an "innate gender identity" trapped in the wrong body is in fact an ideological belief that has no basis in rigorous science.

A teleological binary view of human sexuality, in contrast, is compatible with biological reality. The norm for human design is to be conceived either male or female. Sex chromosome pairs "XY" and "XX" are genetic determinants of sex, male and female, respectively. They are not genetic markers of a disordered body or birth defect. Human sexuality is binary by design with the purpose being the reproduction of our species. This principle is self-evident. Barring one of the rare disorders of sex development (DSD), no infant is "assigned" a sex or a gender at birth. Sex declares itself anatomically in utero and is clearly evident and acknowledged at birth.

Disorders of sex development (DSDs), including but not limited to androgen insensitivity syndrome and congenital adrenal hyperplasia, affect less than 0.02 percent of the population.[20] These disorders are all medically identifiable deviations from the human binary sexual norm. Unlike individuals with a normal genotype and hormonal axis who identify as "transgender," those with DSDs have an innate biological condition. Sex assignment in individuals with DSDs can be complex and depends on a variety of genetic, hormonal, and physical factors. Nevertheless, the 2006 consensus statement of the Intersex Society of North America did not endorse DSD as a third sex.[21]

Post-natal Factors Predominate in the Development and Persistence of GD

Identical twin studies demonstrate that environmental factors, especially post-natal non-shared events, predominate in the development and persistence of gender dysphoria. This is not surprising since it is well accepted that a child's emotional and psychological development is impacted by positive and negative experiences from infancy forward. Family and peer relationships, one's school and neighborhood, the experience of any form of abuse, media exposure, chronic illness, war, and natural disasters are all examples of environmental factors that impact an individual's emotional, social, and psychological development. *There is no single family dynamic, social situation, adverse event, or combination thereof that has been found to destine any child to develop GD.* This fact, together with twin studies, suggests that there are many paths that may lead to GD in certain predisposed children.

The literature regarding the etiology and psychotherapeutic treatment of childhood GD is heavily based upon clinical case studies. These studies suggest that social reinforcement, parental psychopathology, family

dynamics, and social contagion -facilitated by mainstream and social media, all contribute to the development and/or persistence of GD in some vulnerable children. There may be other as yet unrecognized contributing factors as well.

Most parents of children with GD recall their initial reactions to their child's cross-sex dressing and other cross-sex behaviors to have been tolerance and/or encouragement. Sometimes parental psychopathology is at the root of the social reinforcement. For example, among mothers of boys with GD who had desired daughters, a small subgroup experienced what has been termed "pathologic gender mourning." Within this subgroup the mother's desire for a daughter was acted out by the mother actively cross-dressing her son as a girl. These mothers typically suffered from severe depression that was relieved when their sons dressed and acted in a feminine manner.[22]

A large body of clinical literature documents that fathers of feminine boys report spending less time with their sons between the ages of two and five as compared with fathers of control boys. This is consistent with data that shows feminine boys feel closer to their mothers than to their fathers. In his clinical studies of boys with GD, Stoller observed that most had an overly close relationship with their mother and a distant, peripheral relationship with their father. He postulated that GD in boys was a "developmental arrest … in which an excessively close and gratifying mother-infant symbiosis, undisturbed by father's presence, prevents a boy from adequately separating himself from his mother's female body and feminine behavior."[22]

It has also been found that among children with GD, the rate of maternal psychopathology, particularly depression and bipolar disorder is "high by any standard." Additionally, a majority of the fathers of GD boys are easily threatened, exhibit difficulty with affect regulation, and possess an inner sense of inadequacy. These fathers typically deal with their conflicts by overwork or otherwise distance themselves from their families. Most often, the parents fail to support one another, and have difficulty resolving marital conflicts. This produces an intensified air of conflict and hostility. In this situation, the boy becomes increasingly unsure about his own self-value because of the mother's withdrawal or anger and the father's failure to intercede. The boy's anxiety and insecurity intensify, as does his anger, which may all result in his inability to identify with his biological sex.[23]

Systematic studies regarding girls with GD and the parent-child relationship have not been conducted. However, clinical observations suggest that the relationship between mother and daughter is most often distant and marked by conflict, which may lead the daughter to disidentify from the mother. In other cases, masculinity is praised while femininity is devalued by the parents. Furthermore, there have been cases in which girls are afraid of their fathers who may exhibit volatile anger up to and including abuse toward the mother. A girl may perceive being female as unsafe, and psychologically defend against this by feeling that she is really a boy; subconsciously believing that if she were a boy she would be safe from and loved by her father.[22]

There is evidence that psychopathology and/or developmental diversity may precipitate GD in adolescents, particularly among young women. Recent research has documented increasing numbers of adolescents who present to adolescent gender identity clinics and request sex reassignment (SR). Kaltiala-Heino and colleagues sought to describe the adolescent applicants for legal and medical sex reassignment during the first two years of an adolescent gender identity clinic in Finland, in terms of sociodemographic, psychiatric, and gender identity related factors and adolescent development. They conducted a structured quantitative retrospective chart review and qualitative analysis of case files of all adolescent SR applicants who entered the assessment by the end of 2013. They found that the number of referrals exceeded expectations in light of epidemiological knowledge. Natal girls were markedly overrepresented among applicants. Severe psychopathology preceding the onset of GD was common. Many youth were on the autism spectrum. These findings do not fit the commonly accepted image of a gender dysphoric child. The researchers conclude that treatment guidelines need to consider GD in minors in the context of severe psychopathology and developmental difficulties.[24]

A recent study has documented an increasing trend among adolescents to self-diagnose as transgender after binges on social media sites such as Tumblr, Reddit, and YouTube.25 This suggests that social contagion may be

at play. In many schools and communities, there are entire peer groups "coming out" as trans at the same time.[25] Finally, strong consideration should be given to investigating a causal association between adverse childhood events, including sexual abuse, and transgenderism. The overlap between childhood gender discordance and an adult homosexual orientation has long been acknowledged.[26] There is also a large body of literature documenting a significantly greater prevalence of childhood adverse events and sexual abuse among homosexual adults as compared to heterosexual adults. Andrea Roberts and colleagues' published a study in 2013 that found "half to all of the elevated risk of childhood abuse among persons with same-sex sexuality compared to heterosexuals was due to the effects of abuse on sexuality."[27] It is therefore possible that some individuals develop GD and later claim a transgender identity as a result of childhood maltreatment and/or sexual abuse. This is an area in need of research.

GD as an Objective Mental Disorder

Psychology has increasingly rejected the concept of norms for mental health, focusing instead on emotional distress. The American Psychiatric Association (APA), for example, explains in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) that GD is listed therein not due to the discrepancy between the individual's thoughts and physical reality, but due to the presence of emotional distress that hampers social functioning. The DSM-5 also notes that a diagnosis is required for insurance companies to pay for cross-sex hormones and sex reassignment surgery (SRS) to alleviate the emotional distress of GD. Once the distress is relieved, GD is no longer considered a disorder.[2]

There are problems with this reasoning. Consider the following examples: a girl with anorexia nervosa has the persistent mistaken belief that she is obese; a person with body dysmorphic disorder (BDD) harbors the erroneous conviction that she is ugly; a person with body integrity identity disorder (BIID) identifies as a disabled person and feels trapped in a fully functional body. Individuals with BIID are often so distressed by their fully capable bodies that they seek surgical amputation of healthy limbs or the surgical severing of their spinal cord.[28] Dr. Anne Lawrence, who is transgender, has argued that BIID has many parallels with GD.[29] The aforementioned false beliefs, like GD, are not merely emotionally distressing for the individuals but also life-threatening. In each case, surgery to "affirm" the false assumption (liposuction for anorexia, cosmetic surgery for BDD, amputation or surgically induced paraplegia for BIID, sex reassignment surgery for GD) may very well alleviate the patient's emotional distress, but will do nothing to address the underlying psychological problem, and may result in the patient's death. Completely removed from physical reality, the art of psychotherapy will diminish as the field of psychology increasingly devolves into a medical interventionist specialty, with devastating results for patients.

Alternatively, a minimal standard could be sought. Normality has been defined as "that which functions according to its design."[30] One of the chief functions of the brain is to perceive physical reality. Thoughts that are in accordance with physical reality are normal. Thoughts that deviate from physical reality are abnormal—as well as potentially harmful to the individual or to others. This is true whether or not the individual who possesses the abnormal thoughts feels distress. A person's belief that he is something or someone he is not is, at best, a sign of confused thinking; at worst, it is a delusion. Just because a person thinks or feels something does not make it so. This would be true even if abnormal thoughts were biologically "hardwired."

The norm for human development is for an individual's thoughts to align with physical reality; for an individual's gender identity to align with biologic sex. People who identify as "feeling like the opposite sex" or "somewhere in between" or some other category do not comprise a third sex. They remain biological men or biological women. GD is a problem that resides in the mind not in the body. Children with GD do not have a disordered body—even though they feel as if they do. Similarly, a child's distress over developing secondary sex characteristics does not mean that puberty should be treated as a disease to be halted, because puberty is not, in fact, a disease. Likewise, although many men with GD express the belief that they are a "feminine essence" trapped in a male body, this belief has no scientific basis.

Until recently, the prevailing worldview with respect to childhood GD was that it reflected abnormal thinking or confusion on the part of the child that may or may not be transient. Consequently, the standard approach was either watchful waiting or pursuit of family and individual psychotherapy.[1,2] The goals of therapy were to address familial pathology if it was present, treat any psychosocial morbidities in the child, and aid the child in aligning gender identity with biological sex.[22,23] Experts on both sides of the pubertal suppression debate agree that within this context, 80 percent to 95 percent of children with GD accepted their biological sex by late adolescence.[31] This worldview began to shift, however, as adult transgender activists increasingly promoted the "feminine essence" narrative to secure social acceptance.[10] In 2007, the same year that Boston Children's Hospital opened the nation's first pediatric gender clinic, Dr. J. Michael Bailey wrote:

Currently the predominant cultural understanding of male-to-female transsexualism is that all male-to-female (MtF) transsexuals are, essentially, women trapped in men's bodies. This understanding has little scientific basis, however, and is inconsistent with clinical observations. Ray Blanchard has shown that there are two distinct subtypes of MtF transsexuals. Members of one subtype, homosexual transsexuals, are best understood as a type of homosexual male. The other subtype, autogynephilic transsexuals, are (sic) motivated by the erotic desire to become women. The persistence of the predominant cultural understanding, while explicable, is damaging to science and to many transsexuals.[32]

As the "feminine essence" view persisted, the suffering of transgender adults was invoked to argue for the urgent rescue of children from the same fate by early identification, affirmation, and pubertal suppression. It is now alleged that discrimination, violence, psychopathology, and suicide are the direct and inevitable consequences of withholding social affirmation and puberty blockers or cross-sex hormones from a gender dysphoric child.[33] Yet, the fact that 80 percent to 95 percent of gender-dysphoric youth emerge physically and psychologically intact after passing through puberty without social affirmation refutes this claim.[31] Furthermore, over 90 percent of people who die of suicide have a diagnosed mental disorder.[34] There is no evidence that gender-dysphoric children who commit suicide are any different. Therefore, the cornerstone for suicide prevention should be the same for them as for all children: early identification and treatment of psychological co-morbidities.

Nevertheless, there are now 40 gender clinics across the United States that promote the use of pubertal suppression and cross-sex hormones in children. The rationale for suppression is to allow the gender-dysphoric child time to explore gender identity free from the emotional distress triggered by the onset of secondary sex characteristics. The standards followed in these clinics are based on "expert opinion." There is not a single large, randomized, controlled study that documents the alleged benefits and potential harms to gender-dysphoric children from pubertal suppression and decades of cross-sex hormone use. Nor is there a single long-term, large, randomized, controlled study that compares the outcomes of various psychotherapeutic interventions for childhood GD with those of pubertal suppression followed by decades of toxic synthetic steroids. In today's age of "evidence-based medicine," this should give everyone pause. Of greater concern is that pubertal suppression at Tanner Stage 2 (usually 11 years of age) followed by the use of cross-sex hormones will leave these children sterile and without gonadal tissue or gametes available for cryo-preservation.[35,36,37]

Neuroscience clearly documents that the adolescent brain is cognitively immature and lacks the adult capacity needed for risk assessment prior to the early to mid-twenties.[38] There is a serious ethical problem with allowing irreversible, life-changing procedures to be performed on minors who are too young to give valid consent themselves. This ethical requirement of informed consent is fundamental to the practice of medicine, as emphasized by the U.S. Department of Health & Human Services website: "The voluntary consent of the human subject is absolutely essential."[39] Moreover, when an individual is sterilized, even as a secondary outcome of therapy, lacking full, free, and informed consent, it is a violation of international law.[40]

Transgender-Affirming Protocol: What Is the Evidence Base?

Over the past two decades, Hayes, Inc. has grown to become an internationally recognized research and consulting firm that evaluates a wide range of medical technologies to determine the impact on patient safety,

health outcomes, and resource utilization. This corporation conducted a comprehensive review and evaluation of the scientific literature regarding the treatment of GD in adults and children in 2014. It concluded that although "evidence suggests positive benefits" to the practice of using sex reassignment surgery in gender dysphoric adults, "serious limitations [inherent to the research] permit only weak conclusions."[41] Similarly, Hayes, Inc. found the practice of using cross-sex hormones for gender dysphoric adults to be based on "very low" quality of evidence:

Statistically significant improvements have not been consistently demonstrated by multiple studies for most outcomes. Evidence regarding quality of life and function in male-to-female (MtF) adults was very sparse. Evidence for less comprehensive measures of well-being in adult recipients of cross-sex hormone therapy was directly applicable to GD patients but was sparse and/or conflicting. The study designs do not permit conclusions of causality and studies generally had weaknesses associated with study execution as well. There are potentially long-term safety risks associated with hormone therapy but none have been proven or conclusively ruled out.[42]

Regarding treatment of children with GD using gonadotropin releasing hormone (GnRH) agonists and cross-sex hormones, Hayes, Inc. awarded its lowest rating indicating that the literature is "too sparse and the studies [that exist are] too limited to suggest conclusions."[42]

Gender Clinics Proliferate Across United States Despite Lack of Medical Evidence

In 2007 Dr. Norman Spack, a pediatric endocrinologist and founder of the nation's first gender clinic at Boston Children's Hospital, launched the pubertal suppression paradigm in the United States.[43] It consists of first affirming the child's false self-concept by instituting name and pronoun changes, and facilitating the impersonation of the opposite sex within and outside of the home. Next, puberty is suppressed via GnRH agonists as early as age 11 years, and then finally, patients may graduate to cross-sex hormones at age 16 in preparation for sex-reassignment surgery as an older adolescent or adult.[44] Endocrine Society guidelines currently prohibit the use of cross-sex hormones before age 16 but this prohibition is being reconsidered.[45] Some gender specialists are already bypassing pubertal suppression and instead putting children as young as 11 years old directly onto cross-sex hormones.[46] The rationale is that the child will experience the pubertal development of the desired sex and thereby avoid the iatrogenic emotional distress from maintaining a pre-pubertal appearance as peers progress along their natural pubertal trajectory.

In 2014 there were 24 gender clinics clustered chiefly along the East Coast and in California; one year later there were 40 across the nation. Dr. Ximena Lopez, a pediatric endocrinologist at Children's Medical Center Dallas, and a member of that program's GENder Education and Care, Interdisciplinary Support program (Genecis) stated, "[Use of this protocol is] growing really fast. And the main reason is [that] parents are demanding it and bringing patients to the door of pediatric endocrinologists because they know this is available."[47] Notice, the *main* reason for the protocol's increased use is parent demand; not evidence-based medicine.

Risks of GnRH Agonists

The GnRH agonists used for pubertal suppression in gender dysphoric children include two that are approved for the treatment of precocious puberty: leuprolide by intramuscular injection with monthly or once every three month dosing formulations, and histrelin, a subcutaneous implant with yearly dosing.[36] In addition to preventing the development of secondary sex characteristics, GnRH agonists arrest bone growth, decrease bone accretion, prevent the sex-steroid dependent organization and maturation of the adolescent brain, and inhibit fertility by preventing the development of gonadal tissue and mature gametes for the duration of treatment. If the child discontinues the GnRH agonists, puberty will ensue.[36,44] Consequently, the Endocrine Society maintains that GnRH agonists, as well as living socially as the opposite sex, are fully reversible interventions that carry no risk of permanent harm to children.[44] However, social learning theory, neuroscience, and the single long-term follow-up study of adolescents who have received pubertal suppression described below challenge this claim.

In a follow-up study of their first 70 pre-pubertal candidates to receive puberty suppression, de Vries and colleagues documented that all subjects eventually embraced a transgender identity and requested cross-sex hormones.[48] This is cause for concern. Normally, 80 percent to 95 percent of pre-pubertal youth with GD do not persist in their GD. To have 100 percent of pre-pubertal children choose cross-sex hormones suggests that the protocol itself inevitably leads the individual to identify as transgender.

There is an obvious self-fulfilling nature to encouraging a young child with GD to socially impersonate the opposite sex and then institute pubertal suppression. Purely from a social learning point of view, the repeated behavior of impersonating and being treated as the opposite sex will make identity alignment with the child's biologic sex less likely. This, together with the suppression of puberty that prevents further endogenous masculinization or feminization of the entire body and brain, causes the child to remain either a gender non-conforming pre-pubertal boy disguised as a pre-pubertal girl, or the reverse. Since their peers develop normally into young men or young women, these children are left psychosocially isolated. They will be less able to identify as being the biological male or female they actually are. A protocol of impersonation and pubertal suppression that sets into motion a single inevitable outcome (transgender identification) that requires lifelong use of toxic synthetic hormones, resulting in infertility, is neither fully reversible nor harmless.

GnRH Agonists, Cross-sex Hormones, and Infertility

Since GnRH agonists prevent the maturation of gonadal tissue and gametes in both sexes, youth who graduate from pubertal suppression at Tanner Stage 2 to cross-sex hormones will be rendered infertile without any possibility of having genetic offspring in the future because they will lack gonadal tissue and gametes for cryo-preservation. The same outcome will occur if pre-pubertal children are placed directly upon cross-sex hormones. Older adolescents who declined pubertal suppression are advised to consider cryo-preservation of gametes prior to beginning cross-sex hormones. This will allow them to conceive genetic offspring in the future via artificial reproductive technology. While there are documented cases of transgendered adults who stopped their cross-sex hormones in order to allow their bodies to produce gametes, conceive, and have a child, there is no absolute guarantee that this is a viable option in the long term. Moreover, transgendered individuals who undergo sex reassignment surgery and have their reproductive organs removed are rendered permanently infertile.[36,37,38]

Additional Health Risks Associated with Cross-sex Hormones

Potential risks from cross-sex hormones to children with GD are based on the adult literature. Recall that regarding the adult literature, the Hayes report states: "There are potentially long-term safety risks associated with hormone therapy but none have been proven or conclusively ruled out."[42] For example, most experts agree that there is an increased risk of coronary artery disease among MtF adults when placed on oral ethinyl estradiol; therefore, alternative estrogen formulations are recommended. However, there is one study of MtF adults using alternative preparations that found a similar increased risk. Therefore, this risk is neither established nor ruled out.[49,50,51] Children who transition will require these hormones for a significantly greater length of time than their adult counterparts. Consequently, they may be more likely to experience physiologically theoretical though rarely observed morbidities in adults. With these caveats, it is most accurate to say that oral estrogen administration to boys *may* place them at risk for experiencing: thrombosis/thromboembolism; cardiovascular disease; weight gain; hypertrigyceridemia; elevated blood pressure; decreased glucose tolerance; gallbladder disease; prolactinoma; and breast cancer.[49,50,51] Similarly, girls who receive testosterone *may* experience an elevated risk for: low HDL and elevated triglycerides; increased homocysteine levels; hepatotoxicity; polycythemia; increased risk of sleep apnea; insulin resistance; and unknown effects on breast, endometrial and ovarian tissues.[49,50,51] In addition, girls may legally obtain a mastectomy as early as 16 years of age after receiving testosterone therapy for at least one year; this surgery carries its own set of irreversible risks.[36]

The Post-Pubertal Adolescent with GD

As previously noted, 80 percent to 95 percent of pre-pubertal children with GD will experience resolution by late adolescence if not exposed to social affirmation and medical intervention. This means that 5 percent to 20

percent will persist in their GD as young adults. Currently, there is no medical or psychological test to determine which children will persist in their GD as young adults. Pre-pubertal children with GD who persist in their GD beyond puberty are more likely to also persist into adulthood. The Endocrine Society and others, including Dr. Zucker, therefore regard it reasonable to affirm children who persist in their GD beyond puberty, as well as those who present after puberty, and to proceed with cross-sex hormones at age 16 years.[44]

ACPeds disagrees for the following reasons. First, not all adolescents with GD inevitably go on to trans-identification, but cross-sex hormones inevitably result in irreversible changes for all patients. Second, adolescents are not sufficiently mature to make significant irreversible medical decisions. The adolescent brain does not achieve the capacity for full risk assessment until the early to mid-twenties. There is a serious ethical problem with allowing minors to receive life-altering medical interventions including cross-sex hormones and, in the case of natal girls, bilateral mastectomy, when they are incapable of providing informed consent for themselves.

As stated earlier, ACPeds is also concerned about an increasing trend among adolescents to self-diagnose as transgender after binges on social media sites. While many of these adolescents will seek out a therapist after self-identifying, many states have been forced by non-scientific political pressure to ban therapists from asking why an adolescent believes he or she is transgender. In these states therapists may not explore underlying mental health issues; cannot consider the symbolic nature of the gender dysphoria; and may not look at possible confounding issues such as social media use or social contagion.[6]

Impact of sex reassignment in adults as it relates to risk in children

Surveys suggest that transgender adults initially express a sense of "relief" and "satisfaction" following the use of hormones and sex reassignment surgery (SRS). In the long term, however, SRS does not result in a level of health equivalent to that of the general population.[52] For example, a 2001 study of 392 male-to-female and 123 female-to-male transgender persons found that 62 percent of the male-to-female (MtF) and 55 percent of the female-to-male (FtM) transgender persons were depressed. Nearly one third (32 percent) of each population had attempted suicide.[53] Similarly, in 2009, Kuhn and colleagues found considerably lower general health and general life satisfaction among 52 MtF and 3 FtM transsexuals fifteen years after SRS when compared with controls.54 Finally, a thirty-year follow-up study of post-operative transgender patients from Sweden found that thirty years out from surgery, the rate of suicide among post-operative transgender adults was nearly twenty times greater than that of the general population.

To be clear, this does not prove that sex reassignment causes an increased risk of suicide or other psychological morbidities. Rather, it indicates that sex reassignment alone does not provide the individual with a level of mental health on par with the general population. The authors of the Swedish study summarized their findings as follows:

Persons with transsexualism, after sex reassignment, have considerably higher risks for mortality, suicidal behaviour, and psychiatric morbidity than the general population. Our findings suggest that sex reassignment, though alleviating gender dysphoria, may not suffice as treatment for transsexualism, and should inspire improved psychiatric and somatic care after sex reassignment for this patient group.[52]

It is noteworthy that these mental health disparities are observed in one of the most lesbian, gay, bisexual and transgender (LGBT) affirming nations of the world. It suggests that these health differences are not due primarily to social prejudice, but rather due to underlying trauma that also induced transgender belief, and/or the adult transgender condition or lifestyle. This is also consistent with an American study published in the *Journal of LGBT Health* in 2008 that found discrimination did not account for the mental health discrepancies between LGBT-identified individuals and the heterosexual population.[55]

Absent hormonal and surgical intervention, only 5-20 percent of pre-pubertal children with GD will face a transgender adulthood which seems to predispose them to certain morbidities and an increased risk of early

death. In contrast, the single study of pre-pubertal children with GD who received pubertal suppression makes clear that as many as 100 percent of these children will face a transgender adulthood. Therefore, the current transgender affirming interventions at pediatric gender clinics will statistically yield this outcome for the remaining 80 to 95 percent of pre-pubertal children with GD who otherwise would have identified with their biological sex by adulthood.

Recommendations for research

Identical twin studies establish that post-natal environmental factors exert a significant influence over the development of GD and transgenderism. Data also reflects a greater than 80% resolution rate among pre-pubertal children with GD. Consequently, identification of the various environmental factors and pathways that trigger GD in biologically vulnerable children should be one focus of research. Particular attention should be given to the impact of childhood adverse events and social contagion. Another area of much needed research is within psychotherapy. Large long term longitudinal studies in which children with GD and their families are randomized to treatment with various therapeutic modalities and assessed across multiple measures of physical and social emotional health are desperately needed and should have been launched long ago. In addition, long term follow-up studies that assess objective measures of physical and mental health of post-surgical transsexual adults must include a matched control group consisting of transgender individuals who do not undergo SRS. This is the only way to test the hypothesis that SRS itself may cause more harm to individuals than they otherwise would experience with psychotherapy alone.

Conclusion

Gender dysphoria (GD) in children is a term used to describe a psychological condition in which a child experiences marked incongruence between his or her experienced gender and the gender associated with the child's biological sex. Twin studies demonstrate that GD is not an innate trait. Moreover, barring pre-pubertal affirmation and hormone intervention for GD, 80 percent to 95 percent of children with GD will accept the reality of their biological sex by late adolescence.

The treatment of GD in childhood with hormones effectively amounts to mass experimentation on, and sterilization of, youth who are cognitively incapable of providing informed consent. There is a serious ethical problem with allowing irreversible, life-changing procedures to be performed on minors who are too young to give valid consent themselves; adolescents cannot understand the magnitude of such decisions.

Ethics alone demands an end to the use of pubertal suppression with GnRH agonists, cross-sex hormones, and sex reassignment surgeries in children and adolescents. The American College of Pediatricians recommends an immediate cessation of these interventions, as well as an end to promoting gender ideology via school curricula and legislative policies. Healthcare, school curricula and legislation must remain anchored to physical reality. Scientific research should focus upon better understanding the psychological underpinnings of this disorder, optimal family and individual therapies, as well as delineating the differences among children who resolve with watchful waiting versus those who resolve with therapy and those who persist despite therapy.

Primary author: Michelle Cretella, MD
August 2016
Updated June 2017
Updated September 2017
Updated November 2018

The American College of Pediatricians is a national medical association of licensed physicians and healthcare professionals who specialize in the care of infants, children, and adolescents. The mission of the College is to enable all children to reach their optimal, physical and emotional health and well-being.

A printable Adobe Acrobat (pdf) copy of this position is available by clicking here: Gender Dysphoria in Children

REFERENCES

1. Shechner T. Gender identity disorder: a literature review from a developmental perspective. Isr J Psychiatry Relat Sci 2010;47:132-138.
2. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 5th ed; 2013:451-459.
3. Cohen-Kettenis PT, Owen A, Kaijser VG, Bradley SJ, Zucker KJ. Demographic characteristics, social competence, and behavior problems in children with gender identity disorder: a cross-national, cross-clinic comparative analysis. J Abnorm Child Psychol. 2003;31:41–53.
4. Singal J. How the fight over transgender kids got a leading sex researcher fired. New York Magazine, Feb 7, 2016. Available at: http://nymag.com/scienceofus/2016/02/fight-over-trans-kids-got-a-researcher-fired.html. Accessed May 15, 2016.
5. Bancroft J, Blanchard R, Brotto L, et al. Open Letter to the Board of Trustees of CAMH; Jan 11, 2016. Available at: ipetitions.com/petition/boardoftrustees-CAMH. Accessed May 125, 2016.
6. Youth Trans Critical Professionals. Professionals Thinking Critically about the Youth Transgender Narrative. Available at: https://youthtranscriticalprofessionals.org/about/. Accessed June 15, 2016.
7. Skipping the puberty blockers: American "transgender children" doctors are going rogue; Nov 4, 2014. Available at: https://gendertrender.wordpress.com/2014/11/11/skipping-the-puberty-blockers-american-transgender-children-doctors-are-going-rogue/. Accessed May 15, 2016.
8. Brennan, W. Dehumanizing the Vulnerable: When word games take lives. Chicago: Loyola University Press, 1995.
9. Kuby, G. The Global Sexual Revolution: Destruction of freedom in the name of freedom. Kettering, OH: Angelico Press, 2015.
10. Jeffeys, S. Gender Hurts: A feminist analysis of the politics of transgendersim. NY: Routledge, 2014 (p. 27).
11. Forcier M, Olson-Kennedy J. Overview of gender development and gender nonconformity in children and adolescents. UpToDate; 2016. Available at: www.uptodate.com/contents/overview-of-gender-development-and-clinical-presentation-of-gender-nonconformity-in-children-and-adolescents?source=search_result&search=Overview+of+gender+nonconformity+in+children&selectedTitle=2percent7E150. Accessed May 16, 2016.
12. Rametti G, Carrillo B, Gomez-Gil E, et al. White matter microstructure in female to male transsexuals before cross-sex hormonal treatment. A diffusion tensor imaging study. J Psychiatr Res 2011;45:199-204.
13. Kranz GS, Hahn A, Kaufmann U, et al. White matter microstructure in transsexuals and controls investigated b diffusion tensor imaging. J Neurosci 2014;34(46):15466-15475.
14. Gu J, Kanai R. What contributes to individual differences in brain structure? Front Hum Neurosci 2014;8:262.
15. Reyes FI, Winter JS, Faiman C. Studies on human sexual development fetal gonadal and adrenal sex steroids. J Clin Endocrinol Metab 1973;37(1):74-78.
16. Lombardo M. Fetal testosterone influences sexually dimorphic gray matter in the human brain. J Neurosci 2012;32:674-680.
17. Campano A. [ed]. Geneva Foundation for Medical Education and Research. Human Sexual Differentiation; 2016. Available at: www.gfmer.ch/Books/Reproductive*health/Human*sexual_differentiation.html. Accessed May 11, 2016.
18. Shenk, D. The Genius in All of Us: Why everything you've been told about genetics, talent, and IQ is wrong. (2010) New York, NY: Doubleday; p. 18.
19. Diamond, M. "Transsexuality Among Twins: identity concordance, transition, rearing, and orientation." International Journal of Transgenderism, 14(1), 24–38. (Note: the abstract of this article erroneously states that the concordance rate from MZ twins is 20 percent. Dr. Cretella, the author of this paper, "Gender Dysphoria in Children," has therefore refernced Dr. Diamond's data directly to demonstrate that the actual concordance rate is slightly higher at 28 percent.)
20. Sax L. How Common is Intersex. J Sex Res. 2002 Aug;39(3):174-8. Available at http://www.leonardsax.com/how-common-is-intersex-a-response-to-anne-fausto-sterling/ Accessed Nov 1, 2018.
21. Consortium on the Management of Disorders of Sex Development. Clinical Guidelines for the Management of Disorders of Sex Development in Childhood. Intersex Society of North America; 2006. Available at: www.dsdguidelines.org/files/clinical.pdf. Accessed Mar 20, 2016.

22. Zucker KJ, Bradley SJ. Gender Identity and Psychosexual Disorders. FOCUS 2005;3(4):598-617.
23. Zucker KJ, Bradley SJ, Ben-Dat DN, et al. Psychopathology in the parents of boys with gender identity disorder. J Am Acad Child Adolesc Psychiatry 2003;42:2-4.
24. Kaltiala-Heino et al. Two years of gender identity service for minors: overrepresentation of natal girls with severe problems in adolescent development. Child and Adolescent Psychiatry and Mental Health (2015) 9:9.
25. Littman L. Rapid-onset gender dysphoria in adolescents and young adults: A study of parental reports. PLOS one. August 2018 Available at https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0202330 Accessed Nov 1, 2018.
26.Zucker KJ, Spitzer RL. Was the Gender Identity Disorder of Childhood Diagnosis Introduced into DSM-III as a Backdoor Maneuver to Replace Homosexuality? Journal of Sex and Marital Therapy. 2005;31:31-42.
27. Roberts A. Considering alternative explanations for the associations among childhood adversity, childhood abuse, and adult sexual orientation: reply to Bailey and Bailey (2013) and Rind (2013). Arch Sexual Behav 2014;43:191-196.
28. Blom RM, Hennekam RC, Denys D. Body integrity identity disorder. PLoS One 2012;7(4).
29. Lawrence A. Clinical and theoretical parallels between desire for limb amputation and gender identity disorder. Arch Sexual Behavior 2006;35:263-278.
30. King CD. The meaning of normal. Yale J Biol Med 1945;18:493-501.
31. Cohen-Kettenis PT, Delemarre-van de Waal HA, Gooren LJ. The treatment of adolescent transsexuals: changing insights. J Sexual Med 2008;5:1892–1897.
32. Bailey MJ, Triea K. What many transsexual activists don't want you to know and why you should know it anyway. Perspect Biol Med 2007;50:521-534. Available at: www.ncbi.nlm.nih.gov/pubmed/17951886. Accessed May 11, 2016.
33. Sadjadi S. The endocrinologist's office–puberty suppression: saving children from a natural disaster? Med Humanit 2013;34:255-260.
34. Bertolote JM, Fleischmann A. Suicide and psychiatric diagnosis: a worldwide perspective. World Psychiatry 2002;1(3):181–185.
35. Eyler AE, Pang SC, Clark A. LGBT assisted reproduction: current practice and future possibilities. LGBT Health 2014;1(3):151-156.
36. Schmidt L, Levine R. Psychological outcomes and reproductive issues among gender dysphoric individuals. Endocrinol Metab Clin N Am 2015;44:773-785.
37. Jeffreys, S. The transgendering of children: gender eugenics. Women's Studies International Forum 2012;35:384-393.
38. Johnson SB, Blum RW, Giedd JN. Adolescent maturity and the brain: the promise and pitfalls of neuroscience research in adolescent health policy. J Adolesc Health 2009;45(3):216-221.
39. US Department of Health and Human Services. Nuremberg Code; 2015. Available at: www.stat.ncsu.edu/people/tsiatis/courses/st520/references/nuremberg-code.pdf. Accessed 5/15/16.
40. World Health Organization. Eliminating forced, coercive and otherwise involuntary sterilization. Interagency Statement; 2014. Available at: www.unaids.org/sites/default/files/media*asset/201405*sterilization_en.pdf. Accessed May 16, 2016.
41. Hayes, Inc. Sex reassignment surgery for the treatment of gender dysphoria. Hayes Medical Technology Directory. Lansdale, Pa.: Winifred Hayes; May 15, 2014.
42. Hayes, Inc. Hormone therapy for the treatment of gender dysphoria. Hayes Medical Technology Directory. Lansdale, Pa: Winifred Hayes; May 19, 2014.
43. Kennedy P. Q & A with Norman Spack: a doctor helps children change their gender. Boston Globe, Mar 30, 2008. Available at http://archive.boston.com/bostonglobe/ideas/articles/2008/03/30/qa*with*norman_spack/. Accessed May 16, 2016.
44. Hembree WC, Cohen-Kettenis PT, Delemarre-van de Wall HA, et al. Endocrine treatment of transsexual persons: An Endocrine Society clinical practice guideline. J Clin Endocrinol Metab 2009;94:3132-3154.
45. Reardon S. Transgender youth study kicks off: scientists will track psychological and medical outcomes of controversial therapies to help transgender teens to transition. Nature 2016;531:560. Available at: www.nature.com/news/largest-ever-study-of-transgender-teenagers-set-to-kick-off-1.19637. Accessed May 16, 2016.
46. Keleman M. What do transgender children need? Houstonian Magazine, Nov 3, 2014. Available at: www.houstoniamag.com/articles/2014/11/3/what-do-transgender-children-need-november-2014. Accessed May

16, 2016.
47. Farwell S. Free to be themselves: Children's Medical Center Dallas opens clinic for transgender children and teenagers, the only pediatric center of its type in the Southwest. Dallas Morning News, Jun 4, 2015. Available at: http://interactives.dallasnews.com/2015/gender/. Accessed May 16, 2016.
48. De Vries ALC, Steensma TD, Doreleijers TAH, Cohen-Kettenis, PT. Puberty suppression in adolescents with gender identity disorder: a prospective follow-up study. J Sex Med 2011;8:2276-2283.
49. Feldman J, Brown GR, Deutsch MB, et al. Priorities for transgender medical and healthcare research. Curr Opin Endocrinol Diabetes Obes 2016;23:180-187.
50. Tangpricha V. Treatment of transsexualism. UpToDate Available at: www.uptodate.com/contents/treatment-of-transsexualism?source=search_result& search=treatment+of+transsexualism&selectedTitle=1percent7E8. Accessed May 14, 2016.
51. Moore E, Wisniewski A, Dobs A. Endocrine treatment of transsexual people: a review of treatment regimens, outcomes, and adverse effects. J Clin Endocrinol Metab 2003;88:3467-3473.
52. Dhejne, C, et.al. "Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden." PLoS ONE, 2011; 6(2). Affiliation: Department of Clinical Neuroscience, Division of Psychiatry, Karolinska Institutet, Stockholm, Sweden. Accessed 7.11.16 from http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0016885.
53. Clements-Nolle, K., et al. HIV prevalence, risk behaviors, health care use and mental health status of transgender persons: implications for public health intervention. Am J Public Health 2001;91(6):915-21.
54. Kuhn, A., et al. Quality of Life 15 years after sex reassignment surgery for transsexualism. Fertility and Sterility 2009;92(5):1685-89.
55. Burgess D, Lee R, Tran A, van Ryn M. Effects of Perceived Discrimination on Mental Health and Mental Health Services Utilization Among Gay, Lesbian, Bisexual and Transgender Persons. Journal of LGBT Health Research 2008;3(4): 1-14.

Share on Facebook and Twitter.
American College of Pediatricians
About Us Resources News Contact Us Donate Become a Member

© 2023 American College of Pediatricians | Privacy Policy | Terms

POINT-OF-CARE QUICK REFERENCE | AUGUST 20 2021

Gender Identity

Amy Weimer, MD

Quick References (2021)
https://doi.org/10.1542/aap.ppcqr.396041

Key Points

- The prevalence of gender dysphoria is increasing, and all providers should be prepared to interact with transgender patients.
- Gender-affirming care has been shown to improve health outcomes. The specific treatments recommended vary depending on age and developmental stage.
- Pubertal suppression may be used for children at Tanner stages 2 to 4 to prevent unwanted pubertal changes and allow more time to evaluate goals.
- Hormone therapy is partially irreversible and may be considered for teenagers with stable gender identity.
- Surgery is typically deferred until adulthood, although masculinizing chest reconstruction may be pursued in adolescence.
- Care through a multidisciplinary program may be optimal, but pediatricians have an important role in providing resources and psychosocial support and navigating family discussions.

Topics: gender, gender dysphoria, gender identity, transgender persons, endocrine therapy, hormone replacement therapy, puberty, signs and symptoms

Sign in

Don't already have an account? Register

Create Account

Individual Login

Institutional Login

Sign in via OpenAthens

Create a free account to unlock more stories. Already a member? Sign in or Sign up.

THE PRESS
Saturday, May 17, 2025
FOR FREE PEOPLE

LYNTRAL
High Cholesterol Meets Its Match
Lyntral Tablets 300 mg
Ask your doctor about Lyntral
21.09.25

Illustration by Gerald Lopez for The Press

I Thought I Was Saving Trans Kids. Now I'm Blowing the Whistle.

There are more than 100 pediatric gender clinics across the U.S. A cerebral at one. What's happening in children's medical care, and why?

By **Jamie Bond**
February 3, 2024

I am a 32-year-old M. Louis author, a queer woman, and pathology is the left of Bertie Sanders. My worldview has deeply shaped my current. I have spent my professional life providing counseling to vulnerable population children in foster care, sexual minorities, the poor.

For almost four years, I worked at the Washington Transgender Center, a nonprofit that provides mental health care to children and young adults who were LGT pointing. Many of them were trans or otherwise gender nonconforming, and I could relate. Through childhood and adolescence, I did a lot of gender questioning myself. I'm more inverted to a transman, and together we are raising my two biological children from a previous marriage and three foster children we began to adopt.

All that led me to a job in 2018 as a case manager at The Washington Community Transgender Center at St. Louis Children's Hospital, which had been established a year earlier.

The center's working assumption was that the earlier you treat kids with gender dysphoria, the more angrily you can prevent later on. This premise was shared by the center's doctors and therapists. Given their expertise, I assumed that abundant evidence backed this consensus.

During the four years I worked at the clinic as a case manager, I was responsible for patient intake and oversight—around a thousand distressed young people came through our doors. The majority of them received hormone prescriptions that can have life-altering consequences—including sterility.

I left the clinic in November of last year because I could no longer participate in what was happening there. In the form I characterized, I was certain that the way the American medical system is treating these patients is the opposite of the promise we make to "do no harm." Instead, we are permanently harming the vulnerable patients in our care.

Today I am speaking out. I am doing so knowing how toxic the public conversation is around this highly contentious issue—and the ways that my testimony might be misused. I am doing so knowing that I am putting myself at serious personal and professional risk.

Almost everyone in my life advised me to keep my head down. But I cannot in good conscience do so. Because what is happening to scores of children is far more important than my comfort. And what is happening to them is morally and medically appalling.

Sign up for a free account or log in to continue reading.

The Floodgates Open

Soon after my arrival at the Transgender Center, I was struck by the lack of formal protocols for treatment. The center's physicians co-directors were essentially the sole authority.

At first, the patient population was tipped toward what used to be the "traditional" instance of a child with gender dysphoria: a boy, often quite young, whose mental ill-ness seemed to get worse—a girl.

Until 2012 or so, a very small number of these boys comprised the population of pediatric gender dysphoria cases. Then, across the Western world, the sex ratio of the patients began to invert. Increasingly, the patients girls, many with no previous history of gender dysphoria, suddenly declared they were transgender and demanded immediate treatment with testosterone.

I certainly saw this at the center. One of my jobs was to do intake for new patients and their families. Where I started there were probably 10 such calls a month. When I left there were 30, and about 70 percent of the new patients were girls. Sometimes clusters of girls arrived from the same high school.

This concerned me, but didn't feel I was in the position to sound some kind of alarm back then. There was a team of about eight of us, and only one other person brought up the kinds of questions I had. Anyone who raised doubts ran the risk of being called a transphobe.

The girls who came to us had many comorbidities: depression, anxiety, ADHD, eating disorders, obesity. Many were diagnosed with autism, or had autism-like symptoms. A report put out by a British pediatric transgender center found that about one-third of the patients referred there were on the autism spectrum.

Frequently, our patients declared they had disorders that no one believed they had. We had patients who said they had Tourette syndrome (but they didn't; they had tic disorders (but they didn't; they had body multiple personalities (but they didn't.

The doctors privately recognized these false self-diagnoses as a manifestation of social contagion. They even acknowledged that suicide was an element of social contagion. But when I said the clusters of girls streaming into our service looked as if their gender issues might be a manifestation of social contagion, the doctors and gender identity reflected something issues.

To begin transitioning, the girls needed a letter of support from a therapist—usually one we recommended—who they had to see only once or twice for the green light. To make it more efficient for the therapists, we offered them a template for how to write a letter in support of transition. The next step was a single visit to the endocrinologist for a testosterone prescription.

That's all it took.

When a female-taken testosterone, the profound and permanent effects of the hormone can be seen in a matter of months. Voice drop, beards sprout, body fat is redistributed. Sexual interest explodes, aggressiveness increases, and sexual can be unpredictable. Our patients were told about some side effects, including fertility. But after working at the center, I came to believe that teenagers are simply not capable of fully grasping what it means to make the decision to become infertile while still a minor.

Side Effects

Many encounters with patients emphasized to me how little these young people understand about testosterone. Almost all the girls were interested in their bodies and minds. But the center downplayed the negative consequences, and emphasized the need for transition. As the center's website puts it, "Left untreated, gender dysphoria has any number of consequences, from self-harm to suicide. But when you take away the stigmatization and the pressure, the vast majority of kids do end up feeling that gets away. The studies on born-down those kids who wind up functioning psychotically as well as or better than their peers."

There are no reliable studies showing this. Indeed, the experiences of many of the center's patients prove how false those assertions are.

Here's an example. On Friday, May 1, 2020, a colleague emailed me about a 13-year-old male patient: "Oh dear. I am concerned that this patient does not understand what Bicalutamide does." I responded: "I don't think that we ever anything honestly right now."

Bicalutamide is a medication used to treat metastatic prostate cancer, and one of the side effects is that it feminizes the bodies of men who take it, including the appearance of breasts. The center prescribed this cancer drug as a puberty blocker and feminizing agent for boys. As with most cancer drugs, bicalutamide has a long list of side effects, and this patient experienced many of them. He was in the middle of a mental health crisis, hospital for evaluation and immediately taken off the drug. Afterwards, his mother sent an electronic message to the Transgender Center saying that we were lucky her family was not to sue.

How little patients understand what they were getting into was illustrated by a call we received at the center in 2020 from a 17-year-old biological female patient who was on testosterone. She said she was bleeding from the vagina. In less than an hour she had soaked through an entire hand pad, her jeans, and a towel she had wrapped around her waist. The nurse at the center told her to go to the emergency room right away.

We found out later she had just had intercourse, and because testosterone thins the vaginal tissue, her vaginal wall had ripped open. She had to be sedated and given surgery to repair the damage. She wasn't the only vaginal laceration case we heard about.

Other girls were disturbed by the effects of testosterone on their clitoris, which enlarges and grows into what looks like a micropenis, or a tiny penis. I counseled one patient whose enlarged clitoris now extended below her vulva, and it chafed and rubbed painfully in her jeans. I advised her to get the kind of compression underpants worn by biological men who cycle or play rugby or football. At the end of that call I thought to myself, "We've hurt this kid."

There are rare conditions in which babies are born with atypical genitalia—cases that call for sophisticated care and compassion. But clinics like the one at the Washington Transgender Center are creating a brand-new genitalia—and most of these trans-hurted cases had not yet. They had no idea what they were going to be as adults. Yet all it took for them to permanently transform themselves was one or two short conversations with a therapist.

Being put on powerful doses of testosterone or estrogen—enough to try to stick your body into mimicking the opposite sex—affects the rest of the body. I doubt that my parent which ever consented to give their kid testosterone (a lifelong treatment) knows that they're also possibly signing their kid up for blood pressure medication, cholesterol medication, and perhaps sleep apnea and diabetes.

But sometimes the parents' understanding of what they had agreed to do is their children come forwards:

Neglected and Mentally Ill Patients

Besides teenage girls, another new group was referred to us: young people from the inpatient psychiatric unit, or the emergency department, at St. Louis Children's Hospital. The mental health of these kids was deeply concerning—there were diagnoses like schizophrenia, PTSD, bipolar disorder, and more. Often they were already on a battery of pharmaceuticals.

This was tragic, but unsurprising given the profound trauma some had been through, for no matter how much suffering or pain a child had endured, or how little treatment and love they had received, our doctors and therapists were willing to offer cross-sex hormones and hardship it entailed on the relation.

Some weeks it felt as though almost our entire caseload was nothing but disturbed young people.

For example, one teenager came to us in the summer of 2021 when he was 17 years old and living in a lockdown facility because he had been sexually abusing dogs. Bird had an awful childhood. His mother was a drug addicts, his father was imprisoned, and he grew up in foster care. Whatever treatment he may have been getting, it wasn't working.

During our intake I learned from another caseworker that when he got out, he planned to reoffend because he believed the dogs had willingly submitted.

Somewhere along the way, he supposed, a desire to become female, so he ended up being seen at our center. From there, he went to a psychologist at the hospital who was known to approve virtually everyone seeking transition. Then our doctor recommended hormonal treatment. At the time, I wondered if this was being done as a form of chemical castration.

That same thought came up again with another case. This one was in spring of 2022 and concerned a young man who had intense obsessive-compulsive disorder that manifested as a desire to cut off his penis after he masturbated. This patient expressed no gender dysphoria, but he got hormones, too. I asked the doctor what protocol he was following, but I never got a straight answer.

In Loco Parentis

Another disturbing aspect of the center was its lack of regard for the rights of parents of minor children. Our intake forms contained a section that informed decision-makers over the fate of these children.

It Minnesot, only one parent's consent is required for treatment of their child. But when there was a dispute between the parents, it seemed the center always took the side of the offending parent.

My concerns about this approach to dissenting parents grew in 2019 when one of our doctors actually testified in a custody hearing against a father who opposed a mother's wish to start their 11-year-old daughter on puberty blockers.

I had done the original intake call, and I found the mother quite disturbing. She said the father were getting divorced, and the mother described the daughter as "kind of a tomboy." So now the mother was convinced her child was trans. But when I asked if her daughter had adopted a boy's name, if she was distressed about her body, if she was being bullied at school, the mother said no. I explained the girl just didn't meet the criteria for an evaluation.

Then a month later, the mother called back and said her daughter now used a boy's name, was in distress over her body, and wanted to transition. I told her I would need to see her parents for an appointment. Our providers decided the girl was trans and prescribed a puberty blocker to prevent her normal development.

The father adamantly disagreed, and this was all coming from the mother, and a custody battle ensued. After the hearing, where our doctor testified in favor of transition, the judge sided with the mother.

"I Want My Breasts Back"

Because I was the main intake person, I had the broadest perspective on the patient population. Gradually, by 2019, a new group of people appeared on my radar: detransitioners and detransitioners. Doctors chosen not to go through with a transition. Detransitioners are transgender people who decide to return to their birth gender.

The one colleague with whom I was able to share my concerns agreed with me that we should be tracking detransitioners. We thought the doctors would want to collect and understand this data in order to figure out what they had missed.

We were wrong. One doctor murdered about 100 percent of our requests to someone who was no longer his patient.

But we created a document anyway and called it the Red Flag list. It was an Excel spreadsheet that tracked the kind of patients that kept my colleague and me up at night.

One of the saddest cases of detransition I witnessed was a teenage girl, who, like so many of our patients, came from an unstable family, was in an uncertain living situation, and had a history of drug use. The overwhelming majority of our patients are white, but this girl was black. She was put on hormones at the center when she was around 16. When she was 19, she went to a Catholic mainstream, which known as a "top surgery."

Three months later she called the surgeon's office to say she was going back to her birth name and that her pronouns were "he" and "him." Testosterone had caused her to grow a beard, and she said the surgeon's office contacted her office because they didn't know what to say to this girl.

My colleague and I said that we would reach out. It took us while to reach her because she was homeless. We discussed her current mental and physical health, that she was not actively suicidal, that she was not using substances. The last I heard, she was pregnant. Of course, she'd never be able to breastfeed her child.

"Get Em Scared, Or Get Em"

My concerns about what was going on at the center started to overrun my life. By spring 2021, I felt a medical and moral obligation to do something. So I spoke up to the office, and next plenty of emails.

Here's just one example. On January 5, 2021, I received an email from a staff therapist asking me for help with a case of a 16-year-old transgender male living in another state. "Parents are open to having patient see a therapist but are not supportive of gender and patient does not want parents to be aware of gender identity. I am having a challenging time finding a gender affirming therapist."

I replied:

"I do not ethically agree with hiding a minor patient to a therapist who would be gender affirming with gender as a focus of their work without that being discussed with the parents and the parent agreeing to that kind of care."

I managed to get a decent evaluation, and I landed a job conducting research in another part of The Washington University School of Medicine. I gave my notice and left the Transgender Center in November of 2021.

I felt like I had done my part. I had gotten out of the Transgender Center, and to do so, I had to keep my head down and improve my next performance review.

I managed to get a decent evaluation, and I landed a job conducting research in another part of The Washington University School of Medicine. I gave my notice and left the Transgender Center in November of 2021.

In all my years at the Washington University School of Medicine, I had received exceptional performance reviews. But in 2021, that changed. I got a below-average mark for my "Judgment" and "Working Independently." Supervisors said I was "too emotional" and lacking in "responsible, conscientious, hard-working and productive" the evaluation also noted: "At times Jamie requests purely in direction from management with dishonesteness and hostility."

Things came to a head at a half-day retreat in summer of 2021. In front of the team, the director said that my colleagues and I had to stop questioning the "medicine and the science" as well as their authority. There an administrator said that I was "too focused on gender." I had to stop concerns that the purpose of the retreat was to deliver those messages to us.

The Washington University system operates a generous college tuition payment program for long-standing employees. I live by my paycheck and have no money to put aside for five-college tuitions for my kids. I had to keep my job. I also had a lot of loyalty to Washington University.

So I decided then and there that I would get out of the Transgender Center, and to do so, I had to keep my head down and improve my next performance review.

I managed to get a decent evaluation, and I landed a job conducting research in another part of The Washington University School of Medicine. I gave my notice and left the Transgender Center in November of 2021.

Sign up for a free account or log in to continue reading.

(Theo R. Welling)

What I Want to See Happen

For a couple of weeks, I tried to put everything behind me and settled into my new job as a clinical research coordinator, managing studies regarding children undergoing bone marrow transplants.

Then I came across comments from Dr. Rachel Levine, a transgender woman who is a high official at the federal Department of Health and Human Services. The article read: "Levine, the U.S. assistant secretary for health, said that clinics are proceeding carefully and that no American children are receiving drugs or hormones for gender dysphoria who shouldn't."

I felt stunned and sickened. It wasn't true. And I know that from deep first-hand experience.

So I started writing down everything I could about my experience at the Transgender Center. Two weeks ago, I brought my concerns and documents to the attention of Missouri's attorney general. He is a Republican. I am a progressive. But the safety of children should not be a matter for our culture wars.

Click here to read Jamie Reed's letter to the Missouri AG.

Given the secrecy and lack of rigorous standards that characterize youth gender transition across the country, I believe that to ensure the safety of American children, we need a moratorium on the hormonal and surgical treatment of young people with gender dysphoria.

In the past 15 years, according to Reuters, the U.S. has gone from having no pediatric gender clinics to more than 100. A thorough analysis should be undertaken to find out what has been done to their patients and why—and what the long-term consequences are.

There is a clear path for us to follow. Just last year England announced that it would close the Tavistock's youth gender clinic, then the NHS's only such clinic in the country, after an investigation revealed shoddy practices and poor patient treatment. Sweden and Finland, too, have investigated pediatric transition and greatly curbed the practice, finding there is insufficient evidence of help, and danger of great harm.

Some critics describe the kind of treatment offered at places like the Transgender Center where I worked as a kind of national experiment. But that's wrong.

Experiments are supposed to be carefully designed. Hypotheses are supposed to be tested ethically. The doctors I worked alongside at the Transgender Center said frequently about the treatment of our patients: "We are building the plane while we are flying it." No one should be a passenger on that kind of aircraft.

Listen to our conversation with Jamie Reed here. And if you have a tip or a story for us, please write to tips@thefp.com

And if you believe in pioneering journalism you won't find anywhere else, become a subscriber today:

Upgrade to paid

Saturday, May 13, 2023

Comments 1,280

Write a comment...

The Unhedged Capitalist Writes The Unhedged Capitalist Feb 9 Liked by Suzy Weiss

You wrote, "Today I am speaking out. I am doing so knowing how toxic the public conversation is around this highly contentious issue—and the ways that my testimony might be misused. I am doing so knowing that I am putting myself at serious personal and professional risk."

From the bottom of our hearts, thank you. Thank you for taking the risk to write this. What's happening now is insane and surely one of the lowest points our culture has ever stooped to.

I think that what you've just said will make a difference.

LIKE (866) REPLY

235 replies

tugordie Feb 9

What's so insane about this is the harm it does is OBVIOUS, yet most nice white liberals have their minds so open they've fallen out.

All it takes is a 15 min segment by John Oliver based on a couple shoddy studies (seriously, read Jesse Singal on them) and their minds are made up and arguing against this becomes not only difficult but borderline impossible. When acceptance of youth transition becomes coded strongly blue no one in the progressive tribe wants to step away from the give mind.

Thanks for sharing the personal experience here, I hope it makes an impact

LIKE (345) REPLY

60 replies

See all comments

Latest

When Motherhood Requires Lifting a Whole World Off Its Axis

ALANA NEWHOUSE

MAY 13 378 115

POLITICS

Weekend Listening: Peter Thiel Says We Have Bigger Problems Than Wokeness

BARI WEISS

MAY 12 282 73

NELLIE BOWLES

TGIF: The Greatest Show on Earth

NELLIE BOWLES

MAY 12 740 1,059

America Needs a Self-Help Book. Tim Urban's Got One.

BARI WEISS

MAY 12 1 2

THE FREE PRESS

Privacy · Terms · Collection notice

© 2023 The Free Press

Subscribe

Affidavit of Jamie Reed

Jamie Reed, being sworn, states:

1. I am an adult, I am under no mental incapacity or disability, and I know that the facts set forth in this affidavit are true because I have personal knowledge of them.

2. I hold a Bachelors of Arts in Cultural Anthropology from the University of Missouri St. Louis and a Master's of Science in Clinical Research Management from Washington University.

3. I have been working at Washington University for seven years. Initially at Washington University, I worked with HIV-positive patients, caring for many transgender individuals.

4. From 2018 until November 2022, I worked as a case manager at the Washington University Pediatric Transgender Center ("the Center") at St. Louis Children's Hospital. My duties included meeting with patients two to three days a week and completing the screening triage intake of patients who were referred to the Center.

5. I was offered and accepted the job as case manager for the Center because I had experience and expertise in working with transgender individuals and pediatric populations.

6. I took the job because I support trans rights and firmly believed I would be able to provide good care for children at the Center who are appropriate candidates to be receiving medical transition. Instead, I witnessed the Center cause permanent harm to many of the patients.

7. During my time at the Center, I personally witnessed Center healthcare providers lie to the public and to parents of patients about the treatment, or lack of treatment, and the effects of treatment provided to children at the Center. I witnessed staff at the Center provide puberty blockers and cross-sex hormones to children without complete informed parental consent and without an appropriate or accurate assessment of the needs of the child. I witnessed children experience shocking injuries from the medication the Center prescribed. And I saw the Center make no attempt or effort to track adverse outcomes of patients after they left the Center.

8. I raised concerns internally for years. But the doctors at the Center told me to stop raising these concerns. Last fall, the Center and the University Administration told me to "get with the program or get out." Because the Center was unwilling to make any changes in response to my concerns, I left the Center in November 2022 and accepted employment elsewhere within Washington University.

The Center Misleads the Public and Parents About What Care it Provides

9. The Center tells the public and parents that it provides multidisciplinary care. The Center says that you can come to the clinic and get transition hormones, if that is needed, but you can also get psychological and psychiatric care.

10. That is not true. The Center says that it has four practice areas: Endocrinology, Adolescent Medicine, Psychiatry, and Psychology. But the Center placed such strict limits on Psychiatry and Psychology that I was almost never allowed to schedule patients for those practices. Those practices were advertised as available, but most of the time they were not in fact available. Even when psychology was available, it was only to write

a letter of support for the medical transition treatments and never for ongoing therapy. And psychiatry was allowed, but only on an extremely limited basis.

11. Instead, I was required to schedule children for Endocrinology or Adolescent Medicine. Rather than provide psychiatric or psychological therapy, these practices (Endocrinology and Adolescent Medicine) would medically transition patients' gender. Endocrinology would prescribe puberty blockers and cross-sex hormones. Adolescent Medicine, which was for children after puberty, prescribed cross-sex hormones. Children were sent to one practice or the other based on their age and stage of puberty or prepuberty. There was no continuing or ongoing mental health evaluation or treatment required or provided by the Center for patients.

12. The Center also claims that it is a multidisciplinary team approach. The benefit of that approach is supposed to be that patients and their parents can feel more confident that all aspects of their care options have been considered and that their treatment plan has the input of all of the team. This Center did have members who would advocate for different options for the patients with concerning gender histories, concerning comorbidities, and attempt to raise the serious concerns regarding patient care. Patients and their parents, however, were never informed that the team did not have consensus on the treatment. The staff members on the team that were not universally in support of immediate cross sex hormones were not supported and were told to stop questioning the prevailing narrative of immediate cross sex hormones for all by the prescribing physicians. The administration at the university did not actively support the multidisciplinary model of care and did not provide any oversight, and instead the administration told those raising

concerns and questions to stop raising them. The public has been led to believe that a 'team' has considered their child's care and that the 'team' had ruled it best for the cross sex hormones to be initiated, but the public was not told the truth.

13. Medical transition practice for children and adolescents is based on a study from the Netherlands. That study, the "Dutch study," excluded participants who presented underlying mental health issues.

14. But nearly all children who came to the Center here presented with very serious mental health problems. Despite claiming to be a place where children could receive multidisciplinary care, the Center would not treat these mental health issues. Instead, children were automatically given puberty blockers or cross-sex hormones even though the Dutch study excluded persons experiencing mental health issues.

15. One patient came to the Center identifying as a "communist, attack helicopter, human, female, maybe non binary." The child was in very poor mental health and early on reported that they had no idea their gender identity. Rather than treat the child for their serious mental health problems, the Center put the child on cross-sex hormones and ignored the child's obvious mental health problems. The child subsequently reported that their mental health actually was worsening once they started the cross-sex hormones.

16. Most children who come into the Center were assigned female at birth. Nearly all of them have serious comorbidities including, autism, ADHD, depression, anxiety, PTSD, trauma histories, OCD, and serious eating disorders. Rather than treat these conditions, the doctors prescribe puberty blockers or cross-sex hormones. Some examples include:

a. Patient was in a residential sex offender treatment facility in state custody. Patient had previously sexually abused animals and had stated when they were released that they would do so again. There were questions about consistency of gender history. The Center did not treat this underlying condition, but instead started the patient on hormones.

b. Patient who has severe Obsessive Compulsive Disorder and had threatened to self-harm their genitals. The Patient did not have a trans or other incongruent gender identity. The patient was placed on hormones not even to treat any gender dysphoria but to chemically reduce libido and sexual arousal.

c. Patient had history of sexual abuse and notified the psychologist of this. It was even documented in the letter of support that the patient had concerns about the changes that testosterone would cause to their genitals. Instead of treating the underlying trauma the patient was started on testosterone.

d. Patient had serious mental health concerns and was prescribed mental health medications directly before being prescribed hormones, yet didn't take the mental health medications. Nevertheless, the patient was placed on hormones.

e. Patient had significant autism with unrealistic expectations, struggled to answer questions, and wanted questions to be provided ahead of time. Yet the patient was started on feminizing hormones.

f. Patient had a mental health history that included being violent. In addition, the parent was forcing the patient to cross dress. The patient was put on feminizing hormones.

17. These serious comorbidities were not treated by the Center, and doctors would prescribe puberty blockers or cross-sex hormones while patients were struggling with these comorbidities.

18. The psychiatry services were limited and could only serve patients who were 'not too severe,' which meant that many patients were being sent to the already overburdened emergency rooms for suicidal ideations, for self-harm, and for inpatient eating disorder treatment.

19. Many patients had depression and anxiety symptoms before starting cross sex hormones but it was only after starting these medications that they became more severe and required starting mental health medications. Many patients were also suspected of having autism and were not even required to be formally assessed for this condition before starting cross sex hormones.

20. Toward the end of my time at the Center, it became clear that many children coming to the Center had gender identities that were likely the result of social contagion. When I first started in 2018, the Center would receive between 5 and 10 calls a month. By the time I left, that number was more than 40 calls a month.

21. Social media is at least partly responsible for this large increase in children seeking gender transition treatment from the Center. Many children themselves would say that

they learned of their gender identities from TikTok. Children would arrive at the Center identifying not only as transgender, but also as having tic disorders (Tourette Syndrome) or multiple personality disorders (dissociative identity disorder). Doctors at the Center would ignore and dismiss as social contagion the claims about the tics and multiple personalities; but then those doctors would uncritically accept the children's statements about gender identity and place these children on puberty blockers and cross-sex hormones.

22. In one case, a child came into the Center identifying as "blind," even though the child could in fact see (after vision tests were performed). The child also identified as transgender. The Center dismissed the child's assertion about blindness as a somatization disorder but uncritically accepted the child's statement about gender and prescribed that child with drugs for medical transition without confirming the length or persistence of the condition. No concurrent mental health care was provided.

23. The Center tells the public and parents of patients that the point of puberty blockers is to give children time to figure out their gender identity. But the Center does not use puberty blockers for this purpose. Instead, the Center uses puberty blockers just until children are old enough to be put on cross-sex hormones. Doctors at the Center *always* prescribe cross-sex hormones for children who have been taking puberty blockers.

24. The Center also tells parents, children, and the public that puberty blockers are fully reversible. They are not. In children going through normal puberty, puberty blockers do

lasting damage. They cause children to go through menopause early, they reduce bone density, and they worsen mental health.

25. Doctors at the Center also have publicly claimed that they do not do any gender transition surgeries on minors. For example, last year Dr. Lewis and Dr. Garwood told the Missouri legislature, "at no point are surgeries on the table for anyone under 18" and also, "surgeries are not an option for anyone under 18 years of age." This was a lie. The Center regularly refers minors for gender transition surgery. The Center routinely gives out the names and contact information of surgeons to those under the age of 18. At least one gender transition surgery was performed by Dr. Allison Snyder-Warwick at St. Louis Children's Hospital in the last few years.

26. During medical visits with patients, I have personally heard providers report that they examined results of gender transition surgeries on minors. This includes examining the scar tissue and healing of sutures of breast surgeries.

27. At one point, Dr Chris Lewis and Dr Sarah Garwood reported that the Endocrine division leadership didn't want us referring minors for surgery. Yet, the Center continued referring minors for surgery. We claimed that the referrals were only "for educational purposes" for when children turned 18. But these referrals were in fact referrals. And patients we referred did in fact obtain transition surgeries as minors.

The Center Does Not Assess Children or Obtain Consent Before Placing them on Puberty Blockers and Hormones

28. The Center has four criteria that must be met before a child is placed on puberty blockers or cross-sex hormones. Although these criteria are supposed to enable the doctors to make case-by-case decisions, in practice everybody who meets these minimum criteria are prescribed cross-sex hormones or puberty blockers.

(1) Age

29. First, the child must be at a certain age or stage of puberty. Puberty stages are measured according to the Tanner Stage system.

30. The World Professional Association for Transgender Health ("WPATH") is an organization that drafts what it believes to be the best medical standard of care. WPATH is controversial. It is considered an activist organization, and its standards of care (or "guidelines") are much more lenient than the standards of care created by other organizations.

31. During the time, I was at the clinic, the WPATH Standard of Care Version 7 stated that children be at least 16 years old to start using cross-sex hormones. The Center deviated even from this most lenient standard and routinely prescribed cross-sex hormones to children as young as 13.

(2) Therapist Letter

32. The second criteria for a person to receive puberty blockers or cross-sex hormones is that the child have a letter of referral from a therapist. This requirement is supposed to ensure that two independent professional clinicians agree that medical transition is appropriate

before a child is given medication that causes irreversible change. But nothing about this process at the Center involved independent judgment.

33. The Center steered children toward therapists that the Center knew would refer these children back to the Center with a letter supporting medical transition. The Center had a list of therapists we would send children to, and a therapist could be on that list only if the Center "knew they would say yes" to medical transition. The Center had two in-house psychologists. They were Dr. Alex Maixner and Dr. Sarah Girresch-Ward as well as several outside therapists. Nobody on our list was required to be licensed in psychology or psychiatry.

34. If we did not receive a letter from an outside therapist that would let us prescribe puberty blockers or cross-sex hormones, we would then just send the patient to the in-house therapists: Dr. Alex Maixner and Dr. Sarah Girresch-Ward.

35. We also instructed the therapists what to say in their letters to us. I was instructed to draft and send language to the therapists for them to use in letters they then sent to us, and most therapists on the list had a template letter drafted by the Center that they could fill out to return to the Center.

36. The WPATH guidelines require a full psychological assessment of the child before recommending puberty blockers or cross-sex hormones. A full assessment typically requires 10 to 12 hours of time with the child. Therapists on the Center's list would send us letters after just 1-2 hours with a patient.

(3) Consent

37. The third criteria was parental consent. The Center routinely issued puberty blockers or cross-sex hormones without parental consent.

38. Doctors at the Center routinely pressured parents into "consenting" by pushing those parents, threatening them, and bullying them.

39. A common tactic was for doctors to tell the parent of a child assigned female at birth, "You can either have a living son or a dead daughter." The clinicians would tell parents of a child assigned male at birth, "You can either have a living daughter or dead son." The clinicians would say this to parents in front of their children. That introduced the idea of suicide to the children. The suicide assertion was also based on false statistics. The clinicians would also malign any parent that was not on board with medicalizing their children. They would speak disparaging of those parents.

40. I was present during the visits with many parents when this happened.

41. Parents would come into the Center wanting to discuss research and ask questions. The clinicians would dismiss the research that the parents had found and speak down to the parents.

42. When parents suggested that they wanted only therapy treatment, not cross-sex hormones or puberty blockers, doctors treated those parents as if the parents were abusive, uneducated, and willing to harm their own children.

43. These assertions about abuse and suicide were used as tools to stop parents from asking questions and to pressure parents into consenting.

44. The Center has a team culture of supporting the affirming parent and maligning the non-affirming parent.

45. Parents routinely said they felt they were being pressured to consent. Often parents would give "consent" but say they were only doing so because "you guys are going to do this anyway."

46. The Center was also intentionally blind about who had legal authority to consent. I wanted the Center to ask parents before the first visits about and request copies of custody agreements because custody agreements often spell out who among divorced parents must consent to medical procedures. I was told not to ask for custody agreements because "if we have the custody agreement, we have to follow it."

47. At one point, a child's father said no to cross-sex hormones. The child later arrived with an adult male (step parent) who said the child could receive cross-sex hormones. The Center did not check to see if this adult male was a legal parent or guardian who had any legal right to consent to treatment.

48. Other centers who prescribe cross-sex hormones and puberty blockers require parents to issue written consent. Several times, I asked the doctors to require written consent. They repeatedly refused. The entire time I worked there the Center had no written informed consent, and none that was provided to or signed by patients.

49. On several occasions, the doctors have continued prescribing medical transition even when a parent stated that they were revoking consent.

50. Before placing children on cross-sex hormones or puberty blockers, the Center also did not inform parents or children of the very serious side effects.

51. Doctors know that cross-sex hormones (immediately after puberty blockers) make children permanently sterile. The doctors did not share this information with parents or children.

52. For example, the Center nurse and I expressed concerns about a patient's intellectual function and ability to provide informed consent. The patient had a history of attending a school district for special education needs, couldn't identify where they lived, and couldn't explain what kind of legal documents (ID) they had. Our concerns were dismissed by the provider, and hormones were given. Patient then stated in a follow up appointment that they wanted to potentially have biological children and had not been seen by the fertility department. When the nurse and I asked the Center provider if they had covered the fertility questions, the Center provider became livid and adamantly disagreed that treatment could "potentially render the patient sterile."

53. Doctors knew that many of our former patients had stopped taking cross-sex hormones and were detransitioning. Doctors did not share this information with parents or children.

(4) Clinical Visit

54. The fourth criteria for prescribing cross-sex hormones or puberty blockers is that the child must have a one-hour consultation with Endocrinology or Adolescent Medicine.

55. This is little more than a box-checking exercise. One hour is not sufficient time to fully assess these children. I witnessed doctors on several occasions' mention that they did not have time in the meeting to discuss everything they wanted to discuss. The Center decided to give these children cross-sex hormones and puberty blockers anyway.

56. The WPATH standard of care in effect when I was at the Center required a full assessment of a child's situation. That typically cannot be done in less than 10 or 12 hours. The Center ignored this standard and gave children puberty blockers and cross-sex hormones after just two 1-hour visits (one with a therapist and one with a doctor at the Center).

Cross-Sex Hormones and Puberty Blockers Are Automatic

57. The Center tells the public and parents that it makes individualized decisions. That is not true. Doctors at the Center believe that every child who meets four basic criteria—age or puberty stage, therapist letter, parental consent, and a one-hour visit with a doctor—is a good candidate for irreversible medical intervention. When a child meets these four simple criteria, the doctors always decide to move forward with puberty blockers or cross-sex hormones. There were no objective medical test or criteria or individualized assessments.

58. The doctors do this even though many children coming to the Center are either experiencing social contagion or have very serious mental health issues that should be addressed first. The standard of care in studies says a center should resolve mental health

issues before sending children through medical transition. The Center is not following that standard.

59. Children come into the clinic using pronouns of inanimate objects like "mushroom," "rock," or "helicopter." Children come into the clinic saying they want hormones because they do not want to be gay. Children come in changing their identities on a day-to-day basis. Children come in under clear pressure by a parent to identify in a way inconsistent with the child's actual identity. In all these cases, the doctors decide to issue puberty blockers or cross-sex hormones.

60. In one case where a girl was placed on cross-sex hormones, I found out later that the girl desired cross-sex hormones only because she wanted to avoid becoming pregnant. There was no need for this girl to be prescribed cross-sex hormones. What she needed was basic sex education and maybe contraception. An adequate assessment before prescribing hormones would have revealed this fact. But because the doctors automatically prescribe cross-sex hormones or puberty blockers for children meeting the bare minimum criteria, this girl was unnecessarily placed on drugs that cause irreversible change to the body.

61. On another occasion, a patient had their breasts removed. Although the patient had turned 18, this surgery was performed at St. Louis Children's Hospital. Three months later, the patient contacted the surgeon and asked for their breasts to be "put back on." Had a requisite and adequate assessment been performed before the procedure, the doctors could have prevented this patient from undergoing irreversible surgical change.

62. In July 2022, the FDA issued a "black box warning" for puberty blockers, the strictest kind of warning the FDA can give a medication. It issued the warning following evidence in patients of brain swelling and loss of vision. Despite this warning, doctors at the Center continued their automatic practice of giving kids these drugs.

63. In more than four years working at the clinic, I witnessed only two examples of the doctors deciding not to prescribe cross-sex hormones or puberty blockers for a child who met the four basic criteria. Both cases involved patients with severe developmental delays. And in one of those cases, the doctors in fact said that they would prescribe cross-sex hormones or puberty blockers. The only reason the doctor did not prescribe those medications was that the parents would not agree to monitor administration of the medication.

64. In hundreds of other cases, Center doctors automatically issued puberty blockers or cross-sex hormones without considering the child's individual circumstances or mental health.

65. In one case, a psychiatrist called the Center's endocrinologist and explained that a child, who had already tried to commit suicide by threatening to jump off a roof, should not be given cross-sex hormones because the child was struggling with serious mental health issues. I witnessed the endocrinologist yell at the psychiatrist on the phone and speak down to this provider.

66. Because I was concerned that the doctors were giving cross-sex hormones and puberty blockers to children who should not be on them, I created a "red flag" list of children

where other staff and I had concerns. The doctors told me I had to stop raising these concerns. I was not allowed to maintain the red flag list after that.

67. During the time I was creating the red flag list, noting my concern that these children were not good candidates for permanent, irreversible medication treatment, the doctors would simply send these children to our in-house therapists. Those therapists would inevitably provide letters to the doctors, and then the doctors would say there can't be any concern over these children because another therapist was fine with prescribing puberty blockers or cross-sex hormones.

Children Are Experiencing Serious Harm, and the Center Will Not Do Any Follow Up

68. It is my professional opinion that cross-sex hormones and puberty blockers should only be used where the benefits outweigh the harms. These drugs have imposed and are imposing serious harms on the children who have been patients at the Center.

69. The doctors at the Center tell the public and tell parents of patients that puberty blockers are fully reversible. They really are not. They do lasting damage to the body.

70. I have seen puberty blockers worsen the mental health outcomes of children. Children who have not contemplated suicide before being put on puberty blockers have attempted suicide after. Puberty blockers force children to go through premature menopause. Puberty blockers decrease bone density.

71. Cross-sex hormones (after puberty blockers) in almost all cases will permanently sterilize children. Children on cross-sex hormones also experience substantial gain in blood

pressure, cholesterol, and weight. All of these have significant negative health effects. One patient started hormones and took one dose and then started having symptoms that they believed was indicative of a blood clot.

72. Children who take testosterone as a cross-sex hormone experience severe atrophy of vaginal tissue. One patient on cross-sex hormones called the Center after having sexual intercourse. The patient experienced vaginal lacerations so severe that the patient bled through a pad, through pants, and through a towel wrapped around their waist, and had to have the vaginal lacerations surgically treated in St. Louis Children's Hospital emergency room.

73. Most patients who have taken cross-sex hormones have experienced near-constant abdominal pain.

74. One doctor at the Center, Dr. Chris Lewis, is giving patients a drug called Bicalutamide. The drug has a legitimate use for treating pancreatic cancer, but it has a side effect of causing breasts to grow, and it can poison the liver. There are no clinical studies for using this drug for gender transitions, and there are no established standards of care for using this drug.

75. Because of these risks and the lack of scientific studies, other centers that do gender transitions will not use Bicalutamide. The adult center affiliated with Washington University will not use this medication for this reason. But the Center treating children does.

76. I know of at least one patient at the Center who was advised by the renal department to stop taking Bicalutamide because the child was experiencing liver damage. The child's parent reported this to the Center through the patient's online self-reporting medical chart (MyChart). The parent said they were not the type to sue, but "this could be a huge PR problem for you."

77. I have heard from patients given testosterone that their clitorises have grown so large that they now constantly chafe against the child's pants, causing them pain when they walk.

78. Despite telling the public and parents that the Center offers multidisciplinary, complete care, the Center makes no attempt to provide care after prescribing cross-sex hormones or puberty blockers. The Center does not provide mental health care or refer children for mental health care even though nearly all children who come to the Center are experiencing serious mental health issues. The Center does not require children to continue with mental health care after they prescribe cross-sex hormones or puberty blockers and even continues those medications when the patients directly report worsening mental health after initiating those medications. Some additional examples to those discussed above include:

a. Patient was on hormones and had decompensating mental health, outlandish name changes, self-diagnosis of multiple personalities (DID). The patient was continued on hormones.

b. Patient believed that they were being poisoned by the testosterone and stopped for a period. They had significant serious mental health issues, but were put back on testosterone.

c. Patient was brought to the Center at the age of 17 by a man who was not related to them yet with whom the patient had been living. They were started on hormones as soon as they turned 18. Patient's mental health subsequently got worse and it was disclosed in an Emergency Department visit that the man that had brought them to the clinic had been sexually and physically abusing them. The medical transition treatment was not stopped and the Center provider did not require trauma therapy, mental health care or an assessment.

d. Patient was in residential facility, in foster care. We convinced the staff that it was ok for patient to start testosterone. Patient ran away numerous times from facility and was having unprotected intercourse while on testosterone (which causes birth defects). The patient was continued on the testosterone.

e. Patient admits that they were started on testosterone when they were very young- age 11- and only because they were moving to a state (Florida) that the parent was concerned wouldn't prescribe later. Patient has desisted in male identity to a vague non binary with their own self-diagnosis of autism. Patient has changed their name numerous times and is clearly struggling with thoughts about desistence, even saying they wanted breast development. The Center continued the testosterone.

f. Patient who was on hormones was being evaluated for OCD and having somatization disorder with 'seizure' activity. Patient was kept on hormones.

g. Patient who was on hormones stopped taking their schizophrenia medications without consulting a doctor. Patient was continued on hormones.

h. Patient changed to non-binary identity, then changed preferred name and stated that their identity was shifting day to day. Patient was continued on hormones.

79. The Center also refuses to track complications and adverse events among its patients. There is no standard protocol for tracking patients who have received treatment. And the Center actively avoids trying to learn about these adverse events.

80. On my own initiative, I have tracked some patients on a case-by-case basis, but the Center discouraged me from doing so. I wanted to track the number of our patients who detransition. I wanted to track the number of our patients who have attempted suicide or committed suicide. The Center would not make either of these tracking systems a priority.

81. It is my belief that the Center does not track these outcomes because they do not want to have to report them to new patients and because they do not want to discontinue cross-sex hormone prescriptions. The Center never discontinues cross-sex hormones, no matter the outcome.

82. In just a two-year period from 2020 to 2022, the Center initiated medical transition for more than 600 children. About 74% of these children were assigned female at birth. These procedures were paid for mostly by private insurance, but during this time, it is my understanding that the Center also billed the cost for these procedures to state and federal publicly funded insurance programs.

83. I have personally witnessed staff say they were uncomfortable with how the Center has told them they have to code bills sent to publicly funded insurance programs. I have witnessed staff directly ask the providers for clarification on billing questions and have providers dismiss the concerns and work to have the patients have this care covered as the priority.

84. I have personally witnessed staff report that they were aware that patients had been coded incorrectly (coding for precocious puberty for puberty blockers when the child does not in fact have that condition).

85. Based on my observation that the Center has prescribed puberty blockers or cross-sex hormones hundreds of times where they should not have, the Center is billing private and public insurance for unnecessary procedures.

86. Even when it is clear that the cross-sex hormones or puberty blockers are harming the child, the Center continues that treatment and continues billing public and private insurance.

Jamie Reed

2/7/2023

Date

State of Missouri)
)
City of St. Louis)

On this day, Jamie Reed personally appeared before me, a notary public in Missouri. I know her to be the individual who signed this document, and she acknowledged to me that she signed it for the purposes stated in it.

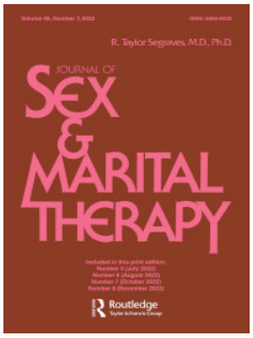
Katie R Keeven

Notary Public

2/7/2023

Date

KATIE R. KEEVEN
Notary Public, Notary Seal
State of Missouri
St. Louis County
Commission # 21767059
My Commission Expires 11-15-2025



Routledge
Taylor & Francis Group

Journal of Sex & Marital Therapy

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/usmt20

Reconsidering Informed Consent for Trans-Identified Children, Adolescents, and Young Adults

Stephen B. Levine, E. Abbruzzese & Julia W. Mason

To cite this article: Stephen B. Levine, E. Abbruzzese & Julia W. Mason (2022) Reconsidering Informed Consent for Trans-Identified Children, Adolescents, and Young Adults, Journal of Sex & Marital Therapy, 48:7, 706-727, DOI: 10.1080/0092623X.2022.2046221

To link to this article: https://doi.org/10.1080/0092623X.2022.2046221

© 2022 The Author(s). Published with license by Taylor & Francis Group, LLC.

Published online: 17 Mar 2022.

Submit your article to this journal

Article views: 41868

View related articles

View Crossmark data

Citing articles: 9 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=usmt20

JOURNAL OF SEX & MARITAL THERAPY
2022, VOL. 48, NO. 7, 706–727
https://doi.org/10.1080/0092623X.2022.2046221

Routledge
Taylor & Francis Group

REVIEW

OPEN ACCESS
Check for updates

Reconsidering Informed Consent for Trans-Identified Children, Adolescents, and Young Adults

Stephen B. Levine[a], E. Abbruzzese[b] and Julia W. Mason[c]

[a]Department of Psychiatry, Case Western Reserve University, Cleveland, OH, USA; [b]Society for Evidence-based Gender Medicine (SEGM), Twin Falls, ID, USA; [c]Calcagno Pediatrics, Gresham, OR, USA

ABSTRACT

In less than a decade, the western world has witnessed an unprecedented rise in the numbers of children and adolescents seeking gender transition. Despite the precedent of years of gender-affirmative care, the social, medical and surgical interventions are still based on very low-quality evidence. The many risks of these interventions, including medicalizing a temporary adolescent identity, have come into a clearer focus through an awareness of detransitioners. The risks of gender-affirmative care are ethically managed through a properly conducted informed consent process. Its elements—deliberate sharing of the hoped-for benefits, known risks and long-term outcomes, and alternative treatments—must be delivered in a manner that promotes comprehension. The process is limited by: erroneous professional assumptions; poor quality of the initial evaluations; and inaccurate and incomplete information shared with patients and their parents. We discuss data on suicide and present the limitations of the Dutch studies that have been the basis for interventions. Beliefs about gender-affirmative care need to be separated from the established facts. A proper informed consent process can both prepare parents and patients for the difficult choices that they must make and can ease professionals' ethical tensions. Even when properly accomplished, however, some clinical circumstances exist that remain quite uncertain.

KEYWORDS
Informed consent; ethics; gender dysphoria; gender identity; detransition

Introduction

Reconsideration of the meanings, purposes, indications, and processes of informed consent for transgender-identified youth is urgently needed. Parents of gender atypical children are considering social transition as early as preschool or grade school. Parents of preteens and teens are considering supporting their children's wishes to present in a new gender, take puberty blockers and cross-sex hormones, and plan for surgical alterations. College-aged youth are declaring new identities for the first time and obtaining hormones and surgery without their parents' knowledge.

When uncertain parents of children and teens consult their primary care providers, they are usually referred to specialty gender services. Parents and referring clinicians assume that specialists with "gender expertise" will undertake a thorough evaluation. However, the evaluations preceding the recommendation for gender transition are often surprisingly brief (Anderson & Edwards-Leeper, 2021) and typically lead to a recommendation for hormones and surgery, known as *gender-affirmative* treatment.

CONTACT Stephen B. Levine sbl2@case.edu Department of Psychiatry, Case Western Reserve University, 23425 Commerce Park #104, Cleveland, OH44106-7078, USA.

This article has been corrected with minor changes. These changes do not impact the academic content of the article.

© 2022 The Author(s). Published with license by Taylor & Francis Group, LLC.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (http://creativecommons.org/licenses/by-nc-nd/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

Despite the widely recognized deficiencies in the evidence supporting gender-affirmative interventions (National Institute for Health & Care Excellence, 2020a; 2020b), the process of obtaining informed consent from patients and their families has no established standard. There is no consensus about the requisite elements of evaluations, nor is there unanimity about how informed consent processes should be conducted (Byne et al., 2012). These two matters are inconsistent from practitioner to practitioner, clinic to clinic, and country to country.

Social transition, hormonal interventions, and surgery have profound implications for the course of the lives of young patients and their families. It is incumbent upon professionals that these consequences be thoroughly, patiently clarified over time prior to undertaking any element of transition. The informed consent process does not preclude transition; it merely educates the family about the state of the science underpinning the decision to transition. Social transition, hormones, and surgeries are unproven in a strict scientific sense, and as such, to be ethical, require a thorough and fully informed consent process.

Ethical Concerns About Inadequate Informed Consent

The concept of informed consent in medicine has roots in both ethical theory and law. The ethical foundation is centered in the principles of beneficence, justice, and respect for autonomy, while the legal issues have to do with questions of malpractice (Katz et al., 2016).

Patients consenting to treatment must meet age-based and decisional capacity requirements (Katz et al., 2016). Minors less than the age of consent participate in decision-making by providing *assent*—an agreement with the intervention. The limited maturational cognitive capacities of minors are the key reason why parents serve as the ethical and legal surrogates for medical decision-making, tasked with signing an informed consent document (Grootens-Wiegers, Hein, van den Broek, & de Vries, 2017).

The informed consent process consists of three main elements: a disclosure of information about the nature of the condition and the proposed treatment and its alternatives; an assessment of patient and caregiver understanding of the information and capacity for medical decision-making; and obtaining the signatures that signify informed consent has been obtained (Katz et al., 2016). The current expectation that clinicians and institutions are required to thoroughly inform their patients about the benefits, risks, and uncertainties of a particular treatment, as well as about alternatives, has a long legal history in the United States (Lynch, Joffe, & Feldman, 2018).

Ethical concerns about inadequate informed consent for trans-identified youth have several potentially problematic sources, including *erroneous assumptions* held by professionals; *poor quality of the evaluation process*; and *incomplete and inaccurate information* that the patients and family members are given.

These concerns are amplified by the *dramatic growth* in demand for youth gender transition witnessed in the last several years that has led to a perfunctory informed consent process. A rushed process does not allow for a proper discussion of not only the benefits, but the profound risks and uncertainties associated with gender transition, especially when gender transition is undertaken before mature adulthood.

a. *Dramatic growth in demand for services threatens true informed consent*

Gender identity variations were thought to be extremely rare a generation ago. While the incidence in youth had not been officially estimated, in adults it was 2-14 per 100,000 (American Psychiatric Association, 2013, p. 454). However, around 2006, the incidence among youth began to rise, with a dramatic increase observed in 2015 (Aitken et al., 2015, de Graaf, Giovanardi, Zitz, & Carmichael, 2018). Currently, 2-9% of U.S. high school students identify as transgender, while in colleges, 3% of males and 5% of females identify as gender-diverse (American College Health Association, 2021; Johns et al., 2019; Kidd et al., 2021).

Whereas previously most of the affected individuals identified as the opposite sex, there is now a growing trend toward identifying as *nonbinary*: neither male nor female or both male and female (Chew et al., 2020). A recent study reported that the majority of transgender-identifying youth (63%) now have a non-binary identity (Green, DeChants, Price, & Davis, 2021). Although the incidence of natal males asserting a trans identity in adolescence has significantly increased, the dramatic increase is driven primarily by the natal females requesting services (Zucker, 2017). Many suffer from significant comorbid mental health disorders, have neurocognitive difficulties such as ADHD or autism or have a history of trauma (Becerra-Culqui et al., 2018; Kozlowska, McClure, et al., 2021).

The increase in rates of transgender identification is reflected in the numbers of youth seeking help from medical professionals. For example, according to data reported by the Tavistock gender clinic in the UK, in 2009, there were 51 requests for services (de Graaf et al., 2018); in 2019-2020, 2728 referrals were recorded—a 53-fold increase in just over a decade (Tavistock & Portman NHS Foundation Trust, 2020). The growing number of urban transgender health centers that have arisen in recent years (HRC, n.d.) reflects the increased demand for gender-related medical care among young people in North America Australia, and Europe.

This unprecedented increase has created pressure on institutions and practitioners to rapidly evaluate these youth and make recommendations about treatment. To respond to growing demand, an innovative *informed consent model of care* has been developed. Under this model, mental health evaluations are not required, and hormones can be provided after just one visit following the collection of a patient's or guardian's consent signature (Schulz, 2018). The provision of transition services under this model of care is available not just to those over 18, but for younger patients as well (Planned Parenthood League of Massachusetts, n.d.).

Although following the informed consent model of care for hormones and surgeries for youth may diminish clinicians' ethical or moral unease (Vrouenraets et al., 2020), we believe this model is the antithesis of true informed consent, as it jeopardizes the ethical foundation of patient autonomy. Autonomy is not respected when patients consenting to the treatment do not have an accurate understanding of the risks, benefits, and alternatives.

b. *Assumptions held by professionals influence the integrity of the informed consent process*

Gender-dysphoric children and teens can intensely occupy the belief that their lives will be immensely improved by transition. Clinicians who have embraced the gender-affirmative model of care operate on the assumption that children and teens know best what they need to be happy and productive (Ehrensaft, 2017). These professionals, responding to the youths' passionate pleas, see their role as validating the young person's fervent wishes for hormones and surgery and clearing the path for gender transition. In doing so, they privilege the ethical principle of respect for patient autonomy (Clark & Virani, 2021) over their obligations for beneficence and non-maleficence.

Many of the gender-affirmative clinicians subscribe to the theory of *minority stress* – the supposition that the frequently co-occurring psychiatric symptoms of gender-dysphoric individuals are a result of prejudice and discrimination brought about by gender non-conformity (Rood et al., 2016; Zucker, 2019), and that gender transition will ameliorate these symptoms. Some even claim that gender-affirmative care will successfully treat not only depression and anxiety but will also resolve neurocognitive deficits frequently present in gender-dysphoric individuals (Turban, 2018; Turban, King, Carswell, & Keuroghlian, 2020; Turban & van Schalkwyk, 2018). These latter assertions have proven controversial even among the proponents of gender-affirmative interventions (Strang et al., 2018; van der Miesen, Cohen-Kettenis, & de Vries, 2018). The minority stress theory as the sole explanatory mechanism for co-occurring mental health illness has also been questioned in light of the evidence that psychiatric symptoms frequently predate the onset of gender dysphoria (Bechard, VanderLaan, Wood, Wasserman, & Zucker, 2017; Kaltiala-Heino, Sumia, Työläjärvi, & Lindberg, 2015; Kozlowska, Chudleigh, McClure, Maguire,

& Ambler, 2021). Other clinicians recognize the limits of gender-affirmative care and are aware that youth with underlying psychiatric issues are likely to continue to struggle post-transition (Kaltiala, Heino, Työläjärvi, & Suomalainen, 2020), but, unaware of alternative approaches such as gender-exploratory psychotherapy or watchful waiting (Bonfatto & Crasnow, 2018; Churcher Clarke & Spiliadis, 2019; Spiliadis, 2019), these well-meaning professionals continue to treat youth with gender-affirmative interventions despite lingering doubts.

It is common for gender-affirmative specialists to erroneously believe that gender-affirmative interventions are a *standard of care* (Malone, D'Angelo, Beck, Mason, & Evans, 2021; Malone, Hruz, Mason, Beck, et al:, 2021). Despite the increasingly widespread professional beliefs in the safety and efficacy of pediatric gender transition, and the endorsement of this treatment pathway by a number of professional medical societies, the best available evidence suggests that the benefits of gender-affirmative interventions are of very low certainty (Clayton et al., 2021; National Institute for Health & Care Excellence, 2020a; 2020b) and must be carefully weighed against the health risks to fertility, bone, and cardiovascular health (Alzahrani et al., 2019; Biggs, 2021; Getahun et al., 2018; Hembree et al., 2017; Nota et al., 2019). Recently, emphasis has also been placed on psychosocial risks and as yet unknown medical risks (Malone, D'Angelo, et al., 2021).

Five scientific observations question and refute the assumption that an individual's experience of incongruence of sex and gender identity is best addressed by supporting the newly assumed gender identity with psychosocial and medical interventions.

1. The most foundational aspect of the diagnoses of "gender dysphoria" (DSM-5) and "gender incongruence" (ICD-11), requisite for the provision of medical treatment, is in flux, as professionals disagree on whether the presence of distress is a key diagnostic criterion, as stated in the DSM-5, or is irrelevant, as is the case according to the latest ICD-11 criteria (American Psychiatric Association, 2013; World Health Organization, 2019). Further, these diagnoses have never been properly field-tested (de Vries et al., 2021).
2. There are no randomized controlled studies demonstrating the superiority of various affirmative interventions compared to alternatives. There isn't even agreement about which outcome measures would be ideal in such studies.
3. There are few long-term follow-up studies of various interventions using predetermined outcome measures at designated intervals. Studies that have been conducted are, at best, inconsistent. Higher quality studies with longer-follow-up fail to demonstrate durable positive impacts on mental health (Bränström & Pachankis, 2020a; 2020b).
4. Rates of post-transition desistance, increased mental suffering, increased incidence of physical illness, educational failure, vocational inconstancy, and social isolation have not been established.
5. Numerous cross-sectional and prospective studies of transgender adults consistently demonstrate a high prevalence of serious mental health and social problems as well as suicide (Asscheman et al., 2011; Dhejne et al., 2011). Controversies about how to deal with trans-identified youth must consider the well described vulnerabilities of transgender adults.

It is equally important to realize that to date, research about alternative approaches, such as psychotherapy or watchful waiting, shares the scientific limitations of the research of more invasive interventions: there are no control groups, nor is there systematic follow-up at predetermined intervals with predetermined means of measurement (Bonfatto & Crasnow, 2018; Churcher Clarke & Spiliadis, 2019; Spiliadis, 2019). Parents and patients need to be informed of this as well.

Perhaps the single most problematic assumption held by some gender clinicians is that the young patients have simply been "born in the wrong body." This assumption seemingly frees clinicians from having to contend with the ethical dilemmas of recommending body-altering

interventions that are based on very low-quality evidence. Despite the principle of development that biology, psychosocial factors, and culture generate behavior, these clinicians may believe that atypical genders are created by biology. This reductionistic approach has been criticized repeatedly (Kendler, 2019).

While the origins of childhood or adolescent onset of gender incongruence have not yet been fully elucidated, brain studies of increasing technical sophistication have yet to demonstrate a distinct structure or pattern that accounts for an atypical gender identity, after statistically controlling for sexual orientation and exposure to exogenous hormones (Frigerio, Ballerini, & Valdés Hernández, 2021). Twin studies also demonstrate that while biology plays a role in one's experience of "gender incongruence," it is far from deterministic (Diamond, 2013).

A growing number of clinicians and researchers are noting that the dramatic rise of teens declaring a trans identity appears to be, at least in part, a result of peer influence (Anderson, 2022; Hutchinson, Midgen, & Spiliadis, 2020; Littman 2018; Littman, 2020; Zucker, 2019). Some have noted yet another influx of trans-identified youth emerging during the COVID lockdowns, and have hypothesized that increased isolation coupled with heavy internet exposure may be responsible (Anderson, 2022). While the research into the phenomenon of social influence as a contributor to trans identification of youth is still in its infancy, the possibility that clinicians are providing treatments with permanent consequences to address what may be transient identities in youth poses a serious ethical dilemma.

c. *Poor evaluations*

There is a growing recognition that rapid evaluations which disregard factors contributing to the development of gender dysphoria in youth are problematic. In November 2021, two-leaders of the World Professional Organization for Transgender Health (WPATH) warned the medical community that the "The mental health establishment is failing trans kids" (Anderson & Edwards-Leeper, 2021). Frequently, evaluations provided by gender clinicians may only ascertain the diagnosis of *gender dysphoria* (DSM-5) or its ICD-11 counterpart *gender incongruence*, and screen for conspicuous mental illness prior to recommending hormones and surgeries. These limited, abbreviated evaluations overlook, and as a result fail to address, the relevant issue of the forces that may have influenced the young person's current gender identity.

Confirming the young person's self-diagnosis of gender dysphoria or gender incongruence is easy. Clarifying the developmental forces that have influenced it and determining an appropriate intervention are not. Contextualizing these forces involves an understanding of child and adolescent developmental processes, childhood adversity, co-existing physical and cognitive disadvantages, unfortunate parental or family circumstances (Levine, 2021), as well as the role of social influence (Anderson, 2022; Anderson & Edwards-Leeper, 2021; Littman, 2018; 2021).

The poor quality of mental health evaluations has been a point of significant discontent for a growing number of parents of gender-dysphoric youth. Increasingly, parents have formed dozens of support groups in North America, Europe, Australia and New Zealand, united in their objections to the idea that the best or the only treatment for their gender-dysphoric children is affirmation (Genspect, 2021). These distressed parents, recognizing that their son or daughter may eventually decide to present to others as a trans person, want a psychotherapeutic investigation to understand what contributed to the development of this identity and an exploration of noninvasive treatment options. Frequently, they cannot find anyone in their community who does not recommend immediate affirmation.

The American Academy of Pediatrics' Committee of Bioethics recognizes that "parents…are better situated than others to understand the unique needs of their children and to make appropriate, caring decisions regarding their children's health care" (Katz et al., 2016). The plight of the families unable to find specialists capable of conducting thorough evaluations draws attention to the widespread acceptance of medical interventions for gender-dysphoric youth as the first line of treatment. The problem is that such care has been established through precedent rather

than through scientific demonstrations of its efficacy. We contend that parents and patients have a right to know this, and that it is the professionals' responsibility and obligation to inform them of the state of knowledge in this arena of care.

d. *Incorrect information shared*

In sharing the information with patients and families, two key areas of uncertainty must be emphasized. The first one is the uncertain permanence of a child's or an adolescent's gender identity (Littman, 2021; Ristori & Steensma, 2016; Singh, Bradley, & Zucker, 2021; Vandenbussche, 2021; Zucker, 2017). The second is the uncertain long-term physical and psychological health outcomes of gender transition (National Institute for Health & Care Excellence, 2020a; 2020b). Unfortunately, gender specialists are frequently unfamiliar with, or discount the significance of, the research in support of these two concepts. As a result, the informed consent process rarely adequately discloses this information to patients and their families.

Problematically, it is common for gender clinicians to emphasize the risk of suicide if a young person's wish to transition gender is not immediately fulfilled. There is a significant amount of misinformation surrounding the question of suicidality of trans-identified youth (Biggs, 2022). Providers of gender-affirmative care should be careful not to unwittingly propagate misinformation regarding suicide to parents and youths. They should also be reminded that any conversations about suicide should be handled with great care, due to its socially contagious nature (Bridge et al., 2020; HHS, 2021).

i. High rate of desistance/natural resolution of gender dysphoria in children is not disclosed

There have been eleven research studies to date indicating a high rate of resolution of gender incongruence in children by late adolescence or young adulthood without medical interventions (Cantor, 2020; Ristori & Steensma, 2016; Singh et al., 2021). An attempt has been made to discount the applicability of this research, suggesting that the studies were based on merely gender non-conforming, rather than truly gender-dysphoric, children (Temple Newhook et al., 2018). However, a reanalysis of the data prompted by this critique confirmed the initial finding: Among children meeting the diagnostic criteria for "Gender Identity Disorder" in DSM-IV (currently "Gender Dysphoria in DSM-5), 67% were no longer gender-dysphoric as adults; the rate of natural resolution for gender dysphoria was 93% for children whose gender dysphoria was significant but subthreshold for the DSM diagnosis (Zucker, et al., 2018). It should be noted that high resolution of childhood-onset gender dysphoria had been recorded before the practice of social transition of young children was endorsed by the American Academy of Pediatrics (Rafferty et al., 2018). It is possible that social transition will predispose a young person to persistence of transgender identity long-term (Zucker, 2020).

The information regarding the resolution of gender dysphoria among those with adolescent-onset gender dysphoria, which is currently the predominant presentation, is less clear. A growing body of evidence suggests that for many teens and young adults, a post-pubertal onset of transgender identification can be a transient phase of identity exploration, rather than a permanent identity, as evidenced by a growing number of young detransitioners (Entwistle, 2020; Littman, 2021; Vandenbussche, 2021). Previously, the rate of detransition and regret was reported to be very low, although these estimates suffered from significant limitations and were likely undercounting true regret (D'Angelo, 2018). However, in the last several years since gender-affirmative care has become popularized, the rate of detransition appears to be accelerating.

According to a recent study from a UK adult gender clinic, 6.9% of those treated with gender-affirmative interventions detransitioned within only 16 months of starting treatment, and another 3.4% had a pattern of care suggestive of detransition, yielding a rate of probable detransition in excess of 10%. Another 21.7% of patients disengaged from the clinic without completing

their treatment plan (Hall, Mitchell, & Sachdeva, 2021). While some of these individuals later reengaged with the gender service, the authors concluded, "detransitioning might be more frequent than previously reported." Another study from a UK primary care practice found that 12.2% of those who had started hormonal treatments either detransitioned or documented regret, while the total of 20% stopped the treatments for a wider range of reasons. The mean age of their presentation with gender dysphoria was 20, and the patients had been taking gender-affirming hormones for the average 5 years (17 months-10 years) prior to discontinuing.

Comparing these much higher rates of treatment discontinuation and detransition to the significantly lower rates reported by the older studies, the researchers noted: "Thus, the detransition rate found in this population is novel and questions may be raised about the phenomenon of overdiagnosis, overtreatment, or iatrogenic harm as found in other medical fields" (Boyd, Hackett, & Bewley, 2022 p.15). Indeed, given that regret may take up to 8-11 years to materialize (Dhejne, Öberg, Arver, & Landén, 2014; Wiepjes et al., 2018), many more detransitioners are likely to emerge in the coming years. Detransitioner research is still in its infancy, but two recently published studies examining detransitioner experiences report that detransitioners from the recently-transitioning cohorts feel they had been rushed to medical gender-affirmative interventions with irreversible effects, often without the benefit of appropriate, or in some instances any, psychologic exploration (Littman, 2021; Vandenbussche, 2021).

Clinicians should also disclose to patients and parents that there is no test which can accurately predict who will persist in their transgender identification upon reaching mature adulthood (Ristori & Steensma, 2016). Families should be made aware that a period of strong cross-sex identification in childhood is commonly associated with future homosexuality (Korte et al., 2008). Research in desistance confirms that the majority of youth whose gender dysphoria resolves naturally do indeed grow up to be gay, lesbian, or bisexual adults (Cantor, 2020, Appendix; Singh et al., 2021).

ii. Implications of very low-quality evidence that underlies the practice of pediatric gender transition are not explained

The evidence underlying the practice of pediatric gender transition is widely recognized to be of very low quality (Hembree et al., 2017). In 2020, the most comprehensive systematic review of evidence to date, commissioned by the UK National Health System (NHS) and conducted by the National Institute for Health and Care Excellence (NICE), concluded that the evidence for both puberty blocking and cross-sex hormones is of very low certainty (National Institute for Health & Care Excellence, 2020a; 2020b).

According to the NICE review of evidence for puberty blockers, the studies "are all small, uncontrolled observational studies, which are subject to bias and confounding, and are of very low certainty as assessed using modified GRADE [Grading of Recommendations, Assessment, Development and Evaluations]. All the included studies reported physical and mental health comorbidities and concomitant treatments very poorly" (National Institute for Health & Care Excellence, 2020a, p.13). NICE reached similar conclusions regarding the quality of the evidence for cross-sex hormones (National Institute for Health & Care Excellence, 2020b).

Problematically, the implications of administering a treatment with irreversible, life-changing consequences based on evidence that has an official designation of "very low certainty" according to modified GRADE is rarely discussed with the patients and the families. GRADE is the most widely adopted tool for grading the quality of evidence and for making treatment recommendations worldwide. GRADE has four levels of evidence, also known as certainty in evidence or quality of evidence: very low, low, moderate, and high (BMJ Best Practice, 2021). When evidence is assessed to be "very low certainty," there is a high likelihood that the patients will not experience the effects of the proposed interventions (Balshem et al., 2011).

In the context of providing puberty blockers and cross-sex hormones, the designation of "very low certainty" signals that the body of evidence asserting the benefits of these interventions is

highly unreliable. In contrast, several negative effects are quite certain. For example, puberty blockade followed by cross-sex hormones leads to infertility and sterility (Laidlaw, Van Meter, Hruz, Van Mol, & Malone, 2019). Surgeries to remove breasts or sex organs are irreversible. Other health risks, including risks to bone and cardiovascular health, are not fully understood and are uncertain, but the emerging evidence is alarming (Alzahrani et al., 2019; Biggs, 2021).

iii. The question of suicide is inappropriately handled

Suicide among trans-identified youth is significantly elevated compared to the general population of youth (Biggs, 2022; de Graaf et al., 2020). However, the "transition or die" narrative, whereby parents are told that their only choice is between a "live trans daughter or a dead son" (or vice-versa), is both factually inaccurate and ethically fraught. Disseminating such alarmist messages hurts the majority of trans-identified youth who are not at risk for suicide. It also hurts the minority who are at risk, and who, as a result of such misinformation, may forgo evidence-based suicide prevention interventions in the false hopes that transition will prevent suicide.

The notion that trans-identified youth are at alarmingly high risk of suicide usually stems from biased online samples that rely on self-report (D'Angelo et al., 2020; James et al., 2016; The Trevor Project, 2021), and frequently conflates suicidal thoughts and non-suicidal self-harm with serious suicide attempts and completed suicides. Until recently, little was known about the actual rate of suicide of trans-identified youth. However, a recent analysis of data from the biggest pediatric gender clinic in the world, the UK's Tavistock, found the rate of completed youth suicides to be 0.03% over a 10-year period, which translates into the annual rate of 13 per 100,000 (Biggs, 2022). While this rate is significantly elevated compared to the general population of teens, it is far from the epidemic of trans suicides portrayed by the media.

The "transition or die" narrative regards suicidal risk in trans-identified youth as a different phenomenon than suicidal risk among other youth. Making them an exception falsely promises the parents that immediate transition will remove the risk of suicidal self-harm. Trans patients themselves complain about the so-called "trans broken arm syndrome" – a frustrating pattern whereby physicians "blame" all the problems the patients are experiencing on their trans status, and a result, fail to perceive and respond to other sources of distress (Paine, 2021). Clinicians caring for trans-identified youth should be reminded that suicide risk in all patients is a multi-factorial phenomenon (Mars et al., 2019). To treat trans youths' suicidality as an exception is to deny them evidence-based care.

A recent study of three major youth clinics concluded that suicidality of trans-identifying teens is only somewhat elevated compared to that of youth referred for mental health issues unrelated to gender identity struggles (de Graaf et al., 2020). Another study found that transgender-identifying teens have relatively similar rates of suicidality compared to teens who are gay, lesbian and bisexual (Toomey, Syvertsen, & Shramko, 2018). Depression, eating disorders, autism spectrum conditions, and other mental health conditions commonly found in transgender-identifying youth (Kaltiala-Heino, Bergman, Työläjärvi, & Frisen, 2018; Kozlowska, McClure, et al., 2021; Morandini, Kelly, de Graaf, Carmichael, & Dar-Nimrod, 2021) are all known to independently contribute to the probability of suicide (Biggs, 2022; Simon & VonKorff, 1998; Smith, Zuromski, & Dodd, 2018).

The "transition or suicide" narrative falsely implies that transition will prevent suicides. Clinicians working with trans-identified youth should be aware that although in the short-term, gender-affirmative interventions can lead to improvements in some measures of suicidality (Kaltiala et al., 2020), neither hormones nor surgeries have been shown to reduce suicidality in the long-term (Bränström & Pachankis, 2020a; 2020b). Alarmingly, a longitudinal study from Sweden that covered more than a 30-year span found that adults who underwent surgical transition were 19 times more likely than their age-matched peers to die by suicide overall, with female-to-male participants' risk 40 times the expected rate (Dhejne et al., 2011, Table S1).

Another key longitudinal study from the Netherlands concluded that suicides occur at a similar rate at all stages of transition, from pretreatment assessment to post-transition follow-up (Wiepjes et al., 2020). The data from the Tavistock clinic also did not show a statistically significant difference between completed suicides in the "waitlist" vs. the "treated" groups (Biggs, 2022). Luckily, in both groups, completed suicides were rare events (which may have been responsible for the lack of statistical significance). Thus, we consider the "transition or die" narrative to be misinformed and ethically wrong.

In our experience working with trans-identified youth, an adolescent's suicidality can sometimes arise as a response to parental distress, resistance, skepticism, or wish to investigate the forces shaping the new gender identity before social transition and hormone therapy. When mental health professionals or other healthcare providers fail to recognize the legitimacy of parental concerns, or label the parents as transphobic, this only tends to intensify intrafamilial tension. Clinicians would be well-advised that gender transition is not an appropriate response to suicidal intent or threat, as it ignores the larger mental health and social context of the young patient's life—the entire family is often in crisis. Trans-identified adolescents should be screened for self-harm and suicidality, and if suicidal behaviors are present, an appropriate evidence-based suicide prevention plan should be put in place (de Graaf et al., 2020).

The Dutch Study: the questionable basis for the gender affirmative model of care for youth

Few practitioners of gender-affirmative interventions, and even fewer patients and families, realize that the foundation of the practice of medically transitioning minors stems from a single Dutch proof of concept study, the outcomes of which were documented in two publications (de Vries, Steensma, Doreleijers, Cohen, & Kettenis, 2011; de Vries et al., 2014). The former (de Vries et al., 2011) reported on cases who underwent puberty blockade, while the latter (de Vries et al., 2014) reported on a subset of the cases who completed surgeries.

The Dutch study subjects' high level of psychological functioning at 1.5 years after surgery, which was the study end point, was an impressive feat. However, both of the studies suffer from a high risk of bias due to their study design, which is effectively a non-randomized case series—one of the lowest levels of evidence (Mathes & Pieper, 2017; National Institute for Health & Care Excellence, 2020a). In addition, the studies suffer from limited applicability to the populations of adolescents presenting today (de Vries, 2020). The interventions described in the study are currently being applied to adolescents who were not cross-gender identified prior to puberty, who have significant mental health problems, as well as those who have non-binary identities—all of these presentations were explicitly disqualified from the Dutch protocol. Despite these limitations, the Dutch clinical experiment has become the basis for the practice of medical transition of minors worldwide and serves as the basis for the recommendations outlined in the 2017 Endocrine Society guidelines (Hembree et al., 2017).

We contend that the Dutch studies have been misunderstood and misrepresented as providing evidence of the safety and efficacy of these interventions for all youth. It is important that both the strengths and the weaknesses of these two studies are understood, as to date, the Dutch experience presents the best available evidence behind the practice of pediatric gender transition.

Rationale for pediatric transition

Prior to the 1990s, gender transitions were typically initiated in mature adults (Dhejne et al., 2011). However, it was noted that particularly for natal male patients, hormonal and surgical interventions failed to achieve satisfactory results, and patients had a "never disappearing masculine appearance" (Delemarre-van de Waal & Cohen-Kettenis, 2006). The lack of adequate cosmetic outcomes was thought to contribute to the frequently disappointing outcomes of medical

gender transition, with persistently high rates of mental illness and suicidality post-transition (Delemarre-van de Waal & Cohen-Kettenis, 2006; Dhejne et al., 2011; Ross & Need, 1989).

In the mid 1990s, a team of Dutch researchers hypothesized that by carefully selecting a subset of gender-dysphoric children who would likely be transgender-identified for the rest of their lives, and by medically intervening before puberty left an irreversible mark on their bodies, the cosmetic outcomes would be improved—and as a result, mental health outcomes might be improved (Gooren & Delemarre-van de Waal, 1996).

Mixed study findings

In 2014, the Dutch research team published a key longitudinal study of mental health outcomes of 55 youths who completed medical and surgical transition (de Vries et al., 2014). The 2014 paper (sometimes referred to as the "Dutch study") reported that for youth with severe gender dysphoria that started in early childhood and persisted into mid-adolescence, a sequence of puberty blockers, cross-sex hormones, and breast and genital surgeries (including a mandatory removal of the ovaries, uterus and testes), with ongoing extensive psychological support, was associated with positive mental health and overall function 1.5 years post-surgery.

While the Dutch reported resolution of gender dysphoria post-surgery in study subjects, the reported psychological improvements were quite modest (de Vries et al., 2014). Of the 30 psychological measurements reported, nearly half showed no statistically significant improvements, while the changes in the other half were marginally clinically significant at best (Malone, D'Angelo, et al., 2021). The scores in anxiety, depression, and anger did not improve. The change in the Children's Global Assessment Scale, which measures overall function, was one of the most impressive changes—however it too remained in the same range before and after treatment (de Vries et al., 2014).

Problematic discordance between reduced gender dysphoria and lack of meaningful improvements in psychological measures

The discordance between the marked reduction in gender dysphoria, as measured by the UGDS (Utrecht Gender Dysphoria Scale), and the lack of meaningful changes in psychological function using standard measures, warrants further examination. There are three plausible explanations for this lack of agreement. Any one of these three explanations calls into question the widely assumed notion that the medical interventions significantly improve mental health or lessen or eradicate gender dysphoria.

One possible explanation is that gender dysphoria as measured by UGDS, and psychological function as measured by most standard instruments, are not correlated. This contradicts the primary rationale for providing gender-affirmative treatments for youth (which is to improve psychological health and functioning), and if true, ethically threatens these medical interventions. The other plausible explanation stems from the high psychological function of all the subjects at baseline; the subjects were selected because they were free from significant mental health problems (de Vries et al., 2014). As a result, there was little opportunity to meaningfully improve. This explanation highlights a key limitation in applying the study's results to the majority of today's gender-dysphoric youth, who often present with a high burden of mental illness (Becerra-Culqui et al., 2018; Kozlowska, McClure, et al., 2021). The study cannot be used as evidence that these procedures have been proven to improve depression, anxiety, and suicidality.

A third possible explanation for the discordance between only minor changes in psychological outcomes but a significant drop in gender dysphoria comes from a close examination of the UGDS scale itself and how it was used by the Dutch researchers. This 12-item scale, designed by the Dutch to assess the severity of gender dysphoria and to identify candidates for hormones

and surgeries, consists of "male" (UGDS-aM) and "female" (UGDS-aF) versions (Iliadis et al., 2020). At baseline and after puberty suppression, biological females were given the "female" scale, while males were given the "male" scale. However, post-surgery, the scales were flipped: biological females were assessed using the "male" scale, while biological males were assessed on the "female" scale (de Vries et al., 2014). We maintain that this handling of the scales may have at best obscured, and at worst, severely compromised the ability to meaningfully track how gender dysphoria was affected throughout the treatment.

Consider this example. At baseline, a gender-dysphoric biological female would rate items from the "female" scale such as: "I prefer to behave like a boy" (item 1); "I feel unhappy because I have to behave like a girl" (item 6) and "I wish I had been born a boy" (item 12). Positive answers to these questions would have contributed to a high baseline gender dysphoria score. After the final surgery, however, this same patient would be asked to rate items from the "male" scale, including the following: "My life would be meaningless if I had to live as a boy" (item 1); "I hate myself because I am a boy" (item 6) and "It would be better not to live than to live as a boy" (item 12). A gender-dysphoric female would not endorse these statements (at any stage of the intervention), which would lead to a lower gender dysphoria score.

Thus, the detected drop in the gender dysphoria scores for biological males and females may have had less to do with the success of the interventions, and more to do with switching the scale from the "female" to the "male" version (and vice-versa) between the baseline and post-surgical period. This, too, may explain why no changes in gender dysphoria were noted between baseline and the puberty blockade phase, and were only recorded after the final surgery, when the scale was switched.

It must be considered that had the researchers administered the "flipped" scale earlier, at the completion of the puberty blocker stage, UGDS scale could have registered a reduction in gender dysphoria. Likewise, however, one must consider the possibility that had *both sets of scales* been administered to the same individual at baseline, a "reduction" in gender dysphoria could have been registered upon switching of the scale, *well before any interventions began*. The question here is whether the diminishment of quantitative measures of gender dysphoria is largely an artifact of what scale was used.

It must be noted that the UGDS measure has been demonstrated only to effectively differentiate between clinically referred gender-dysphoric individuals, non-clinically referred controls, and participants with disorders of sexual development, and was not designed to detect changes in gender dysphoria during treatment (Steensma, McGuire, Kreukels, et al. 2013). The presence of items such as "I dislike having erections" (item 11, UGDS-aM), which would have to be rated by birth-females, and "I hate menstruating because it makes me feel like a girl (item 10, UGDS-aF), which would be presented to birth-males, neither of which could be meaningfully rated by either at any stage of the interventions, further illustrates that UGDS has questionable validity for the purpose of detecting meaningful changes in gender dysphoria as a result of medical and surgical treatment.

The updated UGDS scale (UGDS-GS), developed by the Dutch after the publication of their seminal study, has eliminated the two-sex version of the scale in favor of a single battery of questions applicable to both sexes (McGuire et al., 2020). This change may lead to a more reliable measurement of treatment-associated changes in future research. Other gender dysphoria scales also exist (Hakeem, Črnčec, Asghari-Fard, Harte, & Eapen, 2016; Iliadis et al., 2020) and may or may not be better suited for the purposes of measuring the impact of medical interventions on underlying gender distress. Gender dysphoria, of course, may also prove to be a more complex concept than can be measured by any scale.

Other limitations

The two Dutch studies were conducted without a control group (de Vries et al., 2011; de Vires et al., 2014). Nor could the researchers control for mental health interventions, which all the

subjects received in addition to hormones and surgery. The Dutch only evaluated mental health outcomes and did not assess physical health effects of hormones and surgery. The sample size was small: the final study reported the outcomes of only 55 children, and as few as 32 were evaluated on key measures of psychological outcomes.

It is important to realize that the Dutch sample was carefully selected, which introduced a source of bias, and also challenges the study's applicability. From the 196 adolescents initially referred, 111 were considered eligible to start puberty blockers, and of this group, only the 70 most mature and mentally stable who proceeded to cross-sex hormones were included in the study (de Vries et al., 2011). Of note, 97% of the selected cases were attracted to members of their natal sex at baseline. All were cross-sex identified, with no cases of nonbinary identities. The final study only followed 55, rather than the original 70 cases, further excluding from reporting the outcomes of subjects who had experienced adverse events, including: one death from surgery-related complications and three cases of obesity and diabetes that rendered subjects ineligible for surgery. Three more subjects refused to be contacted or dropped out of care, which may mask adverse outcomes (de Vries et al., 2014).

There is no knowledge of the fate of 126 patients who did not participate in the Dutch study. Longer term outcomes of the subjects who did participate are lacking. We are aware of only one case of long-term follow-up for a female-to-male patient treated by the Dutch team in the 1990s. The case study describing the subject's functioning at the age of 33 found that the patient did not regret gender transition. However, he reported struggling with significant shame related to the appearance of his genitals and to his inability to sexually function; had problems maintaining long-term relationships; and experienced depressive symptoms (Cohen-Kettenis, Schagen, Steensma, de Vries, & Delemarre-van de Waal, 2011). Notably, these problems had not yet emerged when the same patient was assessed at the age of 20, when he reported high levels of satisfaction in general, and was "very satisfied with the results [of the metoidioplasty]" in particular (Cohen-Kettenis & van Goozen, 1998, p.248). Since the last round of psychological outcomes of the individuals in the Dutch study was obtained when the subjects were around 21 years of age (de Vries et al., 2014), it raises questions how they will fare during the decade when new developmental tasks, such as career development, forming long-term intimate relationships and friendships, or starting families come into focus.

As to the unknown outcomes of the patients rejected by the Dutch protocol, one study did report on 14 adolescents who sought gender reassignment in the same clinic, but were disqualified from treatment due to "psychological or environmental problems" (Smith, Van Goozen, & Cohen-Kettenis, 2001, p. 473). The study found that at follow-up 1-7 years after the original application, 11 of the 14 no longer wished to transition, and 2 others only slightly regretted not transitioning (Malone, D'Angelo, et al., 2021; Smith et al., 2001). This further underscores the importance of conducting research utilizing control groups and following the subjects for an extended period.

A recent attempt to replicate the results of the first Dutch study (de Vries et al., 2011) found no demonstrable psychological benefit from puberty blockade, but did find that the treatment adversely affected bone development (Carmichael et al., 2021). The final Dutch study (de Vries et al., 2014) has never been attempted to be replicated with or without a control group.

The scaling of the Dutch Protocol beyond original indications

The medical and surgical sequence of Dutch protocol has been aggressively scaled worldwide without the careful evaluations and vetting practiced by the Dutch. The protocol's original investigators have recently expressed concern that the interventions they described have been widely adopted on four continents without several of the protocol's essential discriminatory features (de Vries, 2020).

The extensive multi-year multidisciplinary evaluations of the children have been abbreviated or simply bypassed. The medical sequence is routinely used for children with post-pubertal onset of transgender identities complicated by mental health comorbidities (Kaltiala-Heino et al., 2018), and not just for those high-functioning adolescents with persistent early life cross-identifications, as was required by the Dutch protocol (de Vries & Cohen-Kettenis, 2012). Further, it has become increasingly common to socially transition children before puberty (Olson, Durwood, DeMeules, & McLaughlin, 2016), even though this was explicitly discouraged by the Dutch protocol at the time (de Vries & Cohen-Kettenis, 2012).

In addition, medical transition is frequently initiated much earlier than recommended by the original protocol (de Vries & Cohen-Kettenis, 2012). The authors of the protocol were aware that most children would have a spontaneous realignment of their gender identity with sex by going through early- to mid-stages of puberty (Cohen-Kettenis, Delemarre-van de Waal, & Gooren, 2008). The average age of initiating puberty blockade in the Dutch study was around 15. In contrast, currently the age limit has been lowered to the age of Tanner stage II, which can occur as early as 8-9 years (Hembree et al., 2017). Irreversible cross-sex hormones, initiated in the Dutch study at the average age of nearly 17, are currently commonly prescribed to 14-year-olds, and this lower age threshold has been recommended by WPATH Standard of Care 8 draft, the final version of which is due to be released in early 2022. The fact that children are transitioned before their identity is tested against the biological reality and before natural resolution of gender dysphoria has had a chance to occur is a major deviation from the original Dutch protocol. Systematic follow-up, reassessments, and tracking and publishing of outcomes are not performed.

As the lead Dutch researchers have begun to call for more research into the novel presentation of gender dysphoria in youth (de Vries, 2020; Voorzij, 2021) and question the wisdom of applying the hormonal and surgical treatment protocols to the newly presenting cases, many recently educated gender specialists mistakenly believe that the Dutch protocol proved the concept that its sequence helps all gender-dysphoric youth. Although aware of the Dutch study's importance, they seem to be unaware of its agreed upon limitations, and the Dutch clinicians' own discomfort that most new trans-identified adolescents presenting for care today significantly differ from the population the Dutch had originally studied. These facts, of course, underscore the need for a robust informed consent process.

The recommendations for informed consent process for children, adolescents, and young adults

Consent for all stages of gender transition should be explicit, not implied

Noninvasive medical care or care that carries little risk of harm does not require a signed informed consent document; rather, consent is implied through the act of a patient presenting for care. For example, when a parent brings in a child for a skin laceration or abscess, consent for sutures or simple incision and drainage is implied. Similarly, when a child presents with pneumonia and is hospitalized, consent for chest x-ray, IV fluids, and antibiotics is also implied. It is assumed that patients or their guardians agree to the interventions and understand the benefits and risks. When risks are greater, such as prior to surgery, chemotherapy, or another invasive procedure, an informed consent document is signed. Such situations require an explicit, or express informed consent.

In the context of interventions for gender dysphoria or gender incongruence, the uncertainties associated with puberty blocking, cross-sex hormones, and gender-affirmative surgeries are well-recognized (Manrique et al., 2018; National Institute for Health & Care Excellence, 2020a; 2020b; Wilson et al., 2018). In these cases, consent should be explicit rather than implied because of the complexity, uncertainty, and risks involved.

Informed consent for social transition represents a gray area. Evidence suggests that social transition is associated with the persistence of gender dysphoria (Hembree et al.,

2017; Steensma, McGuire, Kreukels, Beekman, & Cohen-Kettenis, 2013). This suggests that social gender transition is a form of a psychological intervention with potential lasting effects (Zucker, 2020). While the causality has not been proven, the possibility of iatrogenesis and the resulting exposure to the risks of future medical and surgical gender dysphoria treatments, qualifies social gender transition for explicit, rather than implied, consent.

Full unbiased disclosure of benefits, risks and alternatives is requisite

When mental health professionals are involved in evaluations and recommendations, the informed consent process begins either as part of an extended evaluation or is integrated in a psychotherapeutic process, separately or together, with the parents and patient. When pediatricians, nurse practitioners, or primary care physicians perform the initial evaluation, the informed consent process is more likely to be labeled as such in a briefer series of meetings.

In all settings, the informed consent discussions for gender-affirmative care should include three central ideas:

1. The decision to initiate gender transition may predispose the child to persist in their transgender identity long-term.
2. Many of the physical changes contemplated and undertaken are irreversible.
3. Careful long-term studies have not been done to verify that these interventions enable better physical and mental health or improved social functioning, or that they do not cause harm.

The informed consent process, culminating with a signed document, signifies that parents and patient have been educated about the short- and long-term risks, benefits and uncertainties associated with all relevant stages of the gender-affirmative interventions. The process must also inform the patients and families about the full range of alternative treatments, including the choice of not socially or medically treating the child's or adolescent's current state of gender/body incongruence.

Decisional capacity to consent needs to be assessed and family should be involved

Trans-identified youth typically present themselves as strongly desiring hormones and ultimately, surgery. It should not be assumed that their eagerness is matched with the capacity to carefully consider the consequences of their realized desires. Trans-identified youth younger than the age of consent should be part of the informed consent process, but they may not be mature enough to recognize or admit their concerns about the proposed intervention. For this reason, it is the parents who, after careful consideration, are responsible for signing an informed consent document.

The issue of the exact age at which adolescents are mature enough to consent to gender transition has proven contentious: courts have been asked to decide about competence to consent to gender-affirmative hormones for youth in the United Kingdom and Australia (Ouliaris, 2021). In the United States, the legal age for medical consent for gender-affirmative interventions varies by state.

When patients are age 18 and older, and in some jurisdictions as young as age 15 (Right to medical or dental treatment without parental consent, 2010), they do not legally require parental approval for medical procedures. But because an individual's change of gender has profound implications for parents, siblings, and other family members, it is usually prudent for clinicians to seek their input directly or indirectly during the informed consent process. This is done by requesting a meeting with the parents.

A recent study by a Dutch research team attempted to evaluate the decisional capacity of adolescents embarking on gender transition (Vrouenraets, de Vries, de Vries, van der Miesen, & Hein, 2021). The researchers administered the MacCAT-T tool, comprised of the *understanding*, *appreciating*, *reasoning*, and *expressing a choice* domains, to 74 adolescents who were 14.7 years old on average (with the minimum age of 10). They concluded that the adolescents were competent to consent to starting pubertal suppression, calling for similar research for the <12 group, particularly because "birth-assigned girls … may benefit from puberty suppression as early as 9 years of age" (Vrouenraets et al., 2021 p.7).

This study suffers from two significant limitations involving the MacCAT-T tool. It was never designed for children. Rather, it was designed to assess medical consent capacities of adults suffering from conditions such as dementia, schizophrenia, and other psychiatric disorders. There is a fundamental lack of equivalency between consenting to treatment by adults with cognitive impairments and obtaining consent from healthy children whose age-appropriate cognitive capacities are intact, but who lack the requisite life experiences to consent to profound life-changing medical interventions. We doubt, for example, whether even highly intelligent children who have not had sexual experiences can meaningfully comprehend the loss of future sexual function and reproductive abilities.

In addition, even for adults, the MacCAT-T tool has been criticized for its exclusive focus on cognitive aspects of capacity, failing to account for the non-cognitive aspects such as values, emotions and other biographic and context specific aspects inherent in the complexity of the decision process in real life (Breden & Vollmann, 2004). Children's values and emotions undergo tremendous change during the process of maturation.

The authors' conclusion about their young patients' competence to consent should be compared with what a panel of judges wrote in the challenge to the Tavistock treatment protocol (Bell v Tavistock, 2020):

> …the clinical intervention we are concerned with here is different in kind to other treatments or clinical interventions. In other cases, medical treatment is used to remedy, or alleviate the symptoms of, a diagnosed physical or mental condition, and the effects of that treatment are direct and usually apparent. The position in relation to puberty blockers would not seem to reflect that description. [para 135]

> …we consider the treatment in this case to be in entirely different territory from the type of medical treatment which is normally being considered. [para 140]

> … the combination here of lifelong and life changing treatment being given to children, with very limited knowledge of the degree to which it will or will not benefit them, is one that gives significant grounds for concern. [para 143]

It seems clear that perceptions of children as young as 10 years of age as medically competent vary by country, state, and the institution where the doctor works, and, by clinicians' beliefs about the long-term benefits of these interventions. We maintain that the claim that children can consent to extremely life-altering intervention is fundamentally a philosophical claim (Clark & Virani, 2021). Our view in this matter is that consent is primarily a parental function.

Informed consent should be viewed as a process rather than an event

Most institutions that care for transgender-identified individuals have devised obligatory consent forms that outline the risks and uncertainties of hormonal and surgical gender-affirmative interventions. However, the requisite signatures are frequently collected in a perfunctory manner (Schulz, 2018), akin to signatures collected ahead of a common surgical procedure. The purpose of such informed consent documents appears to be to protect practitioners from lawsuits, rather than attend to the primary ethical foundation of the process.

Although obtaining the signatures is important, the signed document should signify that the process of informed consent has been undertaken over an extended time period and is not simply quickly completed (Vrouenraets et al., 2021). We believe the latter approach poses an ethical concern (Levine, 2019).

The internal dynamics of the trans-identified young person and their families vary considerably. Parental capacities, their private marital and intrafamilial relationships, their cultural awareness, religious and political sensibilities all influence the amount of time necessary to undertake a thorough informed consent process. It is not prudent to suggest a specific duration for the process of informed consent, other than to emphasize that it requires a slow, patient, thoughtful question and answer period as the parents and patient contemplate the meaning of what is known and unknown and whether to embark on alternative approaches to the management of gender dysphoria before the age of full neurological maturity has been reached, mental health comorbidities have been addressed, and a true informed consent by the patient is more likely.

Final thoughts

Sixty years of experience providing medical and surgical assistance to transgender-identified persons have seen many changes in who is treated, when they are treated, and how they are treated. Today, the emphasis has shifted to the treatment of the unprecedented numbers of youth declaring a trans identity. As adolescents pursue social, medical, and surgical interventions, health care providers may experience unease about patients' cognitive and emotional capacities to make decisions with life-changing and enduring consequences. An unrushed informed consent process helps the provider, the parents, and the patient.

Three issues tend to obscure the salience of informed consent: conspicuous mental health problems, uncertainty about the minor's personal capacity to understand the irreversible nature of the interventions, and parental disagreement. Physical and psychiatric comorbidities can contribute to the formation of a new identity, develop as its consequence, or bear no connection to it. Assessing mental health and the minor's functionality is one of the reasons why rapid affirmative care may be dangerous for patients and their families. For example, when situations involve autism, learning disorders, sexual abuse, attachment problems, trauma, separation anxiety, previous depressed or anxious states, neglect, low IQ, past psychotic illness, eating disorders or parental mental illness, clinicians must choose between ignoring these potentially causative conditions and comorbidities and providing appropriate treatment before affirmative care (D'Angelo et al., 2020).

For youth less than the age of majority, informed consent via parents provides a legal route for treatment but it does not make the decision to socially transition, provide hormones, or surgically remove breasts or testes less fraught with uncertainty. The best that health professionals can do is to ensure that the consent process informs the patient and parents of the current state of science, which is sorely lacking in quality research. It is the professionals' responsibility to ensure that the benefits patients and parents seek, and the risks they are assuming, are clearly appreciated as they prepare to make this often-excruciating decision.

Young people who have reached the age of majority, but who have not reached full maturation of the brain represent a unique challenge. It is well-recognized that brain remodeling proceeds through the third decade of life, with the prefrontal cortex responsible for executive function and impulse control the last to mature (Katz et al., 2016). The growing number of detransitioners who had been old enough to legally consent to transition, but who no longer felt they were transgender upon reaching their mid-20's, raises additional concerns about this vulnerable age group (Littman, 2021; Vandenbussche, 2021).

When the clinician is uncertain whether a young person is competent to comprehend the implications of the desired treatment—that is, when informed consent cannot inform the patient—the clinician may need more time with the patient. When parents or guardians do

not agree about whether to use puberty blockers or cross-sex hormones, clinicians are in an uneasy spot (Levine, 2021). This occurs in both intact and divorced families. Australia has given legal instructions to clinicians facing these uncertainties: the court is to be asked to decide (Ouliaris, 2021). The court system in the UK has been grappling with similar issues in recent years. While it is a rare case that ends up in a courtroom, clinicians devoted to a deliberate informed consent process are still likely to encounter ethical dilemmas that they cannot resolve.

Acknowledgments

The authors wish to thank SEGM staff for their grant and bibliographic support.

Funding

This work was supported by the Society for Evidence-based Gender Medicine.

References

Aitken, M., Steensma, T. D., Blanchard, R., VanderLaan, D. P., Wood, H., Fuentes, A., Spegg, C., Wasserman, L., Ames, M., Fitzsimmons, C. L., Leef, J. H., Lishak, V., Reim, E., Takagi, A., Vinik, J., Wreford, J., Cohen-Kettenis, P. T., de Vries, A. L. C., Kreukels, B. P. C., & Zucker, K. J. (2015). Evidence for an altered sex ratio in clinic-referred adolescents with gender dysphoria. *The Journal of Sexual Medicine*, *12*(3), 756–763. doi:10.1111/jsm.12817

Alzahrani, T., Nguyen, T., Ryan, A., Dwairy, A., McCaffrey, J., Yunus, R., Forgione, J., Krepp, J., Nagy, C., Mazhari, R., & Reiner, J. (2019). Cardiovascular disease risk factors and myocardial infarction in the transgender population. *Circulation: Cardiovascular Quality and Outcomes*, *12*(4). doi:10.1161/CIRCOUTCOMES.119.005597

American College Health Association. (2021). *American College Health Association-National College Health Assessment III: Undergraduate Student Reference Group Data Report Spring 2021*. Boston: ACHA-NCHA III. https://www.acha.org/documents/ncha/NCHA-III_SPRING-2021_UNDERGRADUATE_REFERENCE_GROUP_DATA_REPORT.pdf

American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). doi:10.1176/appi.books.9780890425596

Anderson, E. (2022, January 3). Opinion: When it comes to trans youth, we're in danger of losing our way. *The San Francisco Examiner*. Retrieved January 5, 2022, from http://www.sfexaminer.com/opinion/are-we-seeing-a-phenomenon-of-trans-youth-social-contagion/

Anderson, E., Edwards-Leeper, L. (2021, November 24). The mental health establishment is failing trans kids. Washington, DC: Washington Post. Retrieved December 20, 2021, from https://www.washingtonpost.com/outlook/2021/11/24/trans-kids-therapy-psychologist/

Asscheman, H., Giltay, E. J., Megens, J. A. J., de Ronde, W. (Pim), van Trotsenburg, M. A. A., & Gooren, L. J. G. (2011). A long-term follow-up study of mortality in transsexuals receiving treatment with cross-sex hormones. *European Journal of Endocrinology*, *164*(4), 635–642. doi:10.1530/EJE-10-1038

Balshem, H., Helfand, M., Schünemann, H. J., Oxman, A. D., Kunz, R., Brozek, J., Vist, G. E., Falck-Ytter, Y., Meerpohl, J., & Norris, S. (2011). GRADE guidelines: 3. Rating the quality of evidence. *Journal of Clinical Epidemiology*, *64*(4), 401–406. doi:10.1016/j.jclinepi.2010.07.015

Becerra-Culqui, T. A., Liu, Y., Nash, R., Cromwell, L., Flanders, W. D., Getahun, D., Giammattei, S. V., Hunkeler, E. M., Lash, T. L., Millman, A., Quinn, V. P., Robinson, B., Roblin, D., Sandberg, D. E., Silverberg, M. J., Tangpricha, V., & Goodman, M. (2018). Mental health of transgender and gender nonconforming youth compared with their peers. *Pediatrics*, *141*(5), e20173845. doi:10.1542/peds.2017-3845

Bechard, M., VanderLaan, D. P., Wood, H., Wasserman, L., & Zucker, K. J. (2017). Psychosocial and psychological vulnerability in adolescents with gender dysphoria: A "proof of principle" Study. *Journal of Sex & Marital Therapy*, *43*(7), 678–688. doi:10.1080/0092623X.2016.1232325

Bell v Tavistock and Portman NHS Foundation Trust. (2020). EWHC 3274. The High Court of Justice (2020). https://www.judiciary.uk/wp-content/uploads/2020/12/Bell-v-Tavistock-Judgment.pdf

Biggs, M. (2021). Revisiting the effect of GnRH analogue treatment on bone mineral density in young adolescents with gender dysphoria. *Journal of Pediatric Endocrinology and Metabolism*. doi:10.1515/jpem-2021-0180

Biggs, M. (2022). Suicide by clinic-referred transgender adolescents in the United Kingdom. *Archives of Sexual Behavior*.

BMJ Best Practice. (2021). What is grade? Retrieved January 1, 2022, from https://bestpractice.bmj.com/info/us/toolkit/learn-ebm/what-is-grade/

Bonfatto, M., & Crasnow, E. (2018). Gender/ed identities: An overview of our current work as child psychotherapists in the Gender Identity Development Service. *Journal of Child Psychotherapy*, *44*(1), 29–46. doi:10.1080/0075417X.2018.1443150

Boyd, I., Hackett, T., & Bewley, S. (2022). Care of transgender patients: A general practice quality improvement approach. *Healthcare*, *10*(1), 121. doi:10.3390/healthcare10010121

Bränström, R., & Pachankis, J. E. (2020a). Reduction in mental health treatment utilization among transgender individuals after gender-affirming surgeries: A total population study. *American Journal of Psychiatry*, *177*(8), 727–734. doi:10.1176/appi.ajp.2019.19010080

Bränström, R., & Pachankis, J. E. (2020b). Correction to Bränström and Pachankis. (2020). *American Journal of Psychiatry*, *177*(8), 734–734. doi:10.1176/appi.ajp.2020.1778correction

Breden, T. M., & Vollmann, J. (2004). The Cognitive Based Approach of Capacity Assessment in Psychiatry: A Philosophical Critique of the MacCAT-T. *Health Care Analysis*, *12*(4), 273–283. doi:10.1007/s10728-004-6635-x

Bridge, J. A., Greenhouse, J. B., Ruch, D., Stevens, J., Ackerman, J., Sheftall, A. H., Horowitz, L. M., Kelleher, K. J., & Campo, J. V. (2020). Association Between the Release of Netflix's 13 Reasons Why and Suicide Rates in the United States: An Interrupted Time Series Analysis. J Am Acad Child Adolesc Psychiatry, *59*(2), 236–243. doi:10.1016/j.jaac.2019.04.020

Byne, W., Bradley, S.J., Coleman, E., Eyler, A.E., Green, R., Menvielle, E.J., Meyer-Bahlburg, H.F.L., Pleak, R.R. & Tompkins, D.A. (2012). Report of the American Psychiatric Association Task Force on Treatment of Gender Identity Disorder. Archives of Sexual Behavior, *41*(4):759–796. doi:10.1007/s10508-012-9975-x

Cantor, J. M. (2020). Transgender and gender diverse children and adolescents: Fact-checking of AAP Policy. *Journal of Sex & Marital Therapy*, *46*(4), 307–313. doi:10.1080/0092623X.2019.1698481

Carmichael, P., Butler, G., Masic, U., Cole, T. J., De Stavola, B. L., Davidson, S., Skageberg, E. M., Khadr, S., & Viner, R. M. (2021). Short-term outcomes of pubertal suppression in a selected cohort of 12 to 15 year old young people with persistent gender dysphoria in the UK. *PLOS ONE*, *16*(2), e0243894. doi:10.1371/journal.pone.0243894

Chew, D., Tollit, M. A., Poulakis, Z., Zwickl, S., Cheung, A. S., & Pang, K. C. (2020). Youths with a non-binary gender identity: A review of their sociodemographic and clinical profile. *The Lancet Child & Adolescent Health*, *4*(4), 322–330. doi:10.1016/S2352-4642(19)30403-1

Churcher Clarke, A., & Spiliadis, A. (2019). 'Taking the lid off the box': The value of extended clinical assessment for adolescents presenting with gender identity difficulties. *Clinical Child Psychology and Psychiatry*, *24*(2), 338–352. doi:10.1177/1359104518825288

Clark, B. A., & Virani, A. (2021). This Wasn't a "split-second decision": An empirical ethical analysis of transgender youth capacity, rights, and authority to consent to hormone therapy. *Journal of Bioethical Inquiry*, *18*(1), 151–164. doi:10.1007/s11673-020-10086-9

Clayton, A., Malone, W. J., Clarke, P., Mason, J., & D'Angelo, R. (2021). Commentary: The signal and the noise—questioning the benefits of puberty blockers for youth with gender dysphoria—a commentary on Rew et al. (2021). *Child and Adolescent Mental Health*, *27*, camh.12533. doi:10.1111/camh.12533

Cohen-Kettenis, P. T., Delemarre-van de Waal, H. A., & Gooren, L. J. G. (2008). The treatment of adolescent transsexuals: Changing insights. *The Journal of Sexual Medicine*, *5*(8), 1892–1897. doi:10.1111/j.1743-6109.2008.00870.x

Cohen-Kettenis, P. T., Schagen, S. E. E., Steensma, T. D., de Vries, A. L. C., & Delemarre-van de Waal, H. A. (2011). Puberty suppression in a gender-dysphoric adolescent: A 22-year follow-up. *Archives of Sexual Behavior*, *40*(4), 843–847. doi:10.1007/s10508-011-9758-9

Cohen-Kettenis, P. T., & van Goozen, S. H. M. (1998). Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent. *European Child & Adolescent Psychiatry*, *7*(4), 246–248. doi:10.1007/s007870050073

D'Angelo, R. (2018). Psychiatry's ethical involvement in gender-affirming care. *Australasian Psychiatry*, *26*(5), 460–463. doi:10.1177/1039856218775216

D'Angelo, R., Syrulnik, E., Ayad, S., Marchiano, L., Kenny, D. T., & Clarke, P. (2020). One size does not fit all: In support of psychotherapy for gender dysphoria. *Archives of Sexual Behavior*, *50*, 7–16. doi:10.1007/s10508-020-01844-2

de Graaf, N. M., Giovanardi, G., Zitz, C., & Carmichael, P. (2018). Sex ratio in children and adolescents referred to the gender identity development service in the UK (2009–2016)). *Archives of Sexual Behavior*, *47*(5), 1301–1304. doi:10.1007/s10508-018-1204-9

de Graaf, N. M., Steensma, T. D., Carmichael, P., VanderLaan, D. P., Aitken, M., Cohen Kettenis, P. T., de Vries, A., Kreukels, B., Wasserman, L., Wood, H., & Zucker, K. J. (2020). Suicidality in clinic-referred transgender adolescents. *European child & adolescent psychiatry*, *31*, 67–83. Advance online publication. doi:10.1007/s00787-020-01663-9

de Vries, A. L. C. (2020). Challenges in timing puberty suppression for gender-nonconforming adolescents. *Pediatrics*, *146*(4), e2020010611. doi:10.1542/peds.2020-010611

de Vries, A. L. C., Beek, T. F., Dhondt, K., de Vet, H. C. W., Cohen-Kettenis, P. T., Steensma, T. D., & Kreukels, B. P. C. (2021). Reliability and clinical utility of gender identity-related diagnoses: comparisons between the ICD-11, ICD-10, DSM-IV, and DSM-5. *LGBT Health*, *8*(2), 133–142. doi:10.1089/lgbt.2020.0272

de Vries, A. L. C., & Cohen-Kettenis, P. T. (2012). Clinical management of gender dysphoria in children and adolescents: The Dutch approach. *Journal of Homosexuality*, *59*(3), 301–320. doi:10.1080/00918369.2012.653300

de Vries, A. L. C., McGuire, J. K., Steensma, T. D., Wagenaar, E. C. F., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2014). Young adult psychological outcome after puberty suppression and gender reassignment. *Pediatrics*, *134*(4), 696–704. doi:10.1542/peds.2013-2958

de Vries, A. L. C., Steensma, T. D., Doreleijers, T. A. H., & Cohen-Kettenis, P. T. (2011). Puberty suppression in adolescents with gender identity disorder: A prospective follow-up study. *The Journal of Sexual Medicine*, *8*(8), 2276–2283. doi:10.1111/j.1743-6109.2010.01943.x

Delemarre-van de Waal, H. A., & Cohen-Kettenis, P. T. (2006). Clinical management of gender identity disorder in adolescents: A protocol on psychological and paediatric endocrinology aspects. *European Journal of Endocrinology*, *155*(suppl_1), S131–S137. doi:10.1530/eje.1.02231

Dhejne, C., Lichtenstein, P., Boman, M., Johansson, A. L. V., Långström, N., & Landén, M. (2011). Long-term follow-up of transsexual persons undergoing sex reassignment surgery: Cohort study in Sweden. *PLoS ONE*, *6*(2), e16885. doi:10.1371/journal.pone.0016885

Dhejne, C., Öberg, K., Arver, S., & Landén, M. (2014). An analysis of all applications for sex reassignment surgery in Sweden, 1960–2010: Prevalence, incidence, and regrets. *Archives of Sexual Behavior*, *43*(8), 1535–1545. doi:10.1007/s10508-014-0300-8

Diamond, M. (2013). Transsexuality among twins: Identity concordance, transition, rearing, and orientation. *International Journal of Transgenderism*, *14*(1), 24–38. doi:10.1080/15532739.2013.750222

Ehrensaft, D. (2017). Gender nonconforming youth: Current perspectives. *Adolescent Health, Medicine and Therapeutics*, Volume *8*, 57–67. doi:10.2147/AHMT.S110859

Entwistle, K. (2020). Debate: Reality check – Detransitioner's testimonies require us to rethink gender dysphoria. *Child and Adolescent Mental Health*, *26*, 15–16. camh.12380. doi:10.1111/camh.12380

Frigerio, A., Ballerini, L., & Valdés Hernández, M. (2021). Structural, functional, and metabolic brain differences as a function of gender identity or sexual orientation: A systematic review of the human neuroimaging literature. *Archives of sexual behavior*, *50*(8), 3329–3352. doi:10.1007/s10508-021-02005-9

Genspect (2021). Retrieved December 20, 2021, from https://genspect.org/groups/

Getahun, D., Nash, R., Flanders, W. D., Baird, T. C., Becerra-Culqui, T. A., Cromwell, L., Hunkeler, E., Lash, T. L., Millman, A., Quinn, V. P., Robinson, B., Roblin, D., Silverberg, M. J., Safer, J., Slovis, J., Tangpricha, V., & Goodman, M. (2018). Cross-sex hormones and acute cardiovascular events in transgender persons: A cohort study. *Annals of Internal Medicine*, *169*(4), 205. doi:10.7326/M17-2785

Gooren, L., & Delemarre-van de Waal, H. (1996). The feasibility of endocrine interventions in juvenile transsexuals. *Journal of Psychology & Human Sexuality*, *8*(4), 69–74. doi:10.1300/J056v08n04_05

Green, A. E., DeChants, J. P., Price, M. N., & Davis, C. K. (2021). Association of gender-affirming hormone therapy with depression, thoughts of suicide, and attempted suicide among transgender and nonbinary youth. *Journal of Adolescent Health*, S1054139X21005681. doi:10.1016/j.jadohealth.2021.10.036

Grootens-Wiegers, P., Hein, I. M., van den Broek, J. M., & de Vries, M. C. (2017). Medical decision-making in children and adolescents: Developmental and neuroscientific aspects. *BMC Pediatrics*, *17*(1), 120. doi:10.1186/s12887-017-0869-x

Hakeem, A., Črnčec, R., Asghari-Fard, M., Harte, F., & Eapen, V. (2016). Development and validation of a measure for assessing gender dysphoria in adults: The Gender Preoccupation and Stability Questionnaire. *International Journal of Transgenderism*, *17*(3–4), 131–140. doi:10.1080/15532739.2016.1217812

Hall, R., Mitchell, L., & Sachdeva, J. (2021). Access to care and frequency of detransition among a cohort discharged by a UK national adult gender identity clinic: Retrospective case-note review. *BJPsych Open*, *7*(6), e184. doi:10.1192/bjo.2021.1022

Hembree, W. C., Cohen-Kettenis, P. T., Gooren, L., Hannema, S. E., Meyer, W. J., Murad, M. H., Rosenthal, S. M., Safer, J. D., Tangpricha, V., & T'Sjoen, G. G. (2017). Endocrine treatment of gender-dysphoric/gender-incongruent persons: An endocrine society clinical practice guideline. J Clin Endocrinol Metab, *102*(11), 3869–3903. doi:10.1210/jc.2017-01658

HHS. (2021). What does "suicide contagion" mean, and what can be done to prevent it? Retrieved December 28, 2021, from https://www.hhs.gov/answers/mental-health-and-substance-abuse/what-does-suicide-contagion-mean/index.html

HRC. (n.d.). Clinical care for gender-expansive children & adolescents. Retrieved January 4, 2022, from https://www.hrc.org/resources/interactive-map-clinical-care-programs-for-gender-nonconforming-childr

Hutchinson, A., Midgen, M., & Spiliadis, A. (2020). In support of research into rapid-onset gender dysphoria. *Archives of Sexual Behavior*, *49*(1), 79–80. doi:10.1007/s10508-019-01517-9

Iliadis, S. I., Axfors, C., Friberg, A., Arinell, H., Beckman, U., Fazekas, A., Frisen, L., Sandström, L., Thelin, N., Wahlberg, J., Södersten, M., & Papadopoulos, F. C. (2020). Psychometric properties and concurrent validity

of the Transgender Congruence Scale (TCS) in the Swedish setting. *Scientific Reports*, *10*(1), 18701. doi:10.1038/s41598-020-73663-3

James, S. E., Herman, J. L., Rankin, S., Keisling, M., Mottet, L., & Anafi, M. (2016). *The report of the 2015 U.S. Transgender Survey*. Washington, DC: National Center for Transgender Equality.

Johns, M. M., Lowry, R., Andrzejewski, J., Barrios, L. C., Demissie, Z., McManus, T., Rasberry, C. N., Robin, L., & Underwood, J. M. (2019). Transgender identity and experiences of violence victimization, substance use, suicide risk, and sexual risk behaviors among high school students – 19 states and large urban school districts, 2017. *MMWR. Morbidity and Mortality Weekly Report*, *68*(3), 67–71. doi:10.15585/mmwr.mm6803a3

Kaltiala, R., Heino, E., Työläjärvi, M., & Suomalainen, L. (2020). Adolescent development and psychosocial functioning after starting cross-sex hormones for gender dysphoria. *Nordic Journal of Psychiatry*, *74*(3), 213–219. doi:10.1080/08039488.2019.1691260

Kaltiala-Heino, R., Bergman, H., Työläjärvi, M., & Frisen, L. (2018). Gender dysphoria in adolescence: Current perspectives. *Adolescent Health, Medicine and Therapeutics*, Volume *9*, 31–41. doi:10.2147/AHMT.S135432

Kaltiala-Heino, R., Sumia, M., Työläjärvi, M., & Lindberg, N. (2015). Two years of gender identity service for minors: Overrepresentation of natal girls with severe problems in adolescent development. *Child and Adolescent Psychiatry and Mental Health*, *9*(1), 9. doi:10.1186/s13034-015-0042-y

Katz, A. L., Macauley, R. C., Mercurio, M. R., Moon, M. R., Okun, A. L., Opel, D. J., & Statter, M. B. (2016). Informed consent in decision-making in pediatric practice. Committee on Bioethics. *Pediatrics*, *138*(2), e20161484. doi:10.1542/peds.2016-1484

Kendler K. S. (2019). From many to one to many-the search for causes of psychiatric illness. *JAMA psychiatry*, *76*(10), 1085–1091. doi:10.1001/jamapsychiatry.2019.1200

Kidd, K. M., Sequeira, G. M., Douglas, C., Paglisotti, T., Inwards-Breland, D. J., Miller, E., & Coulter, R. W. S. (2021). Prevalence of gender-diverse youth in an urban school district. *Pediatrics*, *147*(6), e2020049823. doi:10.1542/peds.2020-049823

Korte, A., Goecker, D., Krude, H., Lehmkuhl, U., Grüters-Kieslich, A., & Beier, K. M. (2008). Gender identity disorders in childhood and adolescence: Currently debated concepts and treatment strategies. *Deutsches Ärzteblatt International*, *105*(48), 834–841. doi:10.3238/arztebl.2008.0834

Kozlowska, K., Chudleigh, C., McClure, G., Maguire, A. M., & Ambler, G. R. (2021). Attachment patterns in children and adolescents with gender dysphoria. *Frontiers in Psychology*, *11*. doi:10.3389/fpsyg.2020.582688

Kozlowska, K., McClure, G., Chudleigh, C., Maguire, A. M., Gessler, D., Scher, S., & Ambler, G. R. (2021). Australian children and adolescents with gender dysphoria: Clinical presentations and challenges experienced by a multidisciplinary team and gender service. *Human Systems*, 26344041211010776. doi:10.1177/26344041211010777

Laidlaw, M. K., Van Meter, Q. L., Hruz, P. W., Van Mol, A., & Malone, W. J. (2019). Letter to the Editor: "Endocrine treatment of gender-dysphoric/gender-incongruent persons: An Endocrine Society Clinical Practice Guideline"." *The Journal of Clinical Endocrinology & Metabolism*, *104*(3), 686–687. doi:10.1210/jc.2018-01925

Levine, S. B. (2021). Reflections on the clinician's role with individuals who self-identify as transgender. *Archives of Sexual Behavior*, *50*, 3527–3536. doi:10.1007/s10508-021-02142-1

Levine, S.B. (2019). Informed Consent for Transgendered Patients, *Journal of Sex and Marital Therapy*, *45*(3):218–229. doi:10.1080/0092623X.2018.1518885

Littman, L. (2018). Parent reports of adolescents and young adults perceived to show signs of a rapid onset of gender dysphoria. *PLoS ONE 13*(8): e0202330. doi:10.1371/journal.pone.0202330

Littman, L. (2020). The use of methodologies in Littman (2018) is consistent with the use of methodologies in other studies contributing to the field of gender Dysphoria research: Response to Restar (2019). *Archives of Sexual Behavior*, *49*(1), 67–77. doi:10.1007/s10508-020-01631-z

Littman, L. (2021). Individuals treated for gender dysphoria with medical and/or surgical transition who subsequently detransitioned: A survey of 100 detransitioners. *Archives of Sexual Behavior, 50*, 3353–3369. doi:10.1007/s10508-021-02163-w

Lynch, H.F., Joffe, S., Feldman, E. (2018). Informed consent and the role of the treating physician. NEJM *378*:25, 435–438.

Malone, W., D'Angelo, R., Beck, S., Mason, J., & Evans, M. (2021). Puberty blockers for gender dysphoria: The science is far from settled. *The Lancet Child & Adolescent Health*, *5*(9), e33–e34. doi:10.1016/S2352-4642(21)00235-2

Malone, W. J., Hruz, P. W., Mason, J. W., & Beck, S. (2021). Letter to the editor from william j. Malone et al: "Proper care of transgender and gender-diverse persons in the setting of proposed discrimination: a policy perspective"." J Clin Endocrinol Metab, *106*(8), e3287–e3288. doi:10.1210/clinem/dgab205

Manrique, O. J., Adabi, K., Martinez-Jorge, J., Ciudad, P., Nicoli, F., & Kiranantawat, K. (2018). Complications and patient-reported outcomes in male-to-female vaginoplasty–where we are today: A systematic review and meta-analysis. *Annals of Plastic Surgery*, *80*(6), 684–691. doi:10.1097/SAP.0000000000001393

Mars, B., Heron, J., Klonsky, E. D., Moran, P., O'Connor, R. C., Tilling, K., Wilkinson, P., & Gunnell, D. (2019). Predictors of future suicide attempt among adolescents with suicidal thoughts or non-suicidal self-harm: A population-based birth cohort study. *The Lancet Psychiatry*, *6*(4), 327–337. doi:10.1016/S2215-0366(19)30030-6

Mathes, T., & Pieper, D. (2017). Clarifying the distinction between case series and cohort studies in systematic reviews of comparative studies: Potential impact on body of evidence and workload. *BMC Medical Research Methodology*, *17*(1), 107. doi:10.1186/s12874-017-0391-8

McGuire, J. K., Berg, D., Catalpa, J. M., Morrow, Q. J., Fish, J. N., Nic Rider, G., Steensma, T., Cohen-Kettenis, P. T., & Spencer, K. (2020). Utrecht Gender Dysphoria Scale - gender spectrum (UGDS-GS): Construct validity among transgender, nonbinary, and LGBQ samples. *International Journal of Transgender Health*, *21*(2), 194–208. doi:10.1080/26895269.2020.1723460

Morandini, J. S., Kelly, A., de Graaf, N. M., Carmichael, P., & Dar-Nimrod, I. (2021). Shifts in demographics and mental health co-morbidities among gender dysphoric youth referred to a specialist gender dysphoria service. *Clinical Child Psychology and Psychiatry*, 135910452110468. doi:10.1177/13591045211046813

National Institute for Health and Care Excellence. (2020a). Evidence review: Gonadotrophin releasing hormone analogues for children and adolescents with gender dysphoria. https://arms.nice.org.uk/resources/hub/1070905/attachment

National Institute for Health and Care Excellence. (2020b). Evidence review: Gender-affirming hormones for children and adolescents with gender dysphoria. https://arms.nice.org.uk/resources/hub/1070871/attachment

Nota, N. M., Wiepjes, C. M., de Blok, C. J. M., Gooren, L. J. G., Kreukels, B. P. C., & den Heijer, M. (2019). Occurrence of acute cardiovascular events in transgender individuals receiving hormone therapy: Results from a Large Cohort Study. *Circulation*, *139*(11), 1461–1462. doi:10.1161/CIRCULATIONAHA.118.038584

Olson, K. R., Durwood, L., DeMeules, M., & McLaughlin, K. A. (2016). Mental health of transgender children who are supported in their identities. *Pediatrics*, *137*(3), 1–16. iii.

Ouliaris, C. (2021). Consent for treatment of gender dysphoria in minors: evolving clinical and legal frameworks. *The Medical journal of Australia*, Advance online publication. doi:10.5694/mja2.51357

Paine, E. A. (2021). "Fat broken arm syndrome": Negotiating risk, stigma, and weight bias in LGBTQ healthcare. Soc Sci Med, *270*, 113609. doi:10.1016/j.socscimed.2020.113609

Planned Parenthood League of Massachusetts. (n.d.) Gender affirming hormone therapy. Retrieved December 26, 2021, from https://www.plannedparenthood.org/planned-parenthood-massachusetts/campaigns/gender-affirming-hormone-therapy

Rafferty, J., Committee on Psychosocial Aspects of Child and Family Health, Committee on Adolescence, & Section on Lesbian, Gay, Bisexual, and Transgender Health and Wellness. (2018). Ensuring comprehensive care and support for transgender and gender-diverse children and adolescents. *Pediatrics*, *142*(4), e20182162. doi:10.1542/peds.2018-2162

Right to medical or dental treatment without parental consent, Oregon ORS Volume 3, Title 11, 109.640 (2010). https://oregon.public.law/statutes/ors_109.640

Ristori, J., & Steensma, T. D. (2016). Gender dysphoria in childhood. *International Review of Psychiatry*, *28*(1), 13–20. doi:10.3109/09540261.2015.1115754

Rood, B. A., Reisner, S. L., Surace, F. I., Puckett, J. A., Maroney, M. R., & Pantalone, D. W. (2016). Expecting rejection: Understanding the minority stress experiences of transgender and gender-nonconforming individuals. *Transgender Health*, *1*(1), 151–164. doi:10.1089/trgh.2016.0012

Ross, M. W., & Need, J. A. (1989). Effects of adequacy of gender reassignment surgery on psychological adjustment: A follow-up of fourteen male-to-female patients. *Archives of Sexual Behavior*, *18*(2), 145–153. doi:10.1007/BF01543120

Schulz, S. L. (2018). The informed consent model of transgender care: An alternative to the diagnosis of gender dysphoria. *Journal of Humanistic Psychology*, *58*(1), 72–92. doi:10.1177/0022167817745217

Simon, G. E., & VonKorff, M. (1998). Suicide mortality among patients treated for depression in an insured population. *American Journal of Epidemiology*, *147*, 155–160. doi:10.1093/oxfordjournals.aje.a009428

Singh, D., Bradley, S. J., & Zucker, K. J. (2021). A follow-up study of boys with gender identity disorder. *Frontiers in Psychiatry*, *12*. doi:10.3389/fpsyt.2021.632784

Smith, Y. L. S., Van Goozen, S. H. M., & Cohen-Kettenis, P. T. (2001). Adolescents with gender identity disorder who were accepted or rejected for sex reassignment surgery: A prospective Follow-up Study. J Am Acad Child Adolesc Psychiatry, *40*(4), 472–481. doi:10.1097/00004583-200104000-00017

Smith, A. R., Zuromski, K. L., & Dodd, D. R. (2018). Eating disorders and suicidality: What we know, what we don't know, and suggestions for future research. *Current Opinion in Psychology*, *22*, 63–67. doi:10.1016/j.copsyc.2017.08.023

Spiliadis, A. (2019). Towards a gender exploratory model: Slowing things down, opening things up and exploring identity development. Metalogos Systemic Therapy Journal, *35*, 1–9. https://www.ohchr.org/Documents/Issues/SexualOrientation/IESOGI/Other/Rebekah_Murphy_TowardsaGenderExploratoryModelslowingthingsdownopeningthingsupandexploringidentitydevelopment.pdf

Steensma, T. D., McGuire, J. K., Kreukels, B. P. C., Beekman, A. J., & Cohen-Kettenis, P. T. (2013). Factors associated with desistence and persistence of childhood gender dysphoria: A quantitative follow-up study. *Journal of the American Academy of Child & Adolescent Psychiatry*, *52*(6), 582–590. doi:10.1016/j.jaac.2013.03.016

Strang, J. F., Janssen, l, Tishelman, A., Leibowitz, S. F., Kenworthy, L., McGuire, J. K., Edwards-Leeper, L., Mazefsky, C. A., Rofey, D., Bascom, J., Caplan, R., Gomez-Lobo, V., Berg, D., Zaks, Z., Wallace, G. L., Wimms, H., Pine-Twaddell, E., Shumer, D., Register-Brown, K., … Anthony, L. G. (2018). 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. doi:10.1016/j.jaac.2018.04.023

Tavistock and Portman NHS Foundation Trust. (2020). Gender identity development service referrals in 2019–20 same as 2018–19. https://tavistockandportman.nhs.uk/about-us/news/stories/gender-identity-development-service-referrals-2019-20-same-2018-19/

Temple Newhook, J., Pyne, J., Winters, K., Feder, S., Holmes, C., Tosh, J., Sinnott, M.-L., Jamieson, A., & Pickett, S. (2018). A critical commentary on follow-up studies and "desistance" theories about transgender and gender-nonconforming children. *International Journal of Transgenderism*, *19*(2), 212–224. doi:10.1080/15532739.2018.1456390

The Trevor Project. (2021). National Survey on LGBTQ Youth Mental Health 2021. Retrieved January 3, 2022, from https://www.thetrevorproject.org/survey-2021/?section=SuicideMentalHealth

Toomey, R. B., Syvertsen, A. K., & Shramko, M. (2018). Transgender Adolescent Suicide Behavior. *Pediatrics*, *142*(4). doi:10.1542/peds.2017-4218

Turban, J. L. (2018). Potentially reversible social deficits among transgender youth. *Journal of Autism and Developmental Disorders*, *48*(12), 4007–4009. doi:10.1007/s10803-018-3603-0

Turban, J. L., King, D., Carswell, J. M., & Keuroghlian, A. S. (2020). Pubertal suppression for transgender youth and risk of suicidal ideation. *Pediatrics*, *145*(2), e20191725. doi:10.1542/peds.2019-1725

Turban, J. L., & van Schalkwyk, G. I. (2018). "Gender Dysphoria" and autism spectrum disorder: is the link real? *Journal of the American Academy of Child & Adolescent Psychiatry*, *57*(1), 8–9.e2. doi:10.1016/j.jaac.2017.08.017

van der Miesen, A. I. R., Cohen-Kettenis, P. T., & de Vries, A. L. C. (2018). Is there a link between gender dysphoria and autism spectrum disorder? *Journal of the American Academy of Child & Adolescent Psychiatry*, *57*(11), 884–885. doi:10.1016/j.jaac.2018.04.022

Vandenbussche, E. (2021). Detransition-related needs and support: A cross-sectional online survey. *Journal of Homosexuality*, *20,* 1–19. doi:10.1080/00918369.2021.1919479

Voorzij. (2021). More research is urgently needed into transgender care for young people: "Where does the large increase of children come from?" Retrieved December 20, 2021, from https://www.voorzij.nl/more-research-is-urgently-needed-into-transgender-care-for-young-people-where-does-the-large-increase-of-children-come-from/.

Vrouenraets, L., de Vries, A., de Vries, M. C., van der Miesen, A., & Hein, I. M. (2021). Assessing medical decision-making competence in transgender youth. *Pediatrics*, *148*, e2020049643. Advance online publication. doi:10.1542/peds.2020-049643

Vrouenraets, L., Hartman, L. A., Hein, I. M., de Vries, A., de Vries, M. C., & Molewijk, B. (2020). Dealing with moral challenges in treatment of transgender children and adolescents: Evaluating the role of moral case deliberation. *Archives of sexual behavior*, *49*(7), 2619–2634. doi:10.1007/s10508-020-01762-3

Wiepjes, C. M., den Heijer, M., Bremmer, M. A., Nota, N. M., Blok, C. J. M., Coumou, B. J. G., & Steensma, T. D. (2020). Trends in suicide death risk in transgender people: Results from the Amsterdam Cohort of Gender Dysphoria Study (1972–2017)). *Acta Psychiatrica Scandinavica*, *141*(6), 486–491. doi:10.1111/acps.13164

Wiepjes, C. M., Nota, N. M., de Blok, C. J. M., Klaver, M., de Vries, A. L. C., Wensing-Kruger, S. A., de Jongh, R. T., Bouman, M.-B., Steensma, T. D., Cohen-Kettenis, P., Gooren, L. J. G., Kreukels, B. P. C., & den Heijer, M. (2018). The Amsterdam Cohort of Gender Dysphoria Study (1972–2015): Trends in Prevalence, Treatment, and Regrets. *The Journal of Sexual Medicine*, *15*(4), 582–590. doi:10.1016/j.jsxm.2018.01.016

Wilson, S. C., Morrison, S. D., Anzai, L., Massie, J. P., Poudrier, G., Motosko, C. C., & Hazen, A. (2018). Masculinizing top surgery: A systematic review of techniques and outcomes. *Annals of Plastic Surgery*, *80*(6), 679–683. doi:10.1097/SAP.0000000000001354

World Health Organization. (2019). International statistical classification of diseases and related health problems (11th ed.). https://icd.who.int/

Zucker, K. J. (2017). Epidemiology of gender dysphoria and transgender identity. *Sexual Health*, *14*(5), 404. doi:10.1071/SH17067

Zucker, K. J. (2018). The myth of persistence: Response to "A critical commentary on follow-up studies and 'desistance' theories about transgender and gender non-conforming children" by Temple Newhook et al. (2018). *International Journal of Transgenderism*, *19*(2), 231–245. doi:10.1080/15532739.2018.1468293

Zucker, K. J. (2019). Adolescents with gender dysphoria: Reflections on some contemporary clinical and research issues. *Archives of Sexual Behavior*, *48*(7), 1983–1992. doi:10.1007/s10508-019-01518-8

Zucker, K. J. (2020). Debate: Different strokes for different folks. *Child and Adolescent Mental Health*, *25*(1), 36–37. doi:10.1111/camh.12330

OPEN ACCESS Freely available online PLoS one

Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden

Cecilia Dhejne[1], Paul Lichtenstein[2], Marcus Boman[2], Anna L. V. Johansson[2], Niklas Långström[2,3], Mikael Landén[1,2,4]*

1 Department of Clinical Neuroscience, Division of Psychiatry, Karolinska Institutet, Stockholm, Sweden, **2** Department of Medical Epidemiology and Biostatistics, Karolinska Institutet, Stockholm, Sweden, **3** Centre for Violence Prevention, Karolinska Institutet, Stockholm, Sweden, **4** Institute of Neuroscience and Physiology, The Sahlgrenska Academy at Gothenburg University, Gothenburg, Sweden

Abstract

Context: The treatment for transsexualism is sex reassignment, including hormonal treatment and surgery aimed at making the person's body as congruent with the opposite sex as possible. There is a dearth of long term, follow-up studies after sex reassignment.

Objective: To estimate mortality, morbidity, and criminal rate after surgical sex reassignment of transsexual persons.

Design: A population-based matched cohort study.

Setting: Sweden, 1973-2003.

Participants: All 324 sex-reassigned persons (191 male-to-females, 133 female-to-males) in Sweden, 1973–2003. Random population controls (10:1) were matched by birth year and birth sex or reassigned (final) sex, respectively.

Main Outcome Measures: Hazard ratios (HR) with 95% confidence intervals (CI) for mortality and psychiatric morbidity were obtained with Cox regression models, which were adjusted for immigrant status and psychiatric morbidity prior to sex reassignment (adjusted HR [aHR]).

Results: The overall mortality for sex-reassigned persons was higher during follow-up (aHR 2.8; 95% CI 1.8–4.3) than for controls of the same birth sex, particularly death from suicide (aHR 19.1; 95% CI 5.8–62.9). Sex-reassigned persons also had an increased risk for suicide attempts (aHR 4.9; 95% CI 2.9–8.5) and psychiatric inpatient care (aHR 2.8; 95% CI 2.0–3.9). Comparisons with controls matched on reassigned sex yielded similar results. Female-to-males, but not male-to-females, had a higher risk for criminal convictions than their respective birth sex controls.

Conclusions: Persons with transsexualism, after sex reassignment, have considerably higher risks for mortality, suicidal behaviour, and psychiatric morbidity than the general population. Our findings suggest that sex reassignment, although alleviating gender dysphoria, may not suffice as treatment for transsexualism, and should inspire improved psychiatric and somatic care after sex reassignment for this patient group.

Citation: Dhejne C, Lichtenstein P, Boman M, Johansson ALV, Långström N, et al. (2011) Long-Term Follow-Up of Transsexual Persons Undergoing Sex Reassignment Surgery: Cohort Study in Sweden. PLoS ONE 6(2): e16885. doi:10.1371/journal.pone.0016885

Editor: James Scott, The University of Queensland, Australia

Received September 30, 2010; **Accepted** January 9, 2011; **Published** February 22, 2011

Copyright: © 2011 Dhejne et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

Funding: Financial support was provided through the regional agreement on medical training and clinical research (ALF) between Stockholm County Council and the Karolinska Institutet, and through grants from the Swedish Medical Research Council (K2008-62x-14647-06-3) and the Royal Swedish Academy of Sciences (Torsten Amundson's Foundation). The sponsors of the study had no role in study design, data collection, data analysis, data interpretation, or writing of the report. All authors had full access to the data in the study and the final responsibility for the decision to submit for publication was made by the corresponding author.

Competing Interests: The authors have declared that no competing interests exist.

* E-mail: mikael.landen@neuro.gu.se

Introduction

Transsexualism (ICD-10),[1] or gender identity disorder (DSM-IV),[2] is a condition in which a person's gender identity - the sense of being a man or a woman - contradicts his or her bodily sex characteristics. The individual experiences gender dysphoria and desires to live and be accepted as a member of the opposite sex.

The treatment for transsexualism includes removal of body hair, vocal training, and cross-sex hormonal treatment aimed at making the person's body as congruent with the opposite sex as possible to alleviate the gender dysphoria. Sex reassignment also involves the surgical removal of body parts to make external sexual characteristics resemble those of the opposite sex, so called sex reassignment/confirmation surgery (SRS). This is a unique

intervention not only in psychiatry but in all of medicine. The present form of sex reassignment has been practised for more than half a century and is the internationally recognized treatment to ease gender dysphoria in transsexual persons.[3,4]

Despite the long history of this treatment, however, outcome data regarding mortality and psychiatric morbidity are scant. With respect to suicide and deaths from other causes after sex reassignment, an early Swedish study followed 24 transsexual persons for an average of six years and reported one suicide.[5] A subsequent Swedish study recorded three suicides after sex reassignment surgery of 175 patients.[6] A recent Swedish follow-up study reported no suicides in 60 transsexual patients, but one death due to complications after the sex reassignment surgery.[7] A Danish study reported death by suicide in 3 out of 29 operated male-to-female transsexual persons followed for an average of six years.[8] By contrast, a Belgian study of 107 transsexual persons followed for 4–6 years found no suicides or deaths from other causes.[9] A large Dutch single-centre study (N = 1,109), focusing on adverse events following hormonal treatment, compared the outcome after cross-sex hormone treatment with national Dutch standardized mortality and morbidity rates and found no increased mortality, with the exception of death from suicide and AIDS in male-to-females 25–39 years of age.[10] The same research group concluded in a recent report that treatment with cross-sex hormones seems acceptably safe, but with the reservation that solid clinical data are missing.[11] A limitation with respect to the Dutch cohort is that the proportion of patients treated with cross-sex hormones who also had surgical sex-reassignment is not accounted for.[10]

Data is inconsistent with respect to psychiatric morbidity post sex reassignment. Although many studies have reported psychiatric and psychological improvement after hormonal and/or surgical treatment,[7,12,13,14,15,16] other have reported on regrets,[17] psychiatric morbidity, and suicide attempts after SRS.[9,18] A recent systematic review and meta-analysis concluded that approximately 80% reported subjective improvement in terms of gender dysphoria, quality of life, and psychological symptoms, but also that there are studies reporting high psychiatric morbidity and suicide rates after sex reassignment.[19] The authors concluded though that the evidence base for sex reassignment "is of very low quality due to the serious methodological limitations of included studies."

The methodological shortcomings have many reasons. First, the nature of sex reassignment precludes double blind randomized controlled studies of the result. Second, transsexualism is rare [20] and many follow-ups are hampered by small numbers of subjects.[5,8,21,22,23,24,25,26,27,28] Third, many sex reassigned persons decline to participate in follow-up studies, or relocate after surgery, resulting in high drop-out rates and consequent selection bias.[6,9,12,21,24,28,29,30] Forth, several follow-up studies are hampered by limited follow-up periods.[7,9,21,22,26,30] Taken together, these limitations preclude solid and generalisable conclusions. A long-term population-based controlled study is one way to address these methodological shortcomings.

Here, we assessed mortality, psychiatric morbidity, and psychosocial integration expressed in criminal behaviour after sex reassignment in transsexual persons, in a total population cohort study with long-term follow-up information obtained from Swedish registers. The cohort was compared with randomly selected population controls matched for age and gender. We adjusted for premorbid differences regarding psychiatric morbidity and immigrant status. This study design sheds new light on transsexual persons' health after sex reassignment. It does not, however, address whether sex reassignment is an effective treatment or not.

Methods

National registers

The study population was identified by the linkage of several Swedish national registers, which contained a total of 13.8 million unique individuals. The Hospital Discharge Register (HDR, held by the National Board of Health and Welfare) contains discharge diagnoses, up to seven contributory diagnoses, external causes of morbidity or mortality, surgical procedure codes, and discharge date. Discharge diagnoses are coded according to the 8th (1969-1986), 9th (1987–1996), and 10th editions (1997-) of the International Classification of Diseases (ICD). The register covers virtually all psychiatric inpatient episodes in Sweden since 1973. Discharges that occurred up to 31 December 2003 were included. Surgical procedure codes could not be used for this study due to the lack of a specific code for sex reassignment surgery. The Total Population Register (TPR, held by Statistics Sweden) is comprised of data about the entire Swedish population. Through linkage with the Total Population Register it was possible to identify birth date and birth gender for all study subjects. The register is updated every year and gender information was available up to 2004/2005. The Medical Birth Register (MBR) was established in 1973 and contains birth data, including gender of the child at birth. National censuses based on mandatory self-report questionnaires completed by all adult citizens in 1960, 1970, 1980, and 1990 provided information on individuals, households, and dwellings, including gender, living area, and highest educational level. Complete migration data, including country of birth for immigrants for 1969–2003, were obtained from the TPR. In addition to educational information from the censuses, we also obtained highest educational level data for 1990 and 2000 from the Register of Education. The Cause of Death Register (CDR, Statistics Sweden) records all deaths in Sweden since 1952 and provided information on date of death and causes of death. Death events occurring up to 31 December 2003 are included in the study. The Crime Register (held by the National Council of Crime Prevention) provided information regarding crime type and date on all criminal convictions in Sweden during the period 1973–2004. Attempted and aggravated forms of all offences were also included. All crimes in Sweden are registered regardless of insanity at the time of perpetration; for example, for individuals who suffered from psychosis at the time of the offence. Moreover, conviction data include individuals who received custodial or non-custodial sentences and cases where the prosecutor decided to caution or fine without court proceedings. Finally, Sweden does not differ considerably from other members of the European Union regarding rates of violent crime and their resolution.[31]

Study population, identification of sex-reassigned persons (exposure assessment)

The study was designed as a population-based matched cohort study. We used the individual national registration number, assigned to all Swedish residents, including immigrants on arrival, as the primary key through all linkages. The registration number consists of 10 digits; the first six provide information of the birth date, whereas the ninth digit indicates the gender. In Sweden, a person presenting with gender dysphoria is referred to one of six specialised gender teams that evaluate and treat patients principally according to international consensus guidelines: Standards of Care.[3] With a medical certificate, the person applies to the National Board of Health and Welfare to receive permission for sex reassignment surgery and a change of legal sex status. A new national registration number signifying the new gender is assigned after sex reassignment surgery. The National

Board of Health and Welfare maintains a link between old and new national registration numbers, making it possible to follow individuals undergoing sex reassignment across registers and over time. Hence, sex reassignment surgery in Sweden requires (i) a transsexualism diagnosis and (ii) permission from the National Board of Health and Welfare.

A person was defined as exposed to sex reassignment surgery if two criteria were met: (i) at least one inpatient diagnosis of gender identity disorder diagnosis without concomitant psychiatric diagnoses in the Hospital Discharge Register, and (ii) at least one discrepancy between gender variables in the Medical Birth Register (from 1973 and onwards) or the National Censuses from 1960, 1970, 1980, or 1990 and the latest gender designation in the Total Population Register. The first criterion was employed to capture the hospitalization for sex reassignment surgery that serves to secure the diagnosis and provide a time point for sex reassignment surgery; the plastic surgeons namely record the reason for sex reassignment surgery, i.e., transsexualism, but not any co-occurring psychiatric morbidity. The second criterion was used to ensure that the person went through all steps in sex-reassignment and also changed sex legally.

The date of sex reassignment (start of follow-up) was defined as the first occurrence of a gender identity disorder diagnosis, without any other concomitant psychiatric disorder, in the Hospital Discharge Register after the patient changed sex status (any discordance in sex designation across the Censuses, Medical Birth, and Total Population registers). If this information was missing, we used instead the closest date in the Hospital Discharge Register on which the patient was diagnosed with gender identity disorder without concomitant psychiatric disorder prior to change in sex status. The reason for prioritizing the use of a gender identity disorder diagnosis *after* changed sex status over *before* was to avoid overestimating person-years at risk of sex-reassigned person.

Using these criteria, a total of 804 patients with gender identity disorder were identified, whereof 324 displayed a shift in the gender variable during the period 1973–2003. The 480 persons that did not shift gender variable comprise persons who either did not apply, or were not approved, for sex reassignment surgery. Moreover, the ICD 9 code 302 is a non specific code for sexual disorders. Hence, this group might also comprise persons that were hospitalized for sexual disorders other than transsexualism. Therefore, they were omitted from further analyses. Of the remaining 324 persons, 288 were identified with the gender identity diagnosis *after* and 36 *before* change of sex status. Out of the 288 persons identified *after* changed sex status, 185 could also be identified *before* change in sex status. The median time lag between the hospitalization *before* and *after* sex change for these 185 persons was 0.96 years (mean 2.2 years, SD 3.3).

Gender identity disorder was coded according to ICD-8: 302.3 (transsexualism) and 302.9 (sexual deviation NOS); ICD-9: 302 (overall code for sexual deviations and disorders, more specific codes were not available in ICD-9); and ICD-10: F64.0 (transsexualism), F64.1 (dual-role transvestism), F64.8 (other gender identity disorder), and F64.9 (gender identity disorder NOS). Other psychiatric disorders were coded as ICD-8: 290-301 and 303-315; ICD-9: 290-301 and 303-319; and ICD-10: F00-F63 as well as F65-F99.

Identification of population-based controls (unexposed group)

For each exposed person (N = 324), we randomly selected 10 unexposed controls. A person was defined as unexposed if there were no discrepancies in sex designation across the Censuses, Medical Birth, and Total Population registers *and* no gender identity disorder diagnosis according to the Hospital Discharge Register. Control persons were matched by sex and birth year and had to be alive and residing in Sweden at the estimated sex reassignment date of the case person. To study possible gender-specific effects on outcomes of interest, we used two different control groups: one with the same sex as the case individual at birth (birth sex matching) and the other with the sex that the case individual had been reassigned to (final sex matching).

Outcome measures

We studied mortality, psychiatric morbidity, accidents, and crime following sex reassignment. More specifically, we investigated: (1) all-cause mortality, (2) death by definite/uncertain suicide, (3) death by cardiovascular disease, and (4) death by tumour. Morbidity included (5) any psychiatric disorder (gender identity disorders excluded), (6) alcohol/drug misuse and dependence, (7) definite/uncertain suicide attempt, and (8) accidents. Finally, we addressed court convictions for (9) any criminal offence and (10) any violent offence. Each individual could contribute with several outcomes, but only one event per outcome. Causes of death (Cause of Death Registry from 1952 and onwards) were defined according to ICD as suicide (ICD-8 and ICD-9 codes E950-E959 and E980-E989, ICD-10 codes X60-X84 and Y10-Y34); cardiovascular disease (ICD-8 codes 390-458, ICD-9 codes 390-459, ICD-10 codes I00-I99); neoplasms (ICD-8 and ICD-9 codes 140-239, ICD-10 codes C00-D48), any psychiatric disorder (gender identity disorders excluded); (ICD-8 codes 290-301 and 303-315, ICD-9 codes 290-301 and 303-319, ICD-10 codes F00-F63 and F65-F99); alcohol/drug abuse and dependence (ICD-8 codes 303-304, ICD-9 codes 303-305 (tobacco use disorder excluded), ICD-10 codes F10-F16 and F18-F19 (x5 excluded); and accidents (ICD-8 and ICD-9 codes E800-E929, ICD-10 codes V01-X59).

Any criminal conviction during follow-up was counted; specifically, violent crime was defined as homicide and attempted homicide, aggravated assault and assault, robbery, threatening behaviour, harassment, arson, or any sexual offense.[32]

Covariates

Severe psychiatric morbidity was defined as inpatient care according to ICD-8 codes 291, 295-301, 303-304, and 307; ICD-9 codes 291-292, 295-298, 300-301, 303-305 (tobacco use disorder excluded), 307.1, 307.5, 308-309, and 311; ICD-10 codes F10-F16, F18-F25, F28-F45, F48, F50, and F60-F62. Immigrant status, defined as individuals born abroad, was obtained from the Total Population Register. All outcome/covariate variables were dichotomized (i.e., affected or unaffected) and without missing values.

Statistical analyses

Each individual contributed person-time from study entry (for exposed: date of sex reassignment; for unexposed: date of sex reassignment of matched case) until date of outcome event, death, emigration, or end of study period (31 December 2003), whichever came first. The association between exposure (sex reassignment) and outcome (mortality, morbidity, crime) was measured by hazard ratios (HR) with 95% CIs, taking follow-up time into account. HRs were estimated from Cox proportional hazard regression models, stratified on matched sets (1:10) to account for the matching by sex, age, and calendar time (birth year). We present crude HRs (though adjusted for sex and age through matching) and confounder-adjusted HRs [aHRs] for all outcomes. The two potential confounders, immigrant status (yes/no) and history of severe psychiatric morbidity (yes/no) prior to sex

reassignment, were chosen based on previous research[18,33] and different prevalence across cases and controls (Table 1).

Gender-separated analyses were performed and a Kaplan-Meier survival plot graphically illustrates the survival of the sex reassigned cohort and matched controls (all-cause mortality) over time. The significance level was set at 0.05 (all tests were two-sided). All outcome/covariate variables were without missing values, since they are generated from register data, which are either present (affected) or missing (unaffected). The data were analysed using SAS version 9.1 (SAS Institute Inc., Cary, NC, USA).

Ethics

The data linking of national registers required for this study was approved by the IRB at Karolinska Institutet, Stockholm. All data were analyzed anonymously; therefore, informed consent for each individual was neither necessary nor possible.

Results

We identified 324 transsexual persons (exposed cohort) who underwent sex reassignment surgery and were assigned a new legal sex between 1973 and 2003. These constituted the sex-reassigned (exposed) group. Fifty-nine percent (N = 191) of sex-reassigned persons were male-to-females and 41% (N = 133) female-to-males, yielding a sex ratio of 1.4:1 (Table 1).

The average follow-up time for all-cause mortality was 11.4 (median 9.1) years. The average follow-up time for the risk of being hospitalized for any psychiatric disorder was 10.4 (median 8.1).

Characteristics prior to sex reassignment

Table 1 displays demographic characteristics of sex-reassigned and control persons prior to study entry (sex reassignment). There were no substantial differences between female-to-males and male-to-females regarding measured baseline characteristics. Immigrant status was twice as common among transsexual individuals compared to controls, living in an urban area somewhat more common, and higher education about equally prevalent. Transsexual individuals had been hospitalized for psychiatric morbidity other than gender identity disorder prior to sex reassignment about four times more often than controls. To adjust for these baseline discrepancies, hazard ratios adjusted for immigrant status and psychiatric morbidity prior to baseline are presented for all outcomes [aHRs].

Mortality

Table 2 describes the risks for selected outcomes during follow-up among sex-reassigned persons, compared to same-age controls of the same birth sex. Sex-reassigned transsexual persons of both genders had approximately a three times higher risk of all-cause mortality than controls, also after adjustment for covariates. Table 2

Table 1. Baseline characteristics among sex-reassigned subjects in Sweden (N = 324) and population controls matched for birth year and sex.

Characteristic at baseline	Sex-reassigned subjects (N = 324)	Birth-sex matched controls (N = 3,240)	Final-sex matched controls (N = 3,240)
Gender			
Female at birth, male after sex change	133 (41%)	1,330 (41%)	1,330 (41%)
Male at birth, female after sex change	191 (59%)	1,910 (59%)	1,910 (59%)
Average age at study entry [years] (SD, min-max)			
Female at birth, male after sex change	33.3 (8.7, 20–62)	33.3 (8.7, 20–62)	33.3 (8.7, 20–62)
Male at birth, female after sex change	36.3 (10.1, 21–69)	36.3 (10.1, 21–69)	36.3 (10.1, 21–69)
Both genders	35.1 (9.7, 20–69)	35.1 (9.7, 20–69)	35.1 (9.7, 20–69)
Immigrant status			
Female at birth, male after sex change	28 (21%)	118 (9%)	100 (8%)
Male at birth, female after sex change	42 (22%)	176 (9%)	164 (9%)
Both genders	70 (22%)	294 (9%)	264 (8%)
Less than 10 years of schooling prior to entry vs. 10 years or more			
Females at birth, males after sex change	49 (44%); 62 (56%)	414 (37%); 714 (63%)	407 (36%); 713 (64%)
Males at birth, females after sex change	61 (41%); 89 (59%)	665 (40%); 1,011 (60%)	595 (35%); 1,091 (65%)
All individuals with data	110 (42%); 151 (58%)	1,079 (38%); 1,725 (62%)	1,002 (36%); 1,804 (64%)
Psychiatric morbidity* prior to study entry			
Female at birth, male after sex change	22 (17%)	47 (4%)	42 (3%)
Male at birth, female after sex change	36 (19%)	76 (4%)	72 (4%)
Both genders	58 (18%)	123 (4%)	114 (4%)
Rural [vs. urban] living area prior to entry			
Female at birth, male after sex change	13 (10%)	180 (14%)	195 (15%)
Male at birth, female after sex change	20 (10%)	319 (17%)	272 (14%)
Both genders	33 (10%)	499 (15%)	467 (14%)

Note:
*Hospitalizations for gender identity disorder were not included.
doi:10.1371/journal.pone.0016885.t001

Table 2. Risk of various outcomes among sex-reassigned subjects in Sweden (N = 324) compared to population controls matched for birth year and birth sex.

	Number of events cases/ controls 1973–2003	Outcome incidence rate per 1000 person-years 1973–2003 (95% CI)		Crude hazard ratio (95% CI) 1973–2003	Adjusted* hazard ratio (95% CI) 1973–2003	Adjusted* hazard ratio (95% CI) 1973–1988	Adjusted* hazard ratio (95% CI) 1989–2003
		Cases	Controls				
Any death	27/99	7.3 (5.0–10.6)	2.5 (2.0–3.0)	2.9 (1.9–4.5)	2.8 (1.8–4.3)	3.1 (1.9–5.0)	1.9 (0.7–5.0)
Death by suicide	10/5	2.7 (1.5–5.0)	0.1 (0.1–0.3)	19.1 (6.5–55.9)	19.1 (5.8–62.9)	N/A	N/A
Death by cardiovascular disease	9/42	2.4 (1.3–4.7)	1.1 (0.8–1.4)	2.6 (1.2–5.4)	2.5 (1.2–5.3)	N/A	N/A
Death by neoplasm	8/38	2.2 (1.1–4.3)	1.0 (0.7–1.3)	2.1 (1.0–4.6)	2.1 (1.0–4.6)	N/A	N/A
Any psychiatric hospitalisation‡	64/173	19.0 (14.8–24.2)	4.2 (3.6–4.9)	4.2 (3.1–5.6)	2.8 (2.0–3.9)	3.0 (1.9–4.6)	2.5 (1.4–4.2)
Substance misuse	22/78	5.9 (3.9–8.9)	1.8 (1.5–2.3)	3.0 (1.9–4.9)	1.7 (1.0–3.1)	N/A	N/A
Suicide attempt	29/44	7.9 (5.5–11.4)	1.0 (0.8–1.4)	7.6 (4.7–12.4)	4.9 (2.9–8.5)	7.9 (4.1–15.3)	2.0 (0.7–5.3)
Any accident	32/233	9.0 (6.3–12.7)	5.7 (5.0–6.5)	1.6 (1.1–2.3)	1.4 (1.0–2.1)	1.6 (1.0–2.5)	1.1 (0.5–2.2)
Any crime	60/350	18.5 (14.3–23.8)	9.0 (8.1–10.0)	1.9 (1.4–2.5)	1.3 (1.0–1.8)	1.6 (1.1–2.4)	0.9 (0.6–1.5)
Violent crime	14/61	3.6 (2.1–6.1)	1.4 (1.1–1.8)	2.7 (1.5–4.9)	1.5 (0.8–3.0)	N/A	N/A

Notes:
*Adjusted for psychiatric morbidity prior to baseline and immigrant status.
‡Hospitalisations for gender identity disorder were excluded.
N/A Not applicable due to sparse data.
doi:10.1371/journal.pone.0016885.t002

separately lists the outcomes depending on when sex reassignment was performed: during the period 1973-1988 or 1989–2003. Even though the overall mortality was increased across both time periods, it did not reach statistical significance for the period 1989–2003. The Kaplan-Meier curve (Figure 1) suggests that survival of transsexual persons started to diverge from that of matched controls after about 10 years of follow-up. The cause-specific mortality from suicide was much higher in sex-reassigned persons, compared to matched controls. Mortality due to cardiovascular disease was moderately increased among the sex-reassigned, whereas the numerically increased risk for malignancies was borderline statistically significant. The malignancies were lung cancer (N = 3), tongue cancer (N = 1), pharyngeal cancer (N = 1), pancreas cancer (N = 1), liver cancer (N = 1), and unknown origin (N = 1).

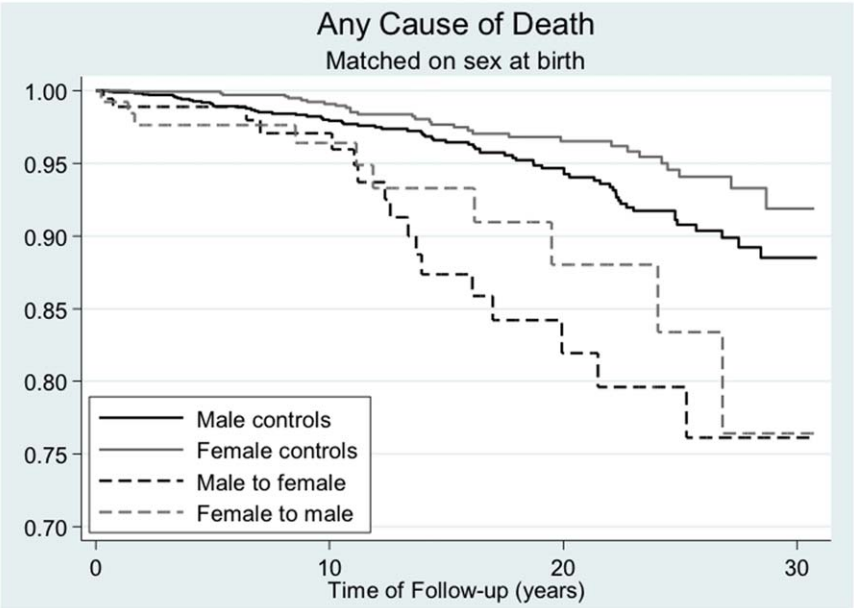


Figure 1. Death from any cause as a function of time after sex reassignment among 324 transsexual persons in Sweden (male-to-female: N = 191, female-to-male: N = 133), and population controls matched on birth year.
doi:10.1371/journal.pone.0016885.g001

Psychiatric morbidity, substance misuse, and accidents

Sex-reassigned persons had a higher risk of inpatient care for a psychiatric disorder other than gender identity disorder than controls matched on birth year and birth sex (Table 2). This held after adjustment for prior psychiatric morbidity, and was true regardless of whether sex reassignment occurred before or after 1989. In line with the increased mortality from suicide, sex-reassigned individuals were also at a higher risk for suicide attempts, though this was not statistically significant for the time period 1989–2003. The risks of being hospitalised for substance misuse or accidents were not significantly increased after adjusting for covariates (Table 2).

Crime rate

Transsexual individuals were at increased risk of being convicted for any crime or violent crime after sex reassignment (Table 2); this was, however, only significant in the group who underwent sex reassignment before 1989.

Gender differences

Comparisons of female-to-males and male-to-females, although hampered by low statistical power and associated wide confidence intervals, suggested mostly similar risks for adverse outcomes (Tables S1 and S2). However, violence against self (suicidal behaviour) and others ([violent] crime) constituted important exceptions. First, male-to-females had significantly increased risks for suicide attempts compared to both female (aHR 9.3; 95% CI 4.4–19.9) and male (aHR 10.4; 95% CI 4.9–22.1) controls. By contrast, female-to-males had significantly increased risk of suicide attempts only compared to male controls (aHR 6.8; 95% CI 2.1–21.6) but not compared to female controls (aHR 1.9; 95% CI 0.7–4.8). This suggests that male-to-females are at higher risk for suicide attempts after sex reassignment, whereas female-to-males maintain a female pattern of suicide attempts after sex reassignment (Tables S1 and S2).

Second, regarding any crime, male-to-females had a significantly increased risk for crime compared to female controls (aHR 6.6; 95% CI 4.1–10.8) but not compared to males (aHR 0.8; 95% CI 0.5–1.2). This indicates that they retained a male pattern regarding criminality. The same was true regarding violent crime. By contrast, female-to-males had higher crime rates than female controls (aHR 4.1; 95% CI 2.5–6.9) but did not differ from male controls. This indicates a shift to a male pattern regarding criminality and that sex reassignment is coupled to increased crime rate in female-to-males. The same was true regarding violent crime.

Discussion

Principal findings and comparison with previous research

We report on the first nationwide population-based, long-term follow-up of sex-reassigned transsexual persons. We compared our cohort with randomly selected population controls matched for age and gender. The most striking result was the high mortality rate in both male-to-females and female-to males, compared to the general population. This contrasts with previous reports (with one exception[8]) that did not find an increased mortality rate after sex reassignment, or only noted an increased risk in certain subgroups.[7,9,10,11] Previous clinical studies might have been biased since people who regard their sex reassignment as a failure are more likely to be lost to follow-up. Likewise, it is cumbersome to track deceased persons in clinical follow-up studies. Hence, population-based register studies like the present are needed to improve representativity.[19,34]

The poorer outcome in the present study might also be explained by longer follow-up period (median >10 years) compared to previous studies. In support of this notion, the survival curve (Figure 1) suggests increased mortality from ten years after sex reassignment and onwards. In accordance, the overall mortality rate was only significantly increased for the group operated before 1989. However, the latter might also be explained by improved health care for transsexual persons during 1990s, along with altered societal attitudes towards persons with different gender expressions.[35]

Mortality due to cardiovascular disease was significantly increased among sex reassigned individuals, albeit these results should be interpreted with caution due to the low number of events. This contrasts, however, a Dutch follow-up study that reported no increased risk for cardiovascular events.[10,11] A recent meta-analysis concluded, however, that data on cardiovascular outcome after cross-sex steroid use are sparse, inconclusive, and of very low quality.[34]

With respect to neoplasms, prolonged hormonal treatment might increase the risk for malignancies,[36] but no previous study has tested this possibility. Our data suggested that the cause-specific risk of death from neoplasms was increased about twice (borderline statistical significance). These malignancies (see Results), however, are unlikely to be related to cross-hormonal treatment.

There might be other explanations to increased cardiovascular death and malignancies. Smoking was in one study reported in almost 50% by the male-to females and almost 20% by female-to-males.[9] It is also possible that transsexual persons avoid the health care system due to a presumed risk of being discriminated.

Mortality from suicide was strikingly high among sex-reassigned persons, also after adjustment for prior psychiatric morbidity. In line with this, sex-reassigned persons were at increased risk for suicide attempts. Previous reports [6,8,10,11] suggest that transsexualism is a strong risk factor for suicide, also after sex reassignment, and our long-term findings support the need for continued psychiatric follow-up for persons at risk to prevent this.

Inpatient care for psychiatric disorders was significantly more common among sex-reassigned persons than among matched controls, both before and after sex reassignment. It is generally accepted that transsexuals have more psychiatric ill-health than the general population prior to the sex reassignment.[18,21,22,33] It should therefore come as no surprise that studies have found high rates of depression,[9] and low quality of life[16,25] also after sex reassignment. Notably, however, in this study the increased risk for psychiatric hospitalisation persisted even after adjusting for psychiatric hospitalisation prior to sex reassignment. This suggests that even though sex reassignment alleviates gender dysphoria, there is a need to identify and treat co-occurring psychiatric morbidity in transsexual persons not only before but also after sex reassignment.

Criminal activity, particularly violent crime, is much more common among men than women in the general population. A previous study of all applications for sex reassignment in Sweden up to 1992 found that 9.7% of male-to-female and 6.1% of female-to-male applicants had been prosecuted for a crime.[33] Crime after sex reassignment, however, has not previously been studied. In this study, male-to-female individuals had a higher risk for criminal convictions compared to female controls but not compared to male controls. This suggests that the sex reassignment procedure neither increased nor decreased the risk for criminal offending in male-to-females. By contrast, female-to-males were at a higher risk for criminal convictions compared to female controls and did not differ from male controls, which suggests increased crime proneness in female-to-males after sex reassignment.

Strengths and limitations of the study

Strengths of this study include nationwide representativity over more than 30 years, extensive follow-up time, and minimal loss to follow-up. Many previous studies suffer from low outcome ascertainment,[6,9,21,29] whereas this study has captured almost the entire population of sex-reassigned transsexual individuals in Sweden from 1973–2003. Moreover, previous outcome studies have mixed pre-operative and post-operative transsexual persons,[22,37] while we included only post-operative transsexual persons that also legally changed sex. Finally, whereas previous studies either lack a control group or use standardised mortality rates or standardised incidence rates as comparisons,[9,10,11] we selected random population controls matched by birth year, and either birth or final sex.

Given the nature of sex reassignment, a double blind randomized controlled study of the result after sex reassignment is not feasible. We therefore have to rely on other study designs. For the purpose of evaluating whether sex reassignment is an effective treatment for gender dysphoria, it is reasonable to compare reported gender dysphoria pre and post treatment. Such studies have been conducted either prospectively[7,12] or retrospectively,[5,6,9,22,25,26,29,38] and suggest that sex reassignment of transsexual persons improves quality of life and gender dysphoria. The limitation is of course that the treatment has not been assigned randomly and has not been carried out blindly.

For the purpose of evaluating the safety of sex reassignment in terms of morbidity and mortality, however, it is reasonable to compare sex reassigned persons with matched population controls. The caveat with this design is that transsexual persons before sex reassignment might differ from healthy controls (although this bias can be statistically corrected for by adjusting for baseline differences). It is therefore important to note that the current study is only informative with respect to transsexuals persons health after sex reassignment; no inferences can be drawn as to the effectiveness of sex reassignment as a treatment for transsexualism. In other words, the results should not be interpreted such as sex reassignment *per se* increases morbidity and mortality. Things might have been even worse without sex reassignment. As an analogy, similar studies have found increased somatic morbidity, suicide rate, and overall mortality for patients treated for bipolar disorder and schizophrenia.[39,40] This is important information, but it does not follow that mood stabilizing treatment or antipsychotic treatment is the culprit.

Other facets to consider are first that this study reflects the outcome of psychiatric and somatic treatment for transsexualism provided in Sweden during the 1970s and 1980s. Since then, treatment has evolved with improved sex reassignment surgery, refined hormonal treatment,[11,41] and more attention to psychosocial care that might have improved the outcome. Second, transsexualism is a rare condition and Sweden is a small country (9.2 million inhabitants in 2008). Hence, despite being based on a comparatively large national cohort and long-term follow-up, the statistical power was limited. Third, regarding psychiatric morbidity after sex reassignment, we assessed inpatient psychiatric care. Since most psychiatric care is provided in outpatient settings (for which no reliable data were available), underestimation of the *absolute* prevalences was inevitable. However, there is no reason to believe that this would change the *relative risks* for psychiatric morbidity unless sex-reassigned transsexual individuals were more likely than matched controls to be admitted to hospital for any given psychiatric condition.

Finally, to estimate start of follow-up, we prioritized using the date of a gender identity disorder diagnosis *after* changed sex status over *before* changed sex status, in order to avoid overestimating person-years at risk after sex-reassignment. This means that adverse outcomes might have been underestimated. However, given that the median time lag between the hospitalization before and after change of sex status was less than a year (see Methods), this maneuver is unlikely to have influenced the results significantly. Moreover, all deaths will be recorded regardless of this exercise and mortality hence correctly estimated.

Conclusion

This study found substantially higher rates of overall mortality, death from cardiovascular disease and suicide, suicide attempts, and psychiatric hospitalisations in sex-reassigned transsexual individuals compared to a healthy control population. This highlights that post surgical transsexuals are a risk group that need long-term psychiatric and somatic follow-up. Even though surgery and hormonal therapy alleviates gender dysphoria, it is apparently not sufficient to remedy the high rates of morbidity and mortality found among transsexual persons. Improved care for the transsexual group after the sex reassignment should therefore be considered.

Supporting Information

Table S1 Risk of various outcomes in sex-reassigned persons in Sweden compared to population controls matched for birth year and *birth sex*.
(DOCX)

Table S2 Risk of various outcomes in sex-reassigned persons in Sweden compared to controls matched for birth year and *final sex*.
(DOCX)

Author Contributions

Conceived and designed the experiments: CD PL AJ NL ML. Performed the experiments: MB AJ. Analyzed the data: CD PL MB AJ NL ML. Contributed reagents/materials/analysis tools: PL NL AJ. Wrote the paper: CD PL MB AJ NL ML.

References

1. World Health Organization (1993) The ICD-10 Classification of Mental and Behavioural Disorders. Diagnostic criteria for research. Geneva: WHO.
2. American Psychiatric Association, ed (1994) Diagnostic and Statistical Manual of Mental Disorders. Washington, DC: APA.
3. Meyer W, Bockting W, Cohen-Kettenis P, Coleman E, DiCeglie D, et al. (2002) The Harry Benjamin International Gender Dysphoria Association's Standards of Care for Gender Identity Disorders, Sixth Version. Journal of Psychology & Human Sexuality 13: 1–30.
4. Cohen-Kettenis PT, Gooren LJG (1999) Transsexualism: A review of etiology, diagnosis and treatment. J Psychosom Res 46: 315–333.
5. Wålinder J, Thuwe I (1975) A social-psychiatric follow-up study of 24 sex-reassigned transsexuals. Göteborg, Sweden: Scandinavian University Books.
6. Eldh J, Berg A, Gustafsson M (1997) Long-term follow up after sex reassignment surgery. Scand J Plast Reconstr Surg Hand Surg 31: 39–45.
7. Johansson A, Sundbom E, Höjerback T, Bodlund O (2010) A five-year follow-up study of Swedish adults with gender identity disorder. Arch Sex Behav 39: 1429–1437.
8. Sørensen T, Hertoft P (1982) Male and female transsexualism: the Danish experience with 37 patients. ArchSex Behav 11: 133–155.
9. De Cuypere G, T'Sjoen G, Beerten R, Selvaggi G, De Sutter P, et al. (2005) Sexual and physical health after sex reassignment surgery. Arch Sex Behav 34: 679–690.
10. van Kesteren PJ, Asscheman H, Megens JA, Gooren LJ (1997) Mortality and morbidity in transsexual subjects treated with cross-sex hormones. Clin Endocrinol Oxf 47: 337–342.

11. Gooren LJ, Giltay EJ, Bunck MC (2008) Long-term treatment of transsexuals with cross-sex hormones: extensive personal experience. J Clin Endocrinol Metab 93: 19–25.
12. Smith YL, van Goozen SH, Cohen-Kettenis PT (2001) Adolescents with gender identity disorder who were accepted or rejected for sex reassignment surgery: a prospective follow-up study. J Am Acad Child Adolesc Psychiatry 40: 472–481.
13. Smith YL, Van Goozen SH, Kuiper AJ, Cohen-Kettenis PT (2005) Sex reassignment: outcomes and predictors of treatment for adolescent and adult transsexuals. Psychol Med 35: 89–99.
14. Leavitt F, Berger JC, Hoeppner JA, Northrop G (1980) Presurgical adjustment in male transsexuals with and without hormonal treatment. J Nerv Ment Dis 168: 693–697.
15. Cohen Kettenis PT, van Goozen SH (1997) Sex reassignment of adolescent transsexuals: a follow-up study. J Am Acad Child Adolesc Psychiatry 36: 263–271.
16. Newfield E, Hart S, Dibble S, Kohler L (2006) Female-to-male transgender quality of life. Qual Life Res 15: 1447–1457.
17. Landén M, Wålinder J, Hambert G, Lundström B (1998) Factors predictive of regret in sex reassignment. Acta Psychiatrica Scandinavica 97: 284–289.
18. Hepp U, Kraemer B, Schnyder U, Miller N, Delsignore A (2005) Psychiatric comorbidity in gender identity disorder. J Psychosom Res 58: 259–261.
19. Murad MH, Elamin MB, Garcia MZ, Mullan RJ, Murad A, et al. (2010) Hormonal therapy and sex reassignment: a systematic review and meta-analysis of quality of life and psychosocial outcomes. Clin Endocrinol (Oxf) 72: 214–231.
20. Landén M, Wålinder J, Lundström B (1996) Incidence and sex ratio of transsexualism in Sweden. Acta Psychiatrica Scandinavica 93: 261–263.
21. Lobato MI, Koff WJ, Manenti C, da Fonseca Seger D, Salvador J, et al. (2006) Follow-up of sex reassignment surgery in transsexuals: a Brazilian cohort. Arch Sex Behav 35: 711–715.
22. Bodlund O, Kullgren G (1996) Transsexualism-General outcome and prognostic factors. A five year follow-up study of 19 transsexuals in the process of changing sex. Arch Sex Behav 25: 303–316.
23. Lindemalm G, Körlin D, Uddenberg N (1986) Long-term follow-up of "sex change" in 13 male-to-female transsexuals. Arch Sex Behav 15: 187–210.
24. Rauchfleisch U, Barth D, Battegay R (1998) [Results of long-term follow-up of transsexual patients]. Nervenarzt 69: 799–805.
25. Kuhn A, Bodmer C, Stadlmayr W, Kuhn P, Mueller MD, et al. (2009) Quality of life 15 years after sex reassignment surgery for transsexualism. Fertil Steril 92: 1685–1689 e1683.
26. Zimmermann A, Zimmer R, Kovacs L, Einodshofer S, Herschbach P, et al. (2006) [Transsexuals' life satisfaction after gender transformation operations]. Chirurg 77: 432–438.
27. Rehman J, Lazer S, Benet AE, Schaefer LC, Melman A (1999) The reported sex and surgery satisfactions of 28 postoperative male-to- female transsexual patients. Arch Sex Behav 28: 71–89.
28. Hepp U, Klaghofer R, Burkhard-Kubler R, Buddeberg C (2002) [Treatment follow-up of transsexual patients. A catamnestic study]. Nervenarzt 73: 283–288.
29. Lawrence AA (2003) Factors associated with satisfaction or regret following male-to-female sex reassignment surgery. Arch Sex Behav 32: 299–315.
30. Kaube H, Biemer E (1991) [Results of sex change operations in 30 transsexual patients: psychosocial and sexual adaptation–surgical complications]. Handchir Mikrochir Plast Chir 23: 276–278.
31. Dolmén L (2001) Brottsligheten i olika länder (Criminality in different countries). Stockholm: Brottsförebyggande rådet (the Swedish National Council for Crime Prevention).
32. Fazel S, Grann M (2006) The population impact of severe mental illness on violent crime. Am J Psychiatry 163: 1397–1403.
33. Landén M, Wålinder J, Lundström B (1998) Clinical characteristics of a total cohort of female and male applicants for sex reassignment: a descriptive study. Acta Psychiatrica Scandinavica 97: 189–194.
34. Elamin MB, Garcia MZ, Murad MH, Erwin PJ, Montori VM (2010) Effect of sex steroid use on cardiovascular risk in transsexual individuals: a systematic review and meta-analyses. Clin Endocrinol (Oxf) 72: 1–10.
35. Landén M, Innala S (2000) Attitudes toward transsexualism in a Swedish national survey. Archives of Sexual Behavior 29: 375–388.
36. Mueller A, Gooren L (2008) Hormone-related tumors in transsexuals receiving treatment with cross-sex hormones. Eur J Endocrinol 159: 197–202.
37. Vujovic S, Popovic S, Sbutega-Milosevic G, Djordjevic M, Gooren L (2009) Transsexualism in Serbia: a twenty-year follow-up study. J Sex Med 6: 1018–1023.
38. Rehman J, Lazer S, Benet AE, Schaefer LC, Melman A (1999) The reported sex and surgery satisfactions of 28 postoperative male-to-female transsexual patients. Arch Sex Behav 28: 71–89.
39. Ösby U, Brandt L, Correia N, Ekbom A, Sparén P (2001) Excess mortality in bipolar and unipolar disorder in Sweden. Arch Gen Psychiatry 58: 844–850.
40. Tidemalm D, Langstrom N, Lichtenstein P, Runeson B (2008) Risk of suicide after suicide attempt according to coexisting psychiatric disorder: Swedish cohort study with long term follow-up. Bmj 337: a2205.
41. Toorians AW, Thomassen MC, Zweegman S, Magdeleyns EJ, Tans G, et al. (2003) Venous thrombosis and changes of hemostatic variables during cross-sex hormone treatment in transsexual people. J Clin Endocrinol Metab 88: 5723–5729.

Taylor & Francis
Taylor & Francis Group

International Journal of Transgender Health

ISSN: (Print) (Online) Journal homepage: https://www.tandfonline.com/loi/wijt21

Standards of Care for the Health of Transgender and Gender Diverse People, Version 8

E. Coleman, A. E. Radix, W. P. Bouman, G. R. Brown, A. L. C. de Vries, M. B. Deutsch, R. Ettner, L. Fraser, M. Goodman, J. Green, A. B. Hancock, T. W. Johnson, D. H. Karasic, G. A. Knudson, S. F. Leibowitz, H. F. L. Meyer-Bahlburg, S. J. Monstrey, J. Motmans, L. Nahata, T. O. Nieder, S. L. Reisner, C. Richards, L. S. Schechter, V. Tangpricha, A. C. Tishelman, M. A. A. Van Trotsenburg, S. Winter, K. Ducheny, N. J. Adams, T. M. Adrián, L. R. Allen, D. Azul, H. Bagga, K. Başar, D. S. Bathory, J. J. Belinky, D. R. Berg, J. U. Berli, R. O. Bluebond-Langner, M.-B. Bouman, M. L. Bowers, P. J. Brassard, J. Byrne, L. Capitán, C. J. Cargill, J. M. Carswell, S. C. Chang, G. Chelvakumar, T. Corneil, K. B. Dalke, G. De Cuypere, E. de Vries, M. Den Heijer, A. H. Devor, C. Dhejne, A. D'Marco, E. K. Edmiston, L. Edwards-Leeper, R. Ehrbar, D. Ehrensaft, J. Eisfeld, E. Elaut, L. Erickson-Schroth, J. L. Feldman, A. D. Fisher, M. M. Garcia, L. Gijs, S. E. Green, B. P. Hall, T. L. D. Hardy, M. S. Irwig, L. A. Jacobs, A. C. Janssen, K. Johnson, D. T. Klink, B. P. C. Kreukels, L. E. Kuper, E. J. Kvach, M. A. Malouf, R. Massey, T. Mazur, C. McLachlan, S. D. Morrison, S. W. Mosser, P. M. Neira, U. Nygren, J. M. Oates, J. Obedin-Maliver, G. Pagkalos, J. Patton, N. Phanuphak, K. Rachlin, T. Reed, G. N. Rider, J. Ristori, S. Robbins-Cherry, S. A. Roberts, K. A. Rodriguez-Wallberg, S. M. Rosenthal, K. Sabir, J. D. Safer, A. I. Scheim, L. J. Seal, T. J. Sehoole, K. Spencer, C. St. Amand, T. D. Steensma, J. F. Strang, G. B. Taylor, K. Tilleman, G. G. T'Sjoen, L. N. Vala, N. M. Van Mello, J. F. Veale, J. A. Vencill, B. Vincent, L. M. Wesp, M. A. West & J. Arcelus

To cite this article: E. Coleman, A. E. Radix, W. P. Bouman, G. R. Brown, A. L. C. de Vries, M. B. Deutsch, R. Ettner, L. Fraser, M. Goodman, J. Green, A. B. Hancock, T. W. Johnson, D. H. Karasic, G. A. Knudson, S. F. Leibowitz, H. F. L. Meyer-Bahlburg, S. J. Monstrey, J. Motmans, L. Nahata, T. O. Nieder, S. L. Reisner, C. Richards, L. S. Schechter, V. Tangpricha, A. C. Tishelman, M. A. A. Van Trotsenburg, S. Winter, K. Ducheny, N. J. Adams, T. M. Adrián, L. R. Allen, D. Azul, H. Bagga, K. Başar, D. S. Bathory, J. J. Belinky, D. R. Berg, J. U. Berli, R. O. Bluebond-Langner, M.-B. Bouman, M. L. Bowers, P. J. Brassard, J. Byrne, L. Capitán, C. J. Cargill, J. M. Carswell, S. C. Chang, G. Chelvakumar, T. Corneil, K. B. Dalke, G. De Cuypere, E. de Vries, M. Den Heijer, A. H. Devor, C. Dhejne, A. D'Marco, E. K. Edmiston, L. Edwards-Leeper, R. Ehrbar, D. Ehrensaft, J. Eisfeld, E. Elaut, L. Erickson-Schroth, J. L. Feldman, A. D. Fisher, M. M. Garcia, L. Gijs, S. E. Green, B. P. Hall, T. L. D. Hardy, M. S. Irwig, L. A. Jacobs, A. C. Janssen, K. Johnson, D. T. Klink, B. P. C. Kreukels, L. E. Kuper, E. J. Kvach, M. A. Malouf, R. Massey, T. Mazur, C. McLachlan, S. D. Morrison, S. W. Mosser, P. M. Neira, U. Nygren, J. M. Oates, J. Obedin-Maliver, G. Pagkalos, J. Patton, N. Phanuphak, K. Rachlin, T. Reed, G. N. Rider, J. Ristori, S. Robbins-Cherry, S. A. Roberts, K. A. Rodriguez-Wallberg, S. M. Rosenthal, K. Sabir, J. D. Safer, A. I. Scheim, L. J. Seal, T. J. Sehoole, K. Spencer, C. St. Amand, T. D. Steensma, J. F. Strang, G. B. Taylor, K. Tilleman, G. G. T'Sjoen, L. N. Vala, N. M. Van Mello, J. F. Veale, J. A. Vencill, B. Vincent, L. M. Wesp, M. A. West & J. Arcelus (2022) Standards of Care for the Health of Transgender and Gender Diverse People, Version 8, International Journal of Transgender Health, 23:sup1, S1-S259, DOI: 10.1080/26895269.2022.2100644

To link to this article: https://doi.org/10.1080/26895269.2022.2100644

© 2022 The Author(s). Published with license by Taylor & Francis Group, LLC.

Published online: 15 Sep 2022.

Submit your article to this journal

Article views: 230648

View related articles

View Crossmark data

Citing articles: 21 View citing articles

Full Terms & Conditions of access and use can be found at
https://www.tandfonline.com/action/journalInformation?journalCode=wijt21

INTERNATIONAL JOURNAL OF TRANSGENDER HEALTH
2022, VOL. 23, NO. S1, S1–S258
https://doi.org/10.1080/26895269.2022.2100644

Taylor & Francis
Taylor & Francis Group

REPORT

OPEN ACCESS Check for updates

Standards of Care for the Health of Transgender and Gender Diverse People, Version 8

E. Coleman[1], A. E. Radix[2,3], W. P. Bouman[4,5], G. R. Brown[6,7], A. L. C. de Vries[8,9], M. B. Deutsch[10,11], R. Ettner[12,13], L. Fraser[14], M. Goodman[15], J. Green[16], A. B. Hancock[17], T. W. Johnson[18], D. H. Karasic[19,20], G. A. Knudson[21,22], S. F. Leibowitz[23], H. F. L. Meyer-Bahlburg[24,25], S. J. Monstrey[26], J. Motmans[27,28], L. Nahata[29,30], T. O. Nieder[31], S. L. Reisner[32,33], C. Richards[34,35], L. S. Schechter[36], V. Tangpricha[37,38], A. C. Tishelman[39], M. A. A. Van Trotsenburg[40,41], S. Winter[42], K. Ducheny[43], N. J. Adams[44,45], T. M. Adrián[46,47], L. R. Allen[48], D. Azul[49], H. Bagga[50,51], K. Başar[52], D. S. Bathory[53], J. J. Belinky[54], D. R. Berg[55], J. U. Berli[56], R. O. Bluebond-Langner[57,58], M.-B. Bouman[9,59], M. L. Bowers[60,61], P. J. Brassard[62,63], J. Byrne[64], L. Capitán[65], C. J. Cargill[66], J. M. Carswell[32,67], S. C. Chang[68], G. Chelvakumar[69,70], T. Corneil[71], K. B. Dalke[72,73], G. De Cuypere[74], E. de Vries[75,76], M. Den Heijer[9,77], A. H. Devor[78], C. Dhejne[79,80], A. D'Marco[81,82], E. K. Edmiston[83], L. Edwards-Leeper[84,85], R. Ehrbar[86,87], D. Ehrensaft[19], J. Eisfeld[88], E. Elaut[74,89], L. Erickson-Schroth[90,91], J. L. Feldman[92], A. D. Fisher[93], M. M. Garcia[94,95], L. Gijs[96], S. E. Green[97], B. P. Hall[98,99], T. L. D. Hardy[100,101], M. S. Irwig[32,102], L. A. Jacobs[103], A. C. Janssen[23,104], K. Johnson[105,106], D. T. Klink[107,108], B. P. C. Kreukels[9,109], L. E. Kuper[110,111], E. J. Kvach[112,113], M. A. Malouf[114], R. Massey[115,116], T. Mazur[117,118], C. McLachlan[119,120], S. D. Morrison[121,122], S. W. Mosser[123,124], P. M. Neira[125,126], U. Nygren[127,128], J. M. Oates[129,130], J. Obedin-Maliver[131,132], G. Pagkalos[133,134], J. Patton[135,136], N. Phanuphak[137], K. Rachlin[103], T. Reed[138†], G. N. Rider[55], J. Ristori[93], S. Robbins-Cherry[4], S. A. Roberts[32,139], K. A. Rodriguez-Wallberg[140,141], S. M. Rosenthal[142,143], K. Sabir[144], J. D. Safer[60,145], A. I. Scheim[146,147], L. J. Seal[35,148], T. J. Sehoole[149], K. Spencer[55], C. St. Amand[150,151], T. D. Steensma[9,109], J. F. Strang[152,153], G. B. Taylor[154], K. Tilleman[155], G. G. T'Sjoen[74,156], L. N. Vala[157], N. M. Van Mello[9,158], J. F. Veale[159], J. A. Vencill[160,161], B. Vincent[162], L. M. Wesp[163,164], M. A. West[165,166] and J. Arcelus[5,167]

[1]Institute for Sexual and Gender Health, Department of Family Medicine and Community Health, University of Minnesota Medical School, Minneapolis, MN, USA; [2]Callen-Lorde Community Health Center, New York, NY, USA; [3]Department of Medicine, NYU Grossman School of Medicine, New York, NY, USA; [4]Nottingham Centre for Transgender Health, Nottingham, UK; [5]School of Medicine, University of Nottingham, Nottingham, UK; [6]James H. Quillen College of Medicine, East Tennessee State University, Johnson City, TN, USA; [7]James H. Quillen VAMC, Johnson City, TN, USA; [8]Department of Child and Adolescent Psychiatry, Amsterdam UMC Location Vrije Universiteit Amsterdam, Amsterdam, Netherlands; [9]Center of Expertise on Gender Dysphoria, Amsterdam UMC Location Vrije Universiteit Amsterdam, Amsterdam, The Netherlands; [10]Department of Family & Community Medicine, University of California—San Francisco, San Francisco, CA, USA; [11]UCSF Gender Affirming Health Program, San Francisco, CA, USA; [12]New Health Foundation Worldwide, Evanston, IL, USA; [13]Weiss Memorial Hospital, Chicago, IL, USA; [14]Independent Practice, San Francisco, CA, USA; [15]Emory University Rollins School of Public Health, Atlanta, GA, USA; [16]Independent Scholar, Vancouver, WA, USA; [17]The George Washington University, Washington, DC, USA; [18]Department of Anthropology, California State University, Chico, CA, USA; [19]University of California San Francisco, San Francisco, CA, USA; [20]Independent Practice at dankarasic.com; [21]University of British Columbia, Vancouver, Canada; [22]Vancouver Coastal Health, Vancouver, Canada; [23]Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, USA; [24]New York State Psychiatric Institute, New York, NY, USA; [25]Department of Psychiatry, Columbia University, New York, NY, USA; [26]Ghent University Hospital, Gent, Belgium; [27]Transgender Infopunt, Ghent University Hospital, Gent, Belgium; [28]Centre for Research on Culture and Gender, Ghent University, Gent, Belgium; [29]Department of Pediatrics, The Ohio State University College of Medicine, Columbus, OH, USA; [30]Endocrinology and Center for Biobehavioral Health, The Abigail Wexner Research Institute at Nationwide Children's Hospital, Columbus, OH, USA; [31]University Medical Center Hamburg-Eppendorf, Interdisciplinary Transgender Health Care Center Hamburg, Institute for Sex Research, Sexual Medicine and Forensic Psychiatry, Hamburg, Germany; [32]Harvard Medical School, Boston, MA, USA; [33]Harvard T. H. Chan School of Public Health, Boston, MA, USA; [34]Regents University London, UK; [35]Tavistock and Portman NHS Foundation Trust, London, UK; [36]Rush University Medical Center, Chicago, IL, USA; [37]Division of Endocrinology, Metabolism & Lipids, Department of Medicine, Emory University School of Medicine, Atlanta, GA, USA; [38]Atlanta VA Medical Center, Decatur, GA, USA; [39]Boston College, Department of Psychology and Neuroscience, Chestnut Hill, MA, USA; [40]Bureau GenderPRO, Vienna, Austria; [41]University Hospital Lilienfeld—St. Pölten, St. Pölten, Austria; [42]School of Population Health, Curtin University, Perth, WA, Australia; [43]Howard Brown Health, Chicago, IL, USA; [44]University of Toronto, Ontario Institute for Studies in Education, Toronto, Canada; [45]Transgender Professional Association for Transgender Health (TPATH); [46]Asamblea Nacional de Venezuela, Caracas, Venezuela; [47]Diverlex Diversidad e Igualdad a Través de la Ley, Caracas, Venezuela;

CONTACT Dr Eli Coleman, PhD Institute for Sexual and Gender Health, Department of Family Medicine and Community Health, University of Minnesota Medical School, Minneapolis, MN, USA
†Deceased.

© 2022 The Author(s). Published with license by Taylor & Francis Group, LLC.
This is an Open Access article distributed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives License (http://creativecommons.org/licenses/by-nc-nd/4.0/), which permits non-commercial re-use, distribution, and reproduction in any medium, provided the original work is properly cited, and is not altered, transformed, or built upon in any way.

[48]University of Nevada, Las Vegas, NV, USA; [49]La Trobe Rural Health School, La Trobe University, Bendigo, Australia; [50]Monash Health Gender Clinic, Melbourne, Victoria, Australia; [51]Monash University, Melbourne, Victoria, Australia; [52]Department of Psychiatry, Hacettepe University, Ankara, Turkey; [53]Independent Practice at Bathory International PLLC, Winston-Salem, NC, USA; [54]Durand Hospital, Guemes Clinic and Urological Center, Buenos Aires, Argentina; [55]National Center for Gender Spectrum Health, Institute for Sexual and Gender Health, Department of Family Medicine and Community Health, University of Minnesota Medical School, Minneapolis, MN, USA; [56]Oregon Health & Science University, Portland, OR, USA; [57]NYU Langone Health, New York, NY, USA; [58]Hansjörg Wyss Department of Plastic Surgery, New York, NY, USA; [59]Department of Plastic Surgery, Amsterdam UMC Location Vrije Universiteit Amsterdam, , Amsterdam, Netherlands; [60]Icahn School of Medicine at Mount Sinai, New York, NY, USA; [61]Mills-Peninsula Medical Center, Burlingame, CA, USA; [62]GrS Montreal, Complexe CMC, Montreal, Quebec, Canada; [63]Université de Montreal, Quebec, Canada; [64]University of Waikato/Te Whare Wānanga o Waikato, Hamilton/Kirikiriroa, New Zealand/Aotearoa; [65]The Facialteam Group, Marbella International Hospital, Marbella, Spain; [66]Independent Scholar; [67]Boston's Children's Hospital, Boston, MA, USA; [68]Independent Practice, Oakland, CA, USA; [69]Nationwide Children's Hospital, Columbus, OH, USA; [70]The Ohio State University, College of Medicine, Columbus, OH, USA; [71]School of Population & Public Health, University of British Columbia, Vancouver, BC, Canada; [72]Penn State Health, PA, USA; [73]Penn State College of Medicine, Hershey, PA, USA; [74]Center for Sexology and Gender, Ghent University Hospital, Gent, Belgium; [75]Nelson Mandela University, Gqeberha, South Africa; [76]University of Cape Town, Cape Town, South Africa; [77]Department of Endocrinology, Amsterdam UMC Location Vrije Universiteit Amsterdam, , Amsterdam, Netherlands; [78]University of Victoria, Victoria, BC, Canada; [79]ANOVA, Karolinska University Hospital, Stockholm, Sweden; [80]Department of Medicine Huddinge, Karolinska Institutet, Stockholm, Sweden; [81]UCTRANS—United Caribbean Trans Network, Nassau, The Bahamas; [82]D M A R C O Organization, Nassau, The Bahamas; [83]University of Pittsburgh School of Medicine, Pittsburgh, PA, USA; [84]Pacific University, Hillsboro, OR, USA; [85]Independent Practice, Beaverton, OR, USA; [86]Whitman Walker Health, Washington, DC, USA; [87]Independent Practice, Maryland, USA; [88]Transvisie, Utrecht, The Netherlands; [89]Department of Clinical Experimental and Health Psychology, Ghent University, Gent, Belgium; [90]The Jed Foundation, New York, NY, USA; [91]Hetrick-Martin Institute, New York, NY, USA; [92]Institute for Sexual and Gender Health, Institute for Sexual and Gender Health, Department of Family Medicine and Community Health, University of Minnesota Medical School, Minneapolis, MN, USA; [93]Andrology, Women Endocrinology and Gender Incongruence, Careggi University Hospital, Florence, Italy; [94]Department of Urology, Cedars-Sinai Medical Center, Los Angeles, CA, USA; [95]Departments of Urology and Anatomy, University of California San Francisco, San Francisco, CA, USA; [96]Institute of Family and Sexuality Studies, Department of Neurosciences, KU Leuven, Leuven, Belgium; [97]Mermaids, London/Leeds, UK; [98]Duke University Medical Center, Durham, NC, USA; [99]Duke Adult Gender Medicine Clinic, Durham, NC, USA; [100]Alberta Health Services, Edmonton, Alberta, Canada; [101]MacEwan University, Edmonton, Alberta, Canada; [102]Beth Israel Deaconess Medical Center, Boston, MA, USA; [103]Independent Practice, New York, NY, USA; [104]Northwestern Feinberg School of Medicine, Chicago, IL, USA; [105]RMIT University, Melbourne, Australia; [106]University of Brighton, Brighton, UK; [107]Department of Pediatrics, Division of Pediatric Endocrinology, Ghent University Hospital, Gent, Belgium; [108]Division of Pediatric Endocrinology and Diabetes, ZNA Queen Paola Children's Hospital, Antwerp, Belgium; [109]Department of Medical Psychology, Amsterdam UMC Location Vrije Universiteit Amsterdam, , Amsterdam, Netherlands; [110]Department of Psychiatry, Southwestern Medical Center, University of Texas, Dallas, TX, USA; [111]Department of Endocrinology, Children's Health, Dallas, TX, USA; [112]Denver Health, Denver, CO, USA; [113]University of Colorado School of Medicine, Aurora, CO, USA; [114]Malouf Counseling and Consulting, Baltimore, MD, USA; [115]WPATH Global Education Institute; [116]Department of Psychiatry & Behavioral Sciences, Emory University School of Medicine, Atlanta, GA, USA; [117]Jacobs School of Medicine and Biomedical Sciences, University at Buffalo, Buffalo, NY, USA; [118]John R. Oishei Children's Hospital, Buffalo, NY, USA; [119]Professional Association for Transgender Health, South Africa; [120]Gender DynamiX, Cape Town, South Africa; [121]Division of Plastic Surgery, Seattle Children's Hospital, Seattle, WA, USA; [122]Division of Plastic Surgery, Department of Surgery, University of Washington Medical Center, Seattle, WA, USA; [123]Gender Confirmation Center, San Francisco, CA, USA; [124]Saint Francis Memorial Hospital, San Francisco, CA, USA; [125]Johns Hopkins Center for Transgender Health, Baltimore, MD, USA; [126]Johns Hopkins Medicine Office of Diversity, Inclusion and Health Equity, Baltimore, MD, USA; [127]Division of Speech and Language Pathology, Department of Clinical Science, Intervention and Technology, Karolinska Institutet, Stockholm, Sweden; [128]Speech and Language Pathology, Medical Unit, Karolinska University Hospital, Stockholm, Sweden; [129]La Trobe University, Melbourne, Australia; [130]Melbourne Voice Analysis Centre, East Melbourne, Australia; [131]Stanford University School of Medicine, Department of Obstetrics and Gynecology, Palo Alto, CA, USA; [132]Department of Epidemiology and Population Health, Stanford, CA, USA; [133]Independent PracticeThessaloniki, Greece; [134]Military Community Mental Health Center, 424 General Military Training Hospital, Thessaloniki, Greece; [135]Talkspace, New York, NY, USA; [136]CytiPsychological LLC, San Diego, CA, USA; [137]Institute of HIV Research and Innovation, Bangkok, Thailand; [138]Gender Identity Research and Education Society, Leatherhead, UK; [139]Division of Endocrinology, Boston's Children's Hospital, Boston, MA, USA; [140]Department of Reproductive Medicine, Karolinska University Hospital, Stockholm, Sweden; [141]Department of Oncology-Pathology, Karolinska Institute, Stockholm, Sweden; [142]Division of Pediatric Endocrinology, UCSF, San Francisco, CA, USA; [143]UCSF Child and Adolescent Gender Center; [144]FtM Phoenix Group, Krasnodar Krai, Russia; [145]Mount Sinai Center for Transgender Medicine and Surgery, New York, NY, USA; [146]Epidemiology and Biostatistics, Dornsife School of Public Health, Drexel University, Philadelphia, PA, USA; [147]Epidemiology and Biostatistics, Schulich School of Medicine and Dentistry, Western University, Ontario, Canada; [148]St George's University Hospitals NHS Foundation Trust, London, UK; [149]Iranti, Johannesburg, South Africa; [150]University of Houston, Houston, TX, USA; [151]Mayo Clinic, Rochester, MN, USA; [152]Children's National Hospital, Washington, DC, USA; [153]George Washington University School of Medicine, Washington, DC, USA; [154]Atrium Health Department of Obstetrics and Gynecology, Division of Female Pelvic Medicine and Reconstructive Surgery, Charlotte, NC, USA; [155]Department for Reproductive Medicine, Ghent University Hospital, Gent, Belgium; [156]Department of Endocrinology, Ghent University Hospital, Gent, Belgium; [157]Independent Practice, Campbell, CA, USA; [158]Department of Obstetrics and Gynaecology, Amsterdam UMC Location Vrije Universiteit Amsterdam, Amsterdam, Netherlands; [159]School of Psychology, University of Waikato/Te Whare Wānanga o Waikato, Hamilton/Kirikiriroa, New Zealand/Aotearoa; [160]Department of Psychiatry & Psychology, Mayo Clinic, Rochester, MN, USA; [161]Division of General Internal Medicine, Mayo Clinic, Rochester, MN, USA; [162]Trans Learning Partnership at https://spectra-london.org.uk/trans-learning-partnership, UK; [163]College of Nursing, University of Wisconsin MilwaukeeMilwaukee, WI, USA; [164]Health Connections Inc., Glendale, WI, USA; [165]North Memorial Health Hospital, Robbinsdale, MN, USA; [166]University of Minnesota, Minneapolis, MN, USA; [167]Bellvitge Biomedical Research Institute (IDIBELL), L'Hospitalet de Llobregat, Barcelona, Spain.

ABSTRACT

Background: Transgender healthcare is a rapidly evolving interdisciplinary field. In the last decade, there has been an unprecedented increase in the number and visibility of transgender and gender diverse (TGD) people seeking support and gender-affirming medical treatment in parallel with a significant rise in the scientific literature in this area. The World Professional Association for Transgender Health (WPATH) is an international, multidisciplinary, professional association whose mission is to promote evidence-based care, education, research, public policy, and respect in transgender health. One of the main functions of WPATH is to promote the highest standards of health care for TGD people through the Standards of Care (SOC). The SOC was initially developed in 1979 and the last version (SOC-7) was published in 2012. In view of the increasing scientific evidence, WPATH commissioned a new version of the Standards of Care, the SOC-8.

Aim: The overall goal of SOC-8 is to provide health care professionals (HCPs) with clinical guidance to assist TGD people in accessing safe and effective pathways to achieving lasting personal comfort with their gendered selves with the aim of optimizing their overall physical health, psychological well-being, and self-fulfillment.

Methods: The SOC-8 is based on the best available science and expert professional consensus in transgender health. International professionals and stakeholders were selected to serve on the SOC-8 committee. Recommendation statements were developed based on data derived from independent systematic literature reviews, where available, background reviews and expert opinions. Grading of recommendations was based on the available evidence supporting interventions, a discussion of risks and harms, as well as the feasibility and acceptability within different contexts and country settings.

Results: A total of 18 chapters were developed as part of the SOC-8. They contain recommendations for health care professionals who provide care and treatment for TGD people. Each of the recommendations is followed by explanatory text with relevant references. General areas related to transgender health are covered in the chapters Terminology, Global Applicability, Population Estimates, and Education. The chapters developed for the diverse population of TGD people include Assessment of Adults, Adolescents, Children, Nonbinary, Eunuchs, and Intersex Individuals, and people living in Institutional Environments. Finally, the chapters related to gender-affirming treatment are Hormone Therapy, Surgery and Postoperative Care, Voice and Communication, Primary Care, Reproductive Health, Sexual Health, and Mental Health.

Conclusions: The SOC-8 guidelines are intended to be flexible to meet the diverse health care needs of TGD people globally. While adaptable, they offer standards for promoting optimal health care and guidance for the treatment of people experiencing gender incongruence. As in all previous versions of the SOC, the criteria set forth in this document for gender-affirming medical interventions are clinical guidelines; individual health care professionals and programs may modify these in consultation with the TGD person.

KEYWORDS

adolescents; assessment; children; communication; education; endocrinology; eunuch; gender diverse; health care professional; institutional settings; intersex; mental health; nonbinary; population; postoperative care; primary care; reproductive health; sexual health; SOC8; Standards of Care; surgery; terminology; transgender; voice

Table of contents

		Page No.
	Introduction	S5
Chapter 1.	Terminology	S11
Chapter 2.	Global Applicability	S15
Chapter 3.	Population Estimates	S23
Chapter 4.	Education	S27
Chapter 5.	Assessment of Adults	S31
Chapter 6.	Adolescents	S43
Chapter 7.	Children	S67
Chapter 8.	Nonbinary	S80
Chapter 9.	Eunuchs	S88
Chapter 10.	Intersex	S93
Chapter 11.	Institutional Environments	S104
Chapter 12.	Hormone Therapy	S110
Chapter 13.	Surgery and Postoperative Care	S128
Chapter 14.	Voice and Communication	S137
Chapter 15.	Primary Care	S143
Chapter 16.	Reproductive Health	S156
Chapter 17.	Sexual Health	S163
Chapter 18.	Mental Health	S171
	Acknowledgements	S177
	References	S178
	Appendix A: Methodology	S247
	Appendix B: Glossary	S252
	Appendix C: Gender-Affirming Hormonal Treatments	S254
	Appendix D: Summary Criteria for Hormonal and Surgical Treatments for Adults and Adolescents	S256
	Appendix E: Gender-Affirming Surgical Procedures	S258

INTRODUCTION

Purpose and use of the Standards of Care

The overall goal of the World Professional Association for Transgender Health's (WPATH) Standards of Care—Eighth Edition (SOC-8) is to provide clinical guidance to health care professionals to assist transgender and gender diverse (TGD) people in accessing safe and effective pathways to achieving lasting personal comfort with their gendered selves with the aim of optimizing their overall physical health, psychological well-being, and self-fulfillment. This assistance may include but is not limited to hormonal and surgical treatments, voice and communication therapy, primary care, hair removal, reproductive and sexual health, and mental health care. Healthcare systems should provide medically necessary gender-affirming health care for TGD people: See Chapter 2—Global Applicability, Statement 2.1.

WPATH is an international, multidisciplinary, professional association whose mission is to promote evidence-based care, education, research, public policy, and respect in transgender health. Founded in 1979, the organization currently has over 3,000 health care professionals, social scientists, and legal professionals, all of whom are engaged in clinical practice, research, education and advocacy that affects the lives of TGD people. WPATH envisions a world wherein people of all gender identities and gender expressions have access to evidence-based health care, social services, justice, and equality.

One of the main functions of WPATH is to promote the highest standards of health care for individuals through the Standards of Care (SOC) for the health of TGD people. The SOC-8 is based on the best available science and expert professional consensus. The SOC was initially developed in 1979, and the last version was published in 2012.

Most of the research and experience in this field comes from a North American and Western European perspective; thus, adaptations of the SOC-8 to other parts of the world are necessary. Suggestions for approaches to cultural relativity and cultural competence are included in this version of the SOC.

WPATH recognizes that health is not only dependent upon high-quality clinical care but also relies on social and political climates that ensure social tolerance, equality, and the full rights of citizenship. Health is promoted through public policies and legal reforms that advance tolerance and equity for gender diversity and that eliminate prejudice, discrimination, and stigma. WPATH is committed to advocacy for these policy and legal changes. Thus, health care professionals who provide care to TGD people are called upon to advocate for improved access to safe and licensed gender-affirming care while respecting the autonomy of individuals.

While this is primarily a document for health care professionals, individuals, their families, and social institutions may also use the SOC-8 to understand how it can assist with promoting optimal health for members of this diverse population.

The SOC-8 has 18 chapters containing recommendations for health care professionals working with TGD people. Each of the recommendations is followed by explanatory text with relevant references. The recommendations for the initiation of gender-affirming medical and/or surgical treatments (GAMSTs) for adults and adolescents are contained in their respective chapters (see Assessment for Adults and Adolescent chapters). A summary of the recommendations and criteria for GAMST can be found in Appendix D.

Populations included in the SOC-8

In this document, we use the phrase transgender and gender diverse (TGD) to be as broad and comprehensive as possible in describing members of the many varied communities that exist globally of people with gender identities or expressions that differ from the gender socially attributed to the sex assigned to them at birth. This includes people who have culturally specific and/or language-specific experiences, identities or expressions, which may or may not be based on or encompassed by Western conceptualizations of gender or the language used to describe it.

WPATH SOC-8 expands who is included under the TGD umbrella, and the settings in which these guidelines should be applied to promote equity and human rights.

Globally, TGD people encompass a diverse array of gender identities and expressions and have differing needs for gender-affirming care across their lifespan that is related to individual goals and characteristics, available health care resources, and sociocultural and political contexts. When standards of care are absent for certain groups this vacuum can result in a multiplicity of therapeutic approaches, including those that may be counterproductive or harmful. The SOC-8 includes recommendations to promote health and well-being for gender diverse groups that have often been neglected and/or marginalized, including nonbinary people, eunuch, and intersex individuals.

The SOC-8 continues to outline the appropriate care of TGD youth, which includes, when indicated, the use of puberty suppression and, when indicated, the use of gender-affirming hormones.

Worldwide, TGD people commonly experience transphobia, stigmatization, ignorance, and refusal of care when seeking health care services, which contributes to significant health disparities. TGD people often report having to teach their medical providers how to care for them due to the latter's insufficient knowledge and training. Intersectional forms of discrimination, social marginalization, and hate crimes against TGD people lead to minority stress. Minority stress is associated with mental health disparities exemplified by increased rates of depression, suicidality, and non-suicidal self-injuries than rates in cisgender populations. Professionals from every discipline should consider the marked vulnerability of many TGD people. WPATH urges health care authorities, policymakers, and medical societies to discourage and combat transphobia among health care professionals and ensure every effort is made to refer TGD people to professionals with experience and willingness to provide gender-affirming care.

Flexibility in the SOC

The SOC-8 guidelines are intended to be flexible to meet the diverse health care needs of TGD people globally. While adaptable, they offer standards for promoting optimal health care and for guiding treatment of people experiencing gender incongruence. As in all previous versions of the SOC, the criteria put forth in this document for gender-affirming interventions are clinical guidelines; individual health care professionals and programs may modify them in consultation with the TGD person. Clinical departures from the SOC may come about because of a patient's unique anatomic, social, or psychological situation; an experienced health care professional's evolving method of handling a common situation; a research protocol; lack of resources in various parts of the world; or the need for specific harm-reduction strategies. These departures should be recognized as such, explained to the patient, and documented for quality patient care and legal protection. This documentation is also valuable for the accumulation of new data, which can be retrospectively examined to allow for health care—and the SOC—to evolve.

The SOC-8 supports the role of informed decision-making and the value of harm reduction approaches. In addition, this version of the SOC recognizes and validates various expressions of gender that may not necessitate psychological, hormonal, or surgical treatments. Health care professionals can use the SOC to help patients consider the full range of health services open to them in accordance with their clinical needs for gender expression.

Diversity versus Diagnosis

The expression of gender characteristics, including identities, that are not stereotypically associated with one's sex assigned at birth is a common and a culturally diverse human phenomenon that should not be seen as inherently negative or pathological. Unfortunately, gender nonconformity and diversity in gender identity and expression is stigmatized in many societies around the world. Such stigma can lead to prejudice and discrimination, resulting in "minority stress." Minority stress is unique (additive to general stressors experienced by all people), socially based, and chronic, and may make TGD individuals more vulnerable to developing mental health concerns such as anxiety and depression. In addition to prejudice and discrimination in society at large, stigma can contribute to abuse and

neglect in one's interpersonal relationships, which in turn can lead to psychological distress. However, these symptoms are socially induced and are not inherent to being TGD.

While Gender Dysphoria (GD) is still considered a mental health condition in the Diagnostic and Statistical Manual of Mental Disorders, (DSM-5-TR) of the American Psychiatric Association. Gender incongruence is no longer seen as pathological or a mental disorder in the world health community. Gender Incongruence is recognized as a condition in the International Classification of Diseases and Related Health Problems, 11th Version of the World Health Organization (ICD-11). Because of historical and current stigma, TGD people can experience distress or dysphoria that may be addressed with various gender-affirming treatment options. While nomenclature is subject to change and new terminology and classifications may be adopted by various health organizations or administrative bodies, the medical necessity of treatment and care is clearly recognized for the many people who experience dissonance between their sex assigned at birth and their gender identity.

Not all societies, countries, or health care systems require a diagnosis for treatment. However, in some countries these diagnoses may facilitate access to medically necessary health care and can guide further research into effective treatments.

Health care services

The goal of gender-affirming care is to partner with TGD people to holistically address their social, mental, and medical health needs and well-being while respectfully affirming their gender identity. Gender-affirming care supports TGD people across the lifespan—from the very first signs of gender incongruence in childhood through adulthood and into older age—as well as people with concerns and uncertainty about their gender identity, either prior to or after transition.

Transgender health care is greater than the sum of its parts, involving holistic inter- and multidisciplinary care between endocrinology, surgery, voice and communication, primary care, reproductive health, sexual health and mental health disciplines to support gender-affirming interventions as well as preventive care and chronic disease management. Gender-affirming interventions include puberty suppression, hormone therapy, and gender-affirming surgeries among others. It should be emphasized there is no 'one-size-fits-all' approach and TGD people may need to undergo all, some, or none of these interventions to support their gender affirmation. These guidelines encourage the use of a patient-centered care model for initiation of gender- affirming interventions and update many previous requirements to reduce barriers to care.

Ideally, communication and coordination of care should occur between providers to optimize outcomes and the timing of gender-affirming interventions centered on the patient's needs and desires and to minimize harm. In well-resourced settings, multidisciplinary consultation and care coordination is often routine, but many regions worldwide lack facilities dedicated to transgender care. For these regions, if possible, it is strongly recommended that individual care providers create a network to facilitate transgender health care that is not available locally.

Worldwide, TGD people are sometime forced by family members or religious communities to undergo conversion therapy. WPATH strongly recommends against any use of reparative or conversion therapy (see statements 6.5 and 18.10).

Health care settings

The SOC-8 are guidelines rooted in the fundamental rights of TGD people that apply to all settings in which health care is provided regardless of an individual's social or medical circumstances. This includes a recommendation to apply the standards of care for TGD people who are incarcerated or living in other institutional settings.

Due to a lack of knowledgeable providers, untimely access, cost barriers and/or previous stigmatizing health care experiences, many TGD people take non-prescribed hormone therapy. This poses health risks associated with the use of unmonitored therapy in potentially supratherapeutic doses and the potential exposure to blood-borne illnesses if needles are shared for administration. However, for many individuals, it is the only means of acquiring medically necessary

gender-affirming treatment that is otherwise inaccessible. Non-prescribed hormone use should be approached with a harm-reduction lens to ensure individuals are connected with providers who can prescribe safe and monitored hormone therapy.

In some countries, the rights of TGD are increasingly being recognized, and gender clinics are being established that can serve as templates for care. In other countries, however, such facilities are lacking and care may be more fragmented and under-resourced. Nonetheless, different models of care are being pioneered, including efforts to decentralize gender-affirming care within primary care settings and establish telehealth services to reduce barriers and improve access. Regardless of the method of care delivery, the principles of gender-affirming care as outlined in the SOC-8 should be adapted to align with local sociocultural, political, and medical contexts.

Methodology

This version of the Standards of Care (SOC-8) is based upon a more rigorous and methodological evidence-based approach than previous versions. This evidence is not only based on the published literature (direct as well as background evidence) but also on consensus-based expert opinion. Evidence-based guidelines include recommendations intended to optimize patient care that are informed by a thorough review of evidence, an assessment of the benefits and harms, values and preferences of providers and patients, and resource use and feasibility.

While evidence-based research provides the basis for sound clinical practice guidelines and recommendations, it must be balanced by the realities and feasibility of providing care in diverse settings. The process for development of the SOC-8 incorporated the recommendations on clinical practice guideline development set forth by the National Academies of Medicine and the World Health Organization, which addressed transparency, conflict-of-interest policy, committee composition, and group process.

The SOC-8 guidelines committee was multidisciplinary and consisted of subject matter experts, health care professionals, researchers, and stakeholders with diverse perspectives and geographic representation. A guideline methodologist assisted with the planning and development of questions and systematic reviews with additional input provided by an international advisory committee and during the public comment period. All committee members completed conflict of interest declarations. Recommendations in the SOC-8 are based on available evidence supporting interventions, a discussion of risks and harms, as well as feasibility and acceptability within different contexts and country settings. Consensus on the final recommendations was attained using the Delphi process that included all members of the guidelines committee and required that recommendation statements were approved by at least 75% of members. A detailed overview of the SOC-8 Methodology is included in Appendix A.

SOC-8 Chapters Summary

The SOC-8 represents a significant advancement from previous versions. Changes in this version are based upon a fundamentally different methodology, significant cultural shifts, advances in clinical knowledge, and appreciation of the many health care issues that can arise for TGD people beyond hormone therapy and surgery.

These updated guidelines continue the process started with the SOC-7 in 2011 to broaden in scope and move from a narrow focus on psychological requirements for "diagnosing transgenderism" and medical treatments for alleviation of gender dysphoria to gender-affirming care for the whole person. WPATH SOC-8 expands guidelines specifying who is included under the TGD umbrella, what should and should not be offered with gender-affirming care, and the settings in which these guidelines should be applied to promote equity and human rights.

The SOC-8 has several new chapters such as the Assessment of Adults, Education, Eunuchs, and a Nonbinary chapter. In addition, the chapter for children and adolescents of the SOC-7 has been divided into two different chapters. Overall, the SOC-8 is considerably longer than previous versions and provides a more in-depth introduction and recommendations for health care professionals. A summary of every chapter of the SOC-8 can be found below:

Chapter 1—Terminology

This new chapter lays the framework for language used in the SOC-8 and offers consensually agreed upon recommendations for the use of terminology. The chapter provides (1) terms and definitions, and (2) best practices for utilizing them. This document is accompanied by a glossary (see Appendix B) of common terms and language to provide a framework for use and interpretation of the SOC-8.

Chapter 2—Global Applicability

This chapter references key literature related to development and delivery of health care services, broader advocacy care for TGD people from beyond Western Europe and North America and provides recommendations for adapting and translating the SOC-8 to varied contexts.

Chapter 3—Population Estimates

This chapter updates the population estimates of TGD people in society. Based on the current evidence, this proportion may range from a fraction of a percent to several percentage points depending on the inclusion criteria, age group, and geographic location.

Chapter 4—Education

This new chapter provides a general review of the literature related to education in TGD health care. It offers recommendations at governmental, nongovernmental, institutional and provider levels to increase access to competent, compassionate health care. The intent is to lay the groundwork in the education area and invite a much broader and deeper discussion among educators and health care professionals.

Chapter 5—Assessment of Adults

This new chapter provides guidance on the assessment of TGD adults who are requesting gender-affirming medical and surgical treatments (GAMSTs). It describes and updates the assessment process as part of a patient-centered approach and the criteria that health care professionals may follow in order to recommend GAMSTs to TGD adults.

Chapter 6—Adolescents

This new chapter is dedicated to TGD adolescents, is distinct from the child chapter, and has been created for this 8th edition of the Standards of Care given (1) the exponential growth in adolescent referral rates; (2) the increase in studies available specific to adolescent gender diversity-related care; and (3) the unique developmental and gender-affirming care issues of this age group. This chapter provides recommendations regarding the assessment process of adolescents requiring GAMSTs as well as recommendations when working with TGD youth and their families.

Chapter 7—Children

This new chapter pertains to prepubescent gender diverse children and focuses on developmentally appropriate psychosocial practices and therapeutic approaches.

Chapter 8—Nonbinary

This new chapter in the SOC-8 consists of a broad description of the term nonbinary and its usage from a biopsychosocial, cultural, and intersectional perspective. The need for access to gender-affirming care, specific gender-affirming medical interventions, as well as an appropriate level of support is discussed.

Chapter 9—Eunuchs

This new chapter describes the unique needs of eunuchs, and how the SOC can be applied to this population.

Chapter 10—Intersex

This chapter focuses on the clinical care of intersex individuals. It addresses the evolving terminology, prevalence, and diverse presentations of such individuals and provides recommendations for providing psychosocial and medical care with their evidence-based explanations.

Chapter 11—Institutional Environments

This chapter has been expanded to include both carceral and non-carceral settings and has been built upon the last 3 versions of the SOC. This chapter describes how the SOC-8 can be applied to individuals living in these settings.

Chapter 12—Hormone Therapy

This chapter describes the initiation of gender-affirming hormone therapy, the recommended regimens, screening for health concerns before and during hormone therapy, and specific considerations regarding hormone therapy prior to surgery. It includes an expanded discussion about the safety of gonadotropin releasing hormone (GnRH) agonists in youth, various hormone regimens, monitoring to include the development of potential therapy-related health concerns, and guidance on how hormone providers should collaborate with surgeons.

Chapter 13—Surgery and Postoperative Care

This chapter describes a spectrum of gender-affirming surgical procedures for the diverse and heterogeneous community of individuals who identify as TGD. It provides a discussion about the optimal surgical training in GAS procedures, post-surgical aftercare and follow-up, access to surgery by adults and adolescents, and individually customized surgeries.

Chapter 14—Voice and Communication

This chapter describes professional voice and communication support and interventions that are inclusive of and attentive to all aspects of diversity and no longer limited only to voice feminization and masculinization. Recommendations are now framed as affirming the roles and responsibilities of professionals involved in voice and communication support.

Chapter 15—Primary Care

This chapter discusses the importance of primary care for TGD individuals, including topics of cardiovascular and metabolic health, cancer screening, and primary care systems.

Chapter 16—Reproductive Health

This chapter provides recent data on fertility perspectives and parenthood goals in gender diverse youth and adults, advances in fertility preservation methods (including tissue cryopreservation), guidance regarding preconception and pregnancy care, prenatal counseling, and chest feeding. Contraceptive methods and considerations for TGD individuals are also reviewed.

Chapter 17—Sexual Health

This new chapter acknowledges the profound impact of sexual health on physical and psychological well-being for TGD people. The chapter advocates for sexual functioning, pleasure, and satisfaction to be included in TGD-related care.

Chapter 18—Mental Health

This chapter discusses principles of care for managing mental health conditions in TGD adults and the nexus of mental health care and transition care. Psychotherapy may be beneficial but should not be a requirement for gender-affirming treatment, and conversion treatment should not be offered.

CHAPTER 1 Terminology

This chapter will lay the framework for language used in the SOC-8. It offers recommendations for use of terminology. It provides (1) terms and definitions, and (2) best practices for utilizing them. This document is accompanied by a glossary of common terms and language to provide a framework for use and interpretation of the SOC-8. See Appendix B for glossary.

Terminology

In this document, we use the phrase transgender and gender diverse (TGD) to be as broad and comprehensive as possible in describing members of the many varied communities globally of people with gender identities or expressions that differ from the gender socially attributed to the sex assigned to them at birth. This includes people who have culturally specific and/or language-specific experiences, identities or expressions, and/or that are not based on or encompassed by Western conceptualizations of gender, or the language used to describe it. TGD is used for convenience as a shorthand for transgender and gender diverse.

The decision to use transgender and gender diverse resulted from an active process and was not without controversy. Discussions centered on avoiding over-emphasis on the term transgender, integrating nonbinary gender identities and experiences, recognizing global variations in understandings of gender, avoiding the term gender nonconforming, and recognizing the changing nature of language because what is current now may not be so in coming years. Thus, the term transgender and gender diverse was chosen with the intent to be most inclusive and to highlight the many diverse gender identities, expressions, experiences, and health care needs of TGD people. A Delphi process was used wherein SOC-8 chapter authors were anonymously and iteratively surveyed over several rounds to obtain consensus on terms. The SOC-8 presents standards of care that strive to be applicable to TGD people globally, no matter how a person self-identifies or expresses their gender.

Context

The language selected in this chapter may not be (nor ever could be) comprehensive of every culture and geographic region/locale. Differences and debates over appropriate terms and specific terminologies are common, and no single term can be used without controversy. The goal of this chapter is to be as inclusive as possible and offer a shared vocabulary that is respectful and reflective of varied experiences of TGD people while remaining accessible to health practitioners and providers, and the public, for the purposes of this document. Ultimately, access to transition-related health care should be based on providing adequate information and obtaining informed consent from the individual, and not on what words TGD people, or their service providers, use to describe their identities. Using language and terminology that is respectful and culturally responsive is a basic foundation in the provision of affirming care, as is reducing the stigma and harm experienced by many TGD people seeking health care. It is vital for service providers to discuss with service users what language is most comfortable for them and to use that language whenever possible.

This chapter explains why current terms are being used in preference to others. Rather than use specific terms for medical, legal, and advocacy groups, the aim is to foster a shared language and understanding in the field of TGD health, and the many related fields (e.g., epidemiology, law), in order to optimize the health of transgender and gender diverse people.

Sex, gender, gender identity, and gender expression are used in the English language as descriptors that can apply to all people—those who are TGD, and those who are not. There are complex reasons why very specific language may be the *most* respectful, *most* inclusive, or *most* accepted by global TGD communities, including the presence or absence of words to describe these concepts in languages other than English; the structural relationship between sex and gender; legal landscapes at the local, national, and international levels; and the consequences of historical and present-day stigma that TGD people face.

Statements of Recommendations

1.1- We recommend health care professionals use culturally relevant language (including terms to describe transgender and gender diverse people) when applying the Standards of Care in different global settings.
1.2- We recommend health care professionals use language in health care settings that uphold the principles of safety, dignity, and respect.
1.3- We recommend health care professionals discuss with transgender and gender diverse people what language or terminology they prefer.

Because at present, the field of TGD health is heavily dominated by the English language, there are two specific problems that constantly arise in setting the context for terminology. The first problem is that words exist in English that do not exist in other languages (e.g., "sex" and "gender" are only represented by one word in Urdu and many other languages). The second problem is that there are words that exist outside of English that do not have a direct translation into English (e.g., *travesti*, *fa'afafine*, *hijra*, *selrata*, *muxe*, *kathoey*, *transpinoy*, *waria*, *machi*). Practically, this means the heavy influence of English in this field impacts both what terms are widely used and which people or identities are most represented or validated by those terms. The words used also shape the narratives that contribute to beliefs and perceptions. While in past versions of the Standards of Care, World Professional Association for Transgender Health (WPATH) has used only transgender as a broadly defined umbrella term, version 8 broadens this language to use TGD as the umbrella term throughout the document (see Chapter 2—Global Applicability).

Furthermore, the ever-evolving nature of language is impacted by external factors and the social, structural, and personal pressures and violence enacted on TGD people and their bodies. Many of the terms and phrases used historically have been marred by how, when, and why they were used in discussing TGD people, and have thus fallen out of use or are hotly contested among TGD people, with some individuals preferring terms others find offensive. Some wish that these Standards of Care could provide a coherent set of universally accepted terms to describe TGD people, identities, and related health services. Such a list, however, does not and cannot exist without exclusion of some people and without reinforcing structural oppressions, with regards to race, national origin, Indigenous status, socioeconomic status, religion, language(s) spoken, and ethnicity, among other intersectionalities. It is very likely that at least some of the terminology used in SOC-8 will be outdated by the time version 9 is developed. Some people will be frustrated by this reality, but it is hoped it will be seen instead as an opportunity for individuals and communities to develop and refine their own lexicons and for people to develop a still more nuanced understanding of the lives and needs of TGD people, including TGD people's resilience and resistance to oppression.

Finally, law and the work of legal professionals are within the remit of these Standards of Care. As such, language used most widely in international law is included here to help with the development of the functional definitions of these terms and encourage their usage in legal contexts in lieu of more antiquated and/or offensive terms. The currently most thorough document in international human rights law uses the term "gender diverse."[1]

All the statements in this chapter have been recommended based on a thorough review of evidence, an assessment of the benefits and harms, values and preferences of providers and patients, and resource use and feasibility. In some cases, we recognize evidence is limited and/or services may not be accessible or desirable.

Statement 1.1

We recommend health care professionals use culturally relevant language (including terms to describe transgender and gender diverse people) when applying the Standards of Care in different global settings.

Culturally relevant language is used to describe TGD people in different global settings. For example, the concepts of sex, gender, and gender diversity differ across contexts, as does the language used to describe them. Thus, the language used when caring

for TGD people in Thailand is not going to be the same as that used for TGD care in Nigeria. When applying the Standards of Care globally, we recommend health care professionals (HCPs) utilize local language and terms to deliver care in their specific cultural and/or geographical locale.

Gender affirmation refers to the process of recognizing or affirming TGD people in their gender identity—whether socially, medically, legally, behaviorally, or some combination of these (Reisner, Poteat et al., 2016). Health care that is gender-affirming or trans-competent utilizes culturally specific language in caring for TGD people. Gender-affirming care is not synonymous with transition-related care. Provision of transition-related care, such as medical gender affirmation via hormones or surgery, does not alone ensure provision of gender-affirming care, nor does it indicate the quality or safety of the health care provided.

Consultation and partnerships with TGD communities can help to ensure relevancy and inclusivity of the language used in providing health care locally in a particular context and setting.

Statement 1.2

We recommend health care professionals use language in health care settings that upholds the principles of safety, dignity, and respect.

Safety, dignity, and respect are basic human rights (International Commission of Jurists, 2007). We recommend HCPs utilize language and terminology that uphold these human rights when providing care for TGD people. Many TGD people have experienced stigma, discrimination, and mistreatment in health care settings, resulting in suboptimal care and poor health outcomes (Reisner, Poteat et al., 2016; Safer et al., 2016; Winter, Settle et al., 2016). Such experiences include misgendering, being refused care or denied services when sick or injured and having to educate HCPs to be able to receive adequate care (James et al., 2016). Consequently, many TGD people feel unsafe accessing health care. They may avoid health care systems and seek other means of getting health-related needs met, such as taking hormones without a medical prescription or monitoring and relying on peers for medical advice. Furthermore, previous negative experiences in health care settings are associated with future avoidance of care among TGD people.

Many TGD people have been treated unjustly, with prejudice, and without dignity or respect by HCPs, and lack of trust is often a barrier to care. Using language grounded in the principles of safety, dignity, and respect in health care settings is paramount to ensure the health, well-being, and rights of TGD people globally. Language is a significant component of gender-affirming care, but language alone does not resolve or mitigate the systematic abuse and sometimes violence TGD people face globally in care settings. Language is but one important step toward patient/client-centered and equitable health care among TGD people. Other concrete actions HCPs can take include obtaining informed consent and refraining from making assumptions about a person's needs based on their gender or TGD status.

Statement 1.3

We recommend health care professionals discuss with transgender and gender diverse people what language or terminology they prefer.

In providing health care to TGD people, we recommend HCPs discuss with their patients what language or terminology they prefer be used when referring to them. This discussion includes asking TGD people how they would like to be addressed in terms of name and pronouns, how they self-identify their gender, and about the language that should be used to describe their body parts. Utilizing affirming language or terminology is a key component of TGD-affirming care (Lightfoot et al., 2021; Vermeir et al., 2018). Furthermore, these discussions and communications can serve to build rapport and reduce the mistrust many TGD people feel toward HCPs and experience within health care systems. Discussions and usage of language or terminology can also facilitate engagement and retention in care that is not specifically TGD-related, such as uptake of routine preventive screenings and any necessary medical follow-up of findings. In electronic health records, organ/anatomical inventories can be standardly used to inform appropriate clinical care, rather than relying solely on assigned sex at birth and/or gender identity designations.

HCPs and health care settings can implement standardized procedures to facilitate these conversations such as: using intake forms that include chosen pronouns and name, inviting

all staff (regardless of gender, i.e., cisgender, TGD) to use pronouns in introductions, having pronouns accompany names on a document for all patients, and not using gendered honorifics (e.g., Ms., Mr.). Policies for HCPs and health care settings can be put in place to ensure a TGD person's privacy and right to confidentiality, including when they disclose being a TGD person, and if/how to appropriately document. For example, a clinic policy may be to record this information as private and confidential between HCPs and patients/clients, and that it should only be disclosed on a "need to know" basis.

Note

1. A/73/152, Report of the Independent Expert on protection against violence and discrimination based on sexual orientation and gender identity

CHAPTER 2 Global Applicability

People who defy cultural boundaries of sex and gender have existed in cultures worldwide since ancient times, sometimes acknowledged in local language terms (Feinberg, 1996). In contrast to the more recent pathologization of gender diversity as an illness, some cultures traditionally celebrated and welcomed this diversity (e.g., Nanda, 2014; Peletz, 2009). Today, the English language umbrella term transgender and gender diverse (TGD) describes a huge variety of gender identities and expressions, and therefore a population with diverse health care experiences and needs. Together, TGD people represent important aspects of human diversity the World Professional Association for Transgender Health (WPATH) asserts should be valued and celebrated. TGD people continue to make vital contributions to the societies in which they live, although often these are unrecognized.

Disturbingly, many TGD people in the modern world experience stigma, prejudice, discrimination, harassment, abuse and violence, resulting in social, economic and legal marginalization, poor mental and physical health, and even death—a process that has been characterized as a stigma-sickness slope (Winter, Diamond et al., 2016). Experiences such as these (and the anticipation or fear of encountering such experiences) leads to what Meyer has described as minority stress (Meyer, 2003; see also Bockting et al., 2013 writing specifically about TGD people), and are associated with poor physical (e.g. Rich et al, 2020) and psychological (e.g., Bränström et al., 2022; Scandurra et al., 2017; Shipherd et al., 2019, Tan et al., 2021) health outcomes.

Violence against TGD people is a particular problem. Seen from a global perspective, it is widespread, diverse in nature (emotional, sexual and physical, e.g., see Mujugira et al., 2021), and involves a range of perpetrators (including State actors). Statistics on murder, the form of violence most extreme in its consequences, are alarming. Worldwide, there were over 4,000 documented killings between January 2008 and September 2021; a statistic widely regarded as flawed by under-reporting (TGEU, 2020).

Since the publication of the Standards of Care Version 7 (SOC-7), there have been dramatic changes in perspectives on TGD people and their health care. Mainstream global medicine no longer classifies TGD identities as a mental disorder. In the Diagnostic and Statistical Manual Version 5 (DSM-5) from the American Psychiatric Association (APA, 2013), the diagnosis of *Gender Dysphoria* focuses on any distress and discomfort that accompanies being TGD, rather than on the gender identity itself. A text revision (DSM-5-TR) was published in 2022. In the International Classification of Diseases, Version 11 (ICD-11), the diagnostic manual of the World Health Organization (WHO, 2019b), the *Gender Incongruence* diagnosis is placed in a chapter on sexual health and focuses on the person's experienced identity and any need for gender-affirming treatment that might stem from that identity. Such developments, involving a depathologization (or more precisely a de-psychopathologization) of transgender identities, are fundamentally important on a number of grounds. In the field of health care, they may have helped support a care model that emphasizes patients' active participation in decision-making about their own health care, supported by primary health care professionals (HCPs) (Baleige et al., 2021). It is reasonable to suppose these developments may also promote more socially inclusive policies such as legislative reform regarding gender recognition that facilitates a rights-based approach, without imposing requirements for diagnosis, hormone therapy and/or surgery. TGD people who have changed gender markers on key documents enjoy better mental health (e.g., Bauer et al., 2015; Scheim et al., 2020). A more rights-based approach in this area may contribute greatly to the overall health and well-being of TGD people (Arístegui et al., 2017).

Previous editions of the SOC have revealed much of the recorded clinical experience and knowledge in this area is derived from North American and Western European sources. They have focused on gender-affirming health care in high income countries that enjoy relatively well-resourced health care systems (including those with trained mental health providers, endocrinologists, surgeons and other specialists) and where services are often funded publicly or (at least for some patients) through private insurance.

For many countries, health care provision for TGD people is aspirational; with resourcing in this area limited or non-existent, and services often unavailable, inappropriate, difficult to access and/or unaffordable. Few if any HCPs (primary or specialist) may exist. Funding for gender-affirming health care may be absent, with patients often bearing the full costs of whatever health care they access. Health care providers often lack clinical and/or cultural competence in this area. Training for work with these patients may be limited (e.g., Martins et al., 2020). For all these reasons and because of mainstream "Western" medicine's historical view of TGD people as mentally disordered (a perspective that has only recently changed), TGD people have commonly found themselves disempowered as health care consumers.

Health care providers have found the relevant literature is largely North American and European, which present particular challenges for persons working in health care systems that are especially poorly resourced. Recent initiatives that often involve TGD stakeholders as partners are changing this situation somewhat by providing a body of knowledge about good practice in other regions, including how to provide effective, culturally-competent TGD health care in low- and middle-income countries outside the global north.

Within the field, a wide range of valuable health care resources have been developed in recent years. Dahlen et al (2021) review twelve international clinical practice guidelines; over half those reviewed originate from professional bodies based in North America (e.g., Hembree et al., 2017) or Europe (e.g., T'Sjoen et al., 2020). Three are from WHO (the most recent being WHO, 2016). Nowadays, there are numerous other resources, not on Dahlen et al.'s list, that explicitly draw on expertise from regions outside North America and Europe. Examples can be found in Asia and the Pacific (APTN, 2022; Health Policy Project et al., 2015), the Caribbean (PAHO, 2014), Thailand, Australia (Telfer et al., 2020), Aotearoa New Zealand (Oliphant et al., 2018), and South Africa (Tomson et al., 2021) (see also TRANSIT (UNDP et al., 2016)). These resources have commonly been created through the initiatives of or in partnership with TGD communities locally or internationally. This partnership approach, focused on meeting local needs in culturally safe and competent ways, can also have broad international relevance. Some of these publications may be of particular value to those planning, organizing and delivering services in low-income, low-resource countries. There are likely to be other resources published in languages other than English of which we are unaware.

Globally, TGD identities may be associated with differing conceptual frameworks of sex, gender, and sexuality and exist in widely diverse cultural (and sometimes spiritual) contexts and histories. Considering the complex relationships between social and cultural factors, the law, and the demand for and provisions of gender-affirming health care, the SOC-8 should be interpreted through a lens that is appropriate for and within the context of each HCP's individual practice while maintaining alignment to the core principles that underscore it (APTN and UNDP, 2012; Health Policy Project et al., 2015; PAHO, 2014).

It is within this context and by drawing broadly on the experiences of TGD people and health care providers internationally that we consider the global applicability of SOC-8 within this chapter. We set out key considerations for HCPs and conclude by recommending core principles and practices fundamental to contemporary health care for TGD people, regardless of where they live or whether there are resources available to those who seek to provide such health care.

Statement 2.1

We recommend health care systems should provide medically necessary gender-affirming health care for transgender and gender diverse people.

Medical necessity is a term common to health care coverage and insurance policies globally. A common definition of medical necessity as used by insurers or insurance companies is "Health care services that a physician and/or health care professional, exercising prudent clinical judgment, would provide to a patient for the purpose of preventing, evaluating, diagnosing or treating an illness, injury, disease or its symptoms, and that are: (a) in accordance with generally accepted standards of medical practice; (b) clinically

Statements of Recommendations

2.1- We recommend health care systems should provide medically necessary gender-affirming health care for transgender and gender diverse people.
2.2- We recommend health care professionals and other users of the Standards of Care, Version 8 (SOC-8) apply the recommendations in ways that meet the needs of local transgender and gender diverse communities, by providing culturally sensitive care that recognizes the realities of the countries they are practicing in.
2.3- We recommend health care providers understand the impact of social attitudes, laws, economic circumstances, and health systems on the lived experiences of transgender and gender diverse people worldwide.
2.4- We recommend translations of the SOC focus on cross-cultural, conceptual, and literal equivalence to ensure alignment with the core principles that underpin the SOC-8.
2.5- We recommend health care professionals and policymakers always apply the SOC-8 core principles to their work with transgender and gender diverse people to ensure respect for human rights and access to appropriate and competent health care, including:

General principles
- Be empowering and inclusive. Work to reduce stigma and facilitate access to appropriate health care for all who seek it;
- Respect diversity. Respect all clients and all gender identities. Do not pathologize differences in gender identity or expression;
- Respect universal human rights including the right to bodily and mental integrity, autonomy and self-determination; freedom from discrimination, and the right to the highest attainable standard of health.

Principles around developing and implementing appropriate services and accessible health care
- Involve transgender and gender diverse people in the development and implementation of services;
- Become aware of social, cultural, economic, and legal factors that might impact the health (and health care needs) of transgender and gender diverse people, as well as the willingness and the capacity of the person to access services;
- Provide health care (or refer to knowledgeable colleagues) that affirms gender identities and expressions, including health care that reduces the distress associated with gender dysphoria (if this is present);
- Reject approaches that have the goal or effect of conversion and avoid providing any direct or indirect support for such approaches or services.

Principles around delivering competent services
- Become knowledgeable (get training, where possible) about the health care needs of transgender and gender diverse people, including the benefits and risks of gender-affirming care;
- Match the treatment approach to the specific needs of clients, particularly their goals for gender identity and expression;
- Focus on promoting health and well-being rather than solely the reduction of gender dysphoria, which may or may not be present;
- Commit to harm reduction approaches where appropriate;
- Enable the full and ongoing informed participation of transgender and gender diverse people in decisions about their health and well-being;
- Improve experiences of health services including those related to administrative systems and continuity of care.

Principles around working towards improved health through wider community approaches
- Put people in touch with communities and peer support networks;
- Support and advocate for clients within their families and communities (schools, workplaces, and other settings) where appropriate.

appropriate, in terms of type, frequency, extent, site and duration, and considered effective for the patient's illness, injury, or disease; and (c) not primarily for the convenience of the patient, physician, or other health care provider, and not more costly than an alternative service or sequence of services at least as likely to produce equivalent therapeutic or diagnostic results as to the diagnosis or treatment of that patient's illness, injury or disease." The treating HCP asserts and documents that a proposed treatment is medically necessary for treatment of the condition (American Medical Association, 2016).

Generally, "accepted standards of medical practice" means standards that are based on credible scientific evidence published in peer-reviewed medical literature generally recognized by the relevant medical community, designated Medical Specialty Societies and/or legitimate Medical Colleges' recommendations, and the views of physicians and/or HCPs practicing in relevant clinical areas.

Medical necessity is central to payment, subsidy, and/or reimbursement for health care in parts of the world. The treating HCP may assert and document that a given treatment is medically necessary for the prevention or treatment of the condition. If health policies and practices challenge the medical necessity of a treatment, there may be an opportunity to appeal to a governmental agency or other entity for an independent medical review.

It should be recognized gender diversity is common to all human beings and is not pathological. However, gender incongruence that causes clinically significant distress and impairment often requires medically necessary clinical

interventions. In many countries, medically necessary gender-affirming care is documented by the treating health professional as treatment for Gender Incongruence (HA60 in ICD-11; WHO, 2019b) and/or as treatment for Gender Dysphoria (F64.0 in DSM-5-TR; APA, 2022).

There is strong evidence demonstrating the benefits in quality of life and well-being of gender-affirming treatments, including endocrine and surgical procedures, properly indicated and performed as outlined by the Standards of Care (Version 8), in TGD people in need of these treatments (e.g., Ainsworth & Spiegel, 2010; Aires et al., 2020; Aldridge et al., 2020; Almazan & Keuroghlian, 2021; Al-Tamimi et al., 2019; Balakrishnan et al., 2020; Baker et al., 2021; Buncamper et al., 2016; Cardoso da Silva et al., 2016; Eftekhar Ardebili, 2020; Javier et al., 2022; Lindqvist et al., 2017; Mullins et al., 2021; Nobili et al., 2018; Owen-Smith et al., 2018; Özkan et al., 2018; T'Sjoen et al., 2019; van de Grift, Elaut et al., 2018; White Hughto & Reisner, Poteat et al., 2016; Wierckx, van Caenegem et al., 2014; Yang, Zhao et al., 2016). Gender-affirming interventions may also include hair removal/transplant procedures, voice therapy/surgery, counseling, and other medical procedures required to effectively affirm an individual's gender identity and reduce gender incongruence and dysphoria. Additionally, legal name and sex or gender change on identity documents can also be beneficial and, in some jurisdictions, are contingent on medical documentation that patients may call on practitioners to produce.

Gender-affirming interventions are based on decades of clinical experience and research; therefore, they are not considered experimental, cosmetic, or for the mere convenience of a patient. They are safe and effective at reducing gender incongruence and gender dysphoria (e.g., Aires et al., 2020; Aldridge et al., 2020; Al-Tamimi et al., 2019; Balakrishnan et al., 2020; Baker et al., 2021; Bertrand et al., 2017; Buncamper et al., 2016; Claes et al., 2018; Eftekhar Ardebili, 2020; Esmonde et al., 2019; Javier et al., 2022; Lindqvist et al., 2017; Lo Russo et al., 2017; Marinkovic & Newfield, 2017; Mullins et al., 2021; Nobili et al., 2018; Olson-Kennedy, Rosenthal et al., 2018; Özkan et al., 2018; Poudrier et al., 2019; T'Sjoen et al., 2019; van de Grift, Elaut et al., 2018; White Hughto & Reisner, Poteat et al., 2016; Wierckx, van Caenegem et al., 2014; Wolter et al., 2015; Wolter et al., 2018).

Consequently, WPATH urges health care systems to provide these medically necessary treatments and eliminate any exclusions from their policy documents and medical guidelines that preclude coverage for any medically necessary procedures or treatments for the health and well-being of TGD individuals. In other words, governments should ensure health care services for TGD people are established, extended or enhanced (as appropriate) as elements in any Universal Health Care, public health, government-subsidized systems, or government-regulated private systems that may exist. Health care systems should ensure ongoing health care, both routine and specialized, is readily accessible and affordable to all citizens on an equitable basis.

Medically necessary gender-affirming interventions are discussed in SOC-8. These include but are not limited to hysterectomy +/- bilateral salpingo-oophorectomy; bilateral mastectomy, chest reconstruction or feminizing mammoplasty, nipple resizing or placement of breast prostheses; genital reconstruction, for example, phalloplasty and metoidioplasty, scrotoplasty, and penile and testicular prostheses, penectomy, orchiectomy, vaginoplasty, and vulvoplasty; hair removal from the face, body, and genital areas for gender affirmation or as part of a preoperative preparation process; gender-affirming facial surgery and body contouring; voice therapy and/or surgery; as well as puberty blocking medication and gender-affirming hormones; counseling or psychotherapeutic treatment as appropriate for the patient and based on a review of the patient's individual circumstances and needs.

Statement 2.2

We recommend health care professionals and other users of the Standards of Care, Version 8 (SOC-8) apply the recommendations in ways that meet the needs of local transgender and gender diverse communities, by providing culturally sensitive care that recognizes the realities of the countries they are practicing in.

TGD people identify in many different ways worldwide, and those identities exist within a cultural context. In English speaking countries, TGD people variously identify as *transsexual,*

trans, gender nonconforming, gender queer or diverse, nonbinary, or indeed *transgender and/or gender diverse,* as well as by other identities; including (for many identifying inside the gender binary) *male* or *female.* (e.g., James et al., 2016; Strauss et al., 2017; Veale et al., 2019).

Elsewhere, identities include but are not limited to *travesti* (across much of Latin America), *hijra* (across much of South Asia), *khwaja sira* (in Pakistan), *achout* (in Myanmar), *maknyah, paknyah* (in Malaysia), *waria* (Indonesia) *kathoey, phuying kham phet, sao praphet song* (Thailand), *bakla, transpinay, transpinoy* (Philippines), *fa'afafine* (Samoa), *mahu* (French Polynesia, Hawai'i), *leiti* (Tonga), *fakafifine* (Niue), *pinapinaaine* (Tuvalu and Kiribati), *vakasalewalewa* (Fiji), *palopa* (Papua Niugini), *brotherboys* and *sistergirls* (Aboriginal and Torres Strait Islander people in Australia), and *akava'ine* (Cook Islands) (e.g., APTN and UNDP, 2012; Health Policy Project et al., 2015; Kerry, 2014). There are also a large number of *two spirit* identities across North America (e.g., *nadleehi* in Navajo (Diné) culture) (Sheppard & Mayo, 2013). The identities to which each of these terms refer are often culturally complex and may exist in a spiritual or religious context. Depending on the cultures and the identities concerned, some may be regarded as so-called "third genders" lying beyond the gender binary (e.g., Graham, 2010; Nanda, 2014; Peletz, 2009). Some TGD identities are less firmly established than others. In many places worldwide, the visibility of transgender men and nonbinary trans masculine identities is relatively recent, with few or no applicable traditional terms in local languages (Health Policy Project et al., 2015). Regardless of where or with whom HCPs work (including those working with ethnic minority persons, migrants and refugees), they need to be aware of the cultural context in which people have grown up and live as well as the consequences for health care.

Worldwide the availability, accessibility, acceptability and quality of health care vary greatly, with resulting inequities within and across countries (OECD, 2019). In some countries, formal health care systems exist alongside established traditional and folk health care systems, with indigenous models of health underpinning the importance of holistic health care (WHO, 2019a). HCPs should be aware of the traditions and realities within which health care is available and provide support that is sensitive to the local needs and identities of TGD people and provide them with culturally competent and safe care.

Statement 2.3

We recommend health care providers understand the impact of social attitudes, laws, economic circumstances, and health systems on the lived experiences of transgender and gender diverse people worldwide.

TGD people's lived experiences vary greatly, depending on a range of factors, including social, cultural (including spiritual), legal, economic and geographic. When TGD people live in environments that affirm their gender and/or cultural identities, then these experiences can be very positive. Families are particularly important in this regard (e.g., Pariseau et al., 2019; Yadegarfard et al., 2014; Zhou et al., 2021). However, when viewed from a global perspective, the circumstances in which TGD people live are often challenging. They are commonly denied widely accepted rights in international human rights law. These include rights to education, health and protection from medical abuses, work and an adequate standard of living, housing, freedom of movement and expression, privacy, security, life, family, freedom from arbitrary deprivation of liberty, fair trial, treatment with humanity while in detention, and freedom from torture, inhuman or degrading treatment or punishment (International Commission of Jurists, 2007, 2017).

It is widely accepted that denial of rights can impact sexual and gender minority health and well-being (e.g., OHCHR et al., 2016; WHO, 2015). We therefore reaffirm here the importance of the rights listed above for TGD people and note WPATH's previous rights advocacy, including through numerous policy documents (e.g., WPATH, 2016, 2017, 2019). HCPs can play an important role in rights advocacy, including the right to quality gender-affirming health care that is appropriate, affordable, and accessible.

Across the world, a large number of studies detail the challenges TGD people face in their lives, and the impact on their health and well-being (e.g., Aurat Foundation, 2016;