**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. 1:26-cv-803

**PLAINTIFFS' EXPEDITED MOTION FOR PRELIMINARY INJUNCTION**

Pursuant to Fed. R. Civ. P. 65(a), Plaintiffs Gina Goe, individually and as parent and next friend of Grace Goe; Karla Koe, individually and as parent and next friend of Kylie Koe; Laura Loe, individually and as parent and next friend of Logan Loe; and Melissa Moe, individually and as parent and next friend of Maya Moe (collectively, "Plaintiffs") hereby move the Court for a preliminary injunction enjoining Defendants U.S. Department of Health and Human Services ("HHS"); Robert F. Kennedy, Jr., in his official capacity as Secretary of HHS; the Centers for Medicare & Medicaid Services ("CMS"); and Mehmet Oz, in his official capacity as Administrator of CMS (collectively, "Defendants"), any subagencies of HHS, their officers, agents, successors, servants, employees, and attorneys, and any other persons who are in active concert or participation with them, from implementing, enforcing, or applying the Final Rule titled *Prohibition on Federal*

*Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children*, 91 Fed. Reg. 52,406–52,474 (Aug. 13, 2026) (to be codified at 42 C.F.R. §§ 441.800–441.802 and 42 C.F.R. § 457.476), prohibiting Federal Financial Participation ("FFP") for evidence-based treatments for gender dysphoria—including puberty-suppressing medications and hormone therapy—as to Plaintiffs. Plaintiffs seek this injunction of the Rule insofar as it prohibits FFP for puberty-suppressing medications and hormone therapy; they do not challenge in this motion the Rule's separate prohibition on FFP for surgical procedures, which no Plaintiff is seeking.

As Plaintiffs discuss in greater detail in the Memorandum in Support of Plaintiffs' Expedited Motion for Preliminary Injunction, the Rule exceeds CMS's statutory authority, conflicts with the Medicaid Act's Early and Periodic Screening, Diagnostic and Treatment and comparability requirements, and is arbitrary and capricious.

The grounds for this motion are set forth in the attached memorandum of law and accompanying exhibits.

Because the Rule takes effect on **October 13, 2026,** Plaintiffs respectfully request expedited briefing and a hearing on this motion at the Court's earliest convenience. If this Court is unable to issue a preliminary injunction decision by October 13, 2026, Plaintiffs respectfully request that this Court issue a temporary restraining order enjoining enforcement of the Rule as to Plaintiffs while Plaintiffs' Motion for Preliminary Injunction remains pending.

Because this memorandum exceeds the fifteen-page limit of LR 7.1(a)(3), Plaintiffs are contemporaneously filing an assented-to motion for leave to file excess pages.

Dated: October 1, 2026

Respectfully submitted,

*/s/ Chris Erchull*
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**CERTIFICATE OF SERVICE**

I hereby certify that this motion, the attached memorandum of law, attached exhibits, and proposed order will be served concurrently with the service of the Summonses and Complaint in this matter upon the following defendants and, as required by Fed. R. Civ. P. 4(i)(1), upon the United States Attorney for the District of New Hampshire and the Attorney General of the United States, by certified mail, return receipt requested. To facilitate expedited consideration, courtesy copies will also be transmitted by electronic mail to the Civil Division of the United States Attorney's Office for the District of New Hampshire and the Federal Programs Branch of the Department of Justice.

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**UNITED STATES DISTRICT COURT**
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GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

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*Defendants.*

Civil Action No.1:26-cv-803

**MEMORANDUM IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR PRELIMINARY INJUNCTION**

## TABLE OF CONTENTS

INTRODUCTION ..... 1
A. Medical Guidelines for Treating Minors with Gender Dysphoria ..... 3
B. The Trump Administration's Campaign Against Transgender Health Care and the Historical Background of the Rule ..... 4
C. The Rulemaking ..... 9
D. The Rule's Scope and Operation ..... 10
E. The Impact of the Rule on Children With Gender Dysphoria and the Harm to Plaintiffs 12
1. Grace Goe ..... 13
2. Kylie Koe ..... 15
3. Logan Loe ..... 18
4. Maya Moe ..... 20
LEGAL STANDARD ..... 21
ARGUMENT ..... 22
I. Plaintiffs Have a Strong Likelihood of Success on the Merits of Their Claims ..... 22
A. The Rule Violates the Administrative Procedure Act ..... 22
1. The Rule is a Final Agency Action Subject to APA Review. ..... 22
2. The Rule Violates the APA Because it Exceeds CMS's Statutory Authority and Conflicts with Statutory Requirements ..... 23
a. The Rule Violates the APA Because it Exceeds CMS's Statutory Authority. ..... 24
b. The Rule conflicts with the Medicaid Act's EPSDT Mandate. ..... 27
c. The Rule Violates the Medicaid Act's Comparability Requirement, as CMS Itself Has Long Construed It. ..... 30
3. The Rule Violates the APA Because it is Arbitrary and Capricious. ..... 34
a. CMS Failed to Consider the Reliance Interests of Adolescents Currently in Treatment or the Obvious Alternative of Protecting Them. ..... 35
b. CMS Failed to Reasonably Engage with Comments on the Proposed Rule ..... 37
c. CMS Offered No Reasoned Explanation for Abandoning Its Longstanding Practice of Deferring to Individualized Medical Necessity Determinations. ..... 40
d. The Rule's Safety Rationale Is Contradicted by Its Own Exceptions. ..... 40
II. The Rule Will Cause Irreparable Harm. ..... 42
III. The Public Interest Overwhelmingly Favors Relief. ..... 44
CONCLUSION ..... 45

## TABLE OF AUTHORITIES

**Page(s)**

**Cases**

*Allied Local & Reg'l Mfrs. Caucus v. EPA*,
215 F.3d 61 (D.C. Cir. 2000) ..... 39

*Beal v. Doe*,
432 U.S. 438 (1977) ..... 29

*Bennett v. Spear*,
520 U.S. 154 (1997) ..... 23

*Bowen v. Georgetown Univ. Hosp.*,
488 U.S. 204 (1988) ..... 26

*Braintree Lab'ys, Inc. v. Citigroup Glob. Mkts. Inc.*,
622 F.3d 36 (1st Cir. 2010) ..... 45

*Brito v. Garland*,
22 F.4th 240 (1st Cir. 2021) ..... 25

*City of Providence v. Barr*,
954 F.3d 23 (1st Cir. 2020) ..... 25

*Coe v. Hooker*,
406 F. Supp. 1072 (D.N.H. 1976) ..... 31

*Dep't of Com. v. New York*,
588 U.S. 752 (2019) ..... 22, 41

*DHS v. Regents of Univ. of Cal.*,
591 U.S. 1 (2020) ..... 35, 36

*S.D. ex rel. Dickson v. Hood*,
391 F.3d 581 (5th Cir. 2004) ..... 27, 28, 30

*Ellis v. Patterson*,
859 F.2d 52 (8th Cir. 1988) ..... 34

*Encino Motorcars, LLC v. Navarro*,
579 U.S. 211 (2016) ..... 31, 35

*FCC v. Fox Television Stations*,
556 U.S. 556 U.S. 502, 515 (2009) ..... 35, 40, 41

*Fideicomiso De La Tierra Del Cano Martin Pena v. Fortuno*,
582 F.3d 131 (1st Cir. 2009) ..... 73

*Fitzmorris v. Weaver*,
2024 WL 231883 (D.N.H. Jan. 22, 2024) ..... 22

*Goldstein v. Batista Contracting LLC*,
671 F. Supp. 3d 68 (D. Mass. 2023) ..... 3

*Gomes v. Hyde*,
804 F. Supp. 265 (D. Mass. 2025) ..... 28

*Harris v. McRae*,
448 U.S. 297 (1980) ..... 29

*Henderson v. Bodine Aluminum*,
70 F.3d 958 (8th Cir. 1995) ..... 42

*Home Box Off., Inc. v. F.C.C.*,
567 F.2d 9 (D.C. Cir. 1977) ..... 39

*Illinois et al. v. U.S. Dep't Health & Hum. Servs.*,
No. 1:26-cv-14051 (D. Mass Sept. 2, 2026) ..... 12

*Rosie D. ex rel. John D. v. Romney*,
410 F. Supp. 2d 18 (D. Mass. 2006) ..... 27, 28

*Justiniano v. Social Sec. Admin.*,
876 F.3d 14 (1st Cir. 2017) ..... 43

*Lanier v. City of Boston*,
95 F. Supp. 2d 17 (D. Mass. 2000) ..... 45

*Loper Bright Enters. v. Raimondo*,
603 U.S. 369 (2024) ..... 24

*Katie A. ex rel. Ludin v. L.A. Cnty.*,
481 F.3d 1150 (9th Cir. 2007) ..... 27

*Massachusetts Ass'n of Older Americans v. Sharp*,
700 F.2d 749 (1st Cir. 1983) ..... 31, 42

*Massachusetts v. Oz*,
2026 WL 2192092 (D. Mass. July 29, 2026) ..... 12

*Moore ex rel. Moore v. Reese*,
637 F.3d 1220 (11th Cir. 2011) ..... 29

*Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*,
463 U.S. 29 (1983).....35, 36, 37, 41

*Nat'l Parks Conservation Ass'n v. U.S. Dep't of Interior*,
180 F.4th 348 (1st Cir. 2026).....42

*Neighborhood Ass'n of the Back Bay, Inc. v. Fed. Transit Admin.*,
407 F. Supp. 2d 323 (D. Mass. 2005).....44

*Nken v. Holder*,
556 U.S. (2009).....22, 35, 41

*Norsworthy v. Beard*,
87 F. Supp. 3d 1164 (N.D. Cal. 2015).....42

*Nw. Bypass Grp. v. U.S. Army Corps of Eng'rs*,
552 F. Supp. 2d 97 (D.N.H. 2008).....37

*Ohio v. EPA*,
603 U.S. 279 (2024).....37

*Oregon v. Kennedy*,
831 F. Supp. 3d 1048 (D. Or. 2026).....8, 9

*Parham v. J.R.*,
442 U.S. 584 (1979).....44

*Pediatric Specialty Care, Inc. v. Ark. Dep't of Human Servs.*,
293 F.3d 472 (8th Cir. 2002).....27

*PFLAG, Inc. v. Trump*,
769 F.Supp. 3d 405 (D. Md. 2025).....5

*RENEW Ne. v. United States Dep't of Interior*,
2026 WL 1078282 (D. Mass. Apr. 21, 2026).....13

*Rio Grande Cmty. Health Ctr., Inc. v. Rullan*,
397 F.3d 56 (1st Cir. 2005).....42

*Russello v. United States*,
464 U.S. 16 (1983).....25

*Schweiker v. Gray Panthers*,
453 U.S. 34 (1981).....31

*Sindicato Puertorriqueño de Trabajadores v. Fortuño*,
699 F.3d 1 (1st Cir. 2012).....21

*Trafalgar Cap. Assocs., Inc. v. Cuomo*,
159 F.3d 21 (1st Cir. 1998).....23

*Troxel v. Granville*,
530 U.S. 57 (2000).....44

*TRW Inc. v. Andrews*,
534 U.S. 19 (2001).....28

*United States v. Larionoff*,
431 U.S. 864 (1977).....26

*United States v. Skrmetti*,
605 U.S. 495 (2025).....33

*United Steelworkers v. Textron, Inc.*,
836 F.2d 6 (1st Cir. 1987).....43

*Utility Air Regulatory Group v. EPA*,
573 U.S. 302 (2014).....26

*Washington v. Reno*,
35 F.3d 1093 (6th Cir. 1994).....44

*Weaver v. Reagen*,
886 F.2d 194 (8th Cir. 1989).....33

*White v. Beal*,
555 F.2d 1146 (3d Cir. 1977).....33

**Statutes**

5 U.S.C. § 553.....37

5 U.S.C. § 704.....22

5 U.S.C. § 706(2)(A).....34, 37

5 U.S.C. § 706(2)(C).....23

42 U.S.C. § 1302(a).....26

42 U.S.C. §§ 1396 *et seq.*.....24

42 U.S.C. § 1396a(a)(10)(B)(i).....25, 26, 30, 31

42 U.S.C. § 1396b.....25, 27, 29

42 U.S.C. § 1396d(r)(5).....22, 23, 27, 28

42 U.S.C. § 1397aa .....22, 26

N.H. Admin. Code § He-W 530(e) .....32

N.H. Admin. Code § He-W 546 .....32

Pub. L. No. 97-12 § 402.....24

Pub. L. No. 98-619 § 204.....24

RSA 332-N:2, III .....12, 22, 32

**Executive Orders**

Executive Order 14168, .....5

Executive Order 14187 .....5, 6, 41

**Other Authorities**

42 C.F.R. Part 441.....24

42 C.F.R. § 440.230 .....31, 32, 33, 34

90 Fed. Reg. 8,771 .....5, 41

90 Fed. Reg. 54,696–699 (Nov. 28, 2025).....12

90 Fed. Reg. 59,441-478 (Dec. 19, 2025).....9

91 Fed. Reg. 52,406-74..... Passim

## INTRODUCTION

This case challenges an unprecedented federal funding ban that singles out medically necessary treatment for gender dysphoria in transgender adolescents. On August 13, 2026, the Centers for Medicare and Medicaid Services ("CMS") published a final rule titled, "*Prohibition on Federal Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children*," 91 Fed. Reg. 52,406 (Aug. 13, 2026) (to be codified at 42 C.F.R. §§ 441.800–441.802 and 42 C.F.R. § 457.476) (the "Rule"). The Rule categorically prohibits Federal Financial Participation ("FFP") for evidence-based treatments—including puberty-suppressing medications and hormone therapy—when prescribed to treat gender dysphoria in transgender Medicaid beneficiaries under age 18 and the Children's Health Insurance Program ("CHIP") beneficiaries under age 19. It preserves funding for the same treatments when prescribed for other conditions. *Id.* at 52,473–74.[1] Unless enjoined before its October 13, 2026 effective date, the Rule will cause irreparable harm by disrupting ongoing treatment and forcing these families to choose between essential care they cannot afford and watching their children lose access to it and suffer serious harm as a result.

The Rule did not emerge from neutral medical or fiscal policymaking. Rather, it arises from a documented Administration campaign to suppress transgender health care; it replaces the individualized medical judgments of patients, parents, and treating providers with a categorical federal funding ban. *See*, *e.g.*, *id*. ¶¶ 33, 71. That history bears directly on whether the Rule reflects the reasoned, evidence-based decision-making the Administrative Procedure Act ("APA") requires.

[1] The Rule also prohibits FFP for surgical interventions when performed to treat gender dysphoria. 91 Fed. Reg. at 52,474. No Adolescent Plaintiff is seeking or receiving surgical treatment, and Plaintiffs do not challenge that aspect of the Rule in this motion. Plaintiffs accordingly ask the Court to enjoin the Rule as to Plaintiffs insofar as it prohibits FFP for puberty-suppressing medications and hormone therapy.

The Rule is unlawful for multiple independent reasons. CMS lacked statutory authority to create a nationwide service-specific funding exclusion that Congress did not enact—an exclusion that Congress, which has enumerated the circumstances in which federal Medicaid funding is unavailable, has repeatedly declined to adopt. The Rule also cannot be reconciled with the Medicaid Act's Early and Periodic Screening, Diagnostic, and Treatment ("EPSDT") mandate, which requires coverage of all medically necessary care for children, or with the Act's comparability requirement, which—as CMS itself has long construed it—forbids denying covered services to eligible children solely because of their diagnosis. On top of ignoring these congressional mandates, CMS also disregarded substantial evidence supporting the targeted care, abandoned its longstanding reliance on individualized medical necessity determinations without adequate explanation, and ignored the serious reliance interests of patients and families, rendering the Rule arbitrary and capricious. The Rule ultimately substitutes a predetermined policy outcome for statutory limits, record evidence, and individualized clinical judgment.

The threatened harm is imminent and irreparable. The Rule stops medically necessary treatment and therefore risks serious physical and psychological injury, intrudes on parents' ability to direct their children's medical care, and imposes costs these families cannot bear. A preliminary injunction would preserve the existing treatment and coverage status of these Plaintiffs while the Court reviews the Rule's legality. Plaintiffs therefore request an order barring Defendants from applying the Rule's pharmaceutical provisions to the named Adolescent Plaintiffs' Medicaid-covered care pending final judgment.

If this Court is unable to issue a preliminary injunction decision by October 13, 2026, Plaintiffs respectfully request that this Court issue a temporary restraining order enjoining enforcement of the Rule as to Plaintiffs while Plaintiffs' Motion for Preliminary Injunction remains

pending. *See Fideicomiso De La Tierra Del Cano Martin Pena v. Fortuno*, 582 F.3d 131, 133 (1st Cir. 2009) ("Preliminary injunctions and TROs are often requested together."); *Goldstein v. Batista Contracting LLC*, 671 F. Supp. 3d 68, 72 (D. Mass. 2023) ("The Court applies the same standard in assessing requests for temporary restraining orders and preliminary injunctions.").

## STATEMENT OF FACTS

### A. Medical Guidelines for Treating Minors with Gender Dysphoria

The available research overwhelmingly shows that when prescribed to adolescents based on an individualized assessment and in accordance with applicable standards of care, transgender medical care reduces depression, anxiety, suicidality, and self-harm and improves psychosocial functioning and overall well-being. Declaration of Kate Millington, M.D. ("Millington Decl.") ¶¶ 43, 44, 54. Denying access to this care leads to negative health outcomes for transgender patients with gender dysphoria. *Id.* ¶ 25. By prohibiting FFP for evidence-based treatment of gender dysphoria, the Rule will deprive transgender youth nationwide of critical, often lifesaving health care.

Gender dysphoria is a sustained and significant difference between one's experienced gender and that identified at birth. Millington Decl. at ¶ 18. Compl. at ¶ 26. The condition is recognized in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision*. Millington Decl. at ¶ 18; Compl. at ¶ 26. Without treatment, gender dysphoria can lead to serious consequences, including increased rates of depression, anxiety, self-harm, and suicidality. Millington Decl. at ¶¶ 25, 43; Compl. at ¶ 27.

By one estimate, there are about 130,000 young transgender Medicaid or CHIP beneficiaries who live in states without laws restricting their access to care.[2] These beneficiaries

[2] *See* Lindsey Dawson, *New Regulation Prohibits Federal Medicaid Funds from Covering Gender-Affirming Medical Care for Young People*, Kaiser Family Found. (Aug. 13, 2026), https://tinyurl.com/2myff39k.

seek treatment from providers who follow evidence-based medical guidelines to treat adolescents with gender dysphoria. For decades, physicians have relied on clinical practice guidelines grounded in peer-reviewed scientific and medical research when evaluating, diagnosing, and caring for youth with gender dysphoria. Millington Decl. at ¶¶ 19, 20, 32; Compl. at ¶ 25.

Major U.S. medical organizations—including the American Medical Association, American Academy of Pediatrics, American Psychological Association, and Endocrine Society—recognize evidence-based treatment for adolescents with gender dysphoria as medically necessary and appropriate and support access to that care. Declaration of Chris Erchull ("Erchull Decl.") at Exs. A–D; Compl. ¶ 29. Clinical protocols for treating adolescents with gender dysphoria include the World Professional Association for Transgender Health's ("WPATH") *Standards of Care Version 8* and the Endocrine Society's *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline*. Millington Decl. ¶ 19; Compl. ¶ 28. Depending on the individual patient, treatment may include puberty-blocking medication and hormone therapy. Millington Decl. ¶¶ 28–30, 41, 56; Compl. ¶ 28.

The treatments for gender dysphoria available to adolescents and young adults are not novel, experimental, or untested. The scientific literature overwhelmingly shows that transgender medical care is effective at alleviating the distress caused by gender dysphoria in adolescents and young adults. Millington Decl. at ¶¶ 39, 40.

### B. The Trump Administration's Campaign Against Transgender Health Care and the Historical Background of the Rule

The Rule is the latest component of a coordinated federal campaign to suppress transgender health care. Compl. ¶ 32. On December 22, 2024, then-President-elect Trump threatened that "with the stroke of [his] pen on day one, we are going to stop the transgender lunacy." Compl. ¶ 33.

President Trump began implementing that threat immediately after taking office. Hours after he was inaugurated, he issued Executive Order 14168, "Defending Women from Gender Ideology Extremism and Restoring Biological Truth to the Federal Government." 90 Fed. Reg. 8,615 (Jan. 20, 2025). The Order defined "gender ideology" as "the false claim that males can identify as and thus become women and vice versa." *Id.* It claimed to protect women from men who "self-identify as women and gain access to intimate single-sex spaces and activities designed for women, from women's domestic abuse shelters to women's workplace showers," and directed federal agencies to "take all necessary steps, as permitted by law, to end the Federal funding of gender ideology." *Id*. at 8,615–16.

Eight days later, President Trump issued Executive Order 14187, which characterized transgender health care as "mutilation" and a "stain on our Nation's history." 90 Fed. Reg. 8,771 (Jan. 28, 2025). That Order, which has since been enjoined by a federal court, directed the Secretary of Health and Human Services ("HHS") to take "all appropriate actions" to "end" such care for young people, and to withdraw federal funding from institutions that provide it to individuals under age nineteen. *Id.* at 8,772.[3] It also ordered the Secretary of HHS—in response to what President Trump termed "reliance on junk science"—to publish a review of existing literature on "best practices for promoting the health of children" with gender dysphoria. *Id.* at 8,771.

The Administration also pursued that objective through federal law-enforcement mechanisms, including a Department of Justice ("DOJ") directive to prosecute providers of transgender health care, administrative and grand jury subpoenas to physicians and clinics for

[3] Executive Order 14187 was enjoined prior to the instant litigation. *See PFLAG, Inc. v. Trump*, 769 F.Supp. 3d 405, (D. Md. 2025). The district court stated, "The challenged provisions of the Executive Orders place significant conditions on federal funding that Congress did not prescribe. This, the Constitution simply does not allow." *Id.* at 416.

patients' medical records, and public solicitation of reports about hospitals providing such care. Compl. ¶¶ 35–39. In the months after the Executive Orders issued, hospitals nationwide canceled or restricted gender-affirming care for minors. *See* Erchull Decl. Ex. E (Jo Yurcaba, *At Least 21 Hospitals Have Ended or Restricted Trans Care for Minors Since January,* NBC News (Aug. 24, 2025, 7:00 AM), https://tinyurl.com/34bzz89z).

On April 11, 2025—eight months before CMS published its notice of proposed rulemaking prohibiting FFP for evidence-based treatments for gender dysphoria, CMS Deputy Administrator and Director Drew Snyder sent a letter to every state Medicaid Director warning that Medicaid funds should not be used for transgender medical care. *See* Erchull Decl. Ex. F. He claimed, without citation to any source, that such interventions were "[i]nitiated with an underdeveloped body of evidence" and "lack reliable evidence of long-term benefits for minors, and for some children, these interventions are now known to cause long-term and irreparable harm." *Id.* And he reminded state Medicaid Directors that "longstanding federal Medicaid regulations prohibit federal funding for coverage of services whose purpose is to permanently render an individual incapable of reproducing."[4] *Id.*

On November 19, 2025, HHS's Office of Population Affairs published a report titled, "Treatment for Pediatric Gender Dysphoria: Review of Evidence and Best Practices" (the "HHS Review"), commissioned by Executive Order 14187.[5] The HHS Review reached the same conclusion that President Trump and Administrator Oz had announced months earlier: that the

[4] In fact, the "primary goal of medical treatment for gender dysphoria is to treat the patient's gender dysphoria by bringing the person's body into alignment with their identity and as a result, reduce the significant distress and anxiety that such misalignment causes that person." Millington Decl. ¶ 37.

[5] The HHS Review was initially released on May 1, 2025, but was re-released in November 2025 with minor revisions and peer review comments. *See* Erchull Decl. Ex. G (HHS, "HHS Releases Comprehensive Review of Medical Interventions for Children and Adolescents with Gender Dysphoria" (May 1, 2025), https://www.hhs.gov/press-room/gender-dysphoria-report-release.html)). The HHS Review is available at https://tinyurl.com/38r2der2.

evidence of the benefit of gender-affirming care was of "low certainty" and that such interventions risk significant irreversible harm. *Id.* at 114. It recognized the WPATH and Endocrine Society guidelines, together with guidance from the American Academy of Pediatrics, as the most influential sources of clinical guidance for treating pediatric gender dysphoria in the United States. *Id.* at 148. However, it disputed that the positions of U.S. medical associations establish a uniform professional consensus, stating that it is unclear whether the associations' official views are shared by the wider medical community or most of their members. *Id.* at 17. Contrary to HHS's claim that it took great care in considering the "gold standard of science,"[6] the HHS Review included in its evaluation only 17 out of 286 systematic reviews that were considered for inclusion. *Id.* at 87-88. The remaining 269 reviews, representing a combined several thousand studies, were discarded. *Id.*

The HHS Review concluded that the overall quality of evidence concerning the effects of the reviewed interventions on psychological outcomes, quality of life, regret, and long-term health was very low. *Id.* at 15. At the same time, it stated that evidence of harms associated with gender affirming care was "sparse." *Id.* The HHS Review also acknowledged that low or very low certainty evidence supporting hormonal and surgical interventions "does not prove that the interventions are ineffective." *Id.* at 230.

After publication of the HHS Review, the American Academy of Pediatrics ("AAP") announced it was "deeply alarmed" by the report, which it said "bypass[ed] medical expertise and scientific evidence." Erchull Decl. Ex. I (Susan J. Kressly, AAP Statement on HHS Report Treatment for Pediatric Gender Dysphoria (May 1, 2025), https://tinyurl.com/bdhcuz8x).

[6] Erchull Decl. Ex. G (HHS, "HHS Releases Comprehensive Review of Medical Interventions for Children and Adolescents with Gender Dysphoria" (May 1, 2025), https://www.hhs.gov/press-room/gender-dysphoria-report-release.html.)

According to the AAP, the HHS Report "prioritize[d] opinions over dispassionate reviews of evidence," and cited AAP recommendations in "inaccurate and misleading ways." *Id.* The American Psychological Association likewise stated that the HHS Review's lack of transparency concerning its "authorship, expertise, and methodology" undermined scientific rigor and prevented proper evaluation of potential bias. Erchull Decl. Ex. J (APA Statement on Access to Treatment for Transgender, Gender Diverse, and Nonbinary People (May 1, 2025), https://tinyurl.com/y642tsf4).

The Administration's campaign against health care for transgender adolescents and young adults expanded in December 2025, when Secretary Kennedy, Administrator Oz, and other HHS officials held a press conference to announce several agency actions to suppress gender affirming care for youth. Secretary Kennedy signed a "declaration" titled "Safety, Effectiveness, and Professional Standards of Care for Sex-Rejecting Procedures on Children and Adolescents" (the "Kennedy Declaration"). Erchull Decl. Ex. K. The Kennedy Declaration asserted that "[s]ex-rejecting procedures for children and adolescents are neither safe nor effective as a treatment modality for gender dysphoria, gender incongruence, or other related disorders in minors" — notwithstanding the HHS Review's own acknowledgment that low-certainty evidence "does not prove that the interventions are ineffective" and that evidence of harm was "sparse"—and threatened providers of gender affirming care with exclusion from Medicare, Medicaid, and other federal health care programs. Compl. ¶¶ 41, 42. A federal court later vacated the Kennedy Declaration, finding it "so clearly unlawful" that the court permanently enjoined HHS from relying on it or any materially similar policy, and criticized Secretary Kennedy and the Administration for attempting to "bully or gaslight" the court into ignoring the Kennedy Declaration's "many procedural and legal flaws." *Oregon v. Kennedy*, 831 F. Supp. 3d 1048, 1078 (D. Or. 2026);

Compl. ¶ 3. HHS released the proposed rule concerning the Medicaid and CHIP funding prohibition challenged here the day after the Kennedy Declaration.[7]

HHS also referred at least 17 providers, including children's hospitals and federally qualified health centers, to its Office of Inspector General for exclusion proceedings on the basis of the Kennedy Declaration, and did not withdraw those referrals after the Declaration was enjoined. *Oregon*, 831 F. Supp. 3d at 1059–65; Compl. ¶ 45.

**C. The Rulemaking**

Against that backdrop, CMS published its proposed rule, "Prohibition on Federal Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children." 90 Fed. Reg. 59,441 (Dec. 19, 2025). In response to the proposed rule, the agency stated that it received approximately 11,000 timely submissions, more than 90 percent of which opposed the proposal. 91 Fed. Reg. 52,421. Major medical associations, state agencies, health care providers, academic researchers, patients, and advocacy organizations submitted extensive evidence demonstrating the safety and efficacy of the targeted treatments. Commenters also criticized the agency's primary evidentiary basis, the HHS Review, as scientifically flawed, predetermined, and misapplied. Compl. ¶¶ 48–49; 91 Fed. Reg. at 52,453.

Moreover, commenters objected to the Rule on the legal bases asserted by Plaintiffs in this action, including that it constitutes arbitrary and capricious agency action, discrimination on the

[7] HHS simultaneously released two additional proposed rules as "part of an all-government effort, led by President Trump and spearheaded by Secretary Kennedy. PBS NewsHour, *WATCH: Trump Administration Seeks to Cut Off Access to Transgender Health Care for U.S. Children*, at 0:17:37. The first would have barred hospitals providing pediatric transgender health care from participating in Medicare and Medicaid entirely. *See* "Hospital Condition of Participation: Prohibiting Sex-Rejecting Procedures for Children," 90 Fed. Reg. 59,464 (Dec. 19, 2025). The second would amend HHS's Section 504 regulations to permit federally funded entities to discriminate against transgender people with gender dysphoria. *See* Nondiscrimination on the Basis of Disability in Programs or Activities Receiving Federal Financial Assistance, 90 Fed. Reg. 59,478 (Dec. 19, 2025). Announcing these rules, HHS described transgender health care as "inflict[ing] permanent harm on children" and the rulemaking package as "answering President Trump's call to action." Erchull Decl. Ex. L (Press Release, HHS, HHS Acts to Bar Hospitals from Performing Sex-Rejecting Procedures on Children (Dec. 18, 2025)).

basis of diagnosis in violation of Medicaid's comparability requirement, agency action in excess of statutory authority in conflict with Medicaid's Early and Periodic Screening, Diagnostic and Treatment ("EPSDT") requirements, and discrimination on the basis of sex, gender identity, and disability, in violation of the Constitution's Equal Protection guarantees and the Affordable Care Act. *See generally* 91 Fed. Reg. at 52,421–73. Commenters also explained that an absence of high-certainty evidence of effectiveness does not constitute evidence of harm (as the HHS Review recognized) and pointed to studies and decades of clinical experience supporting the medical necessity of treatment for appropriately assessed patients. Compl. ¶ 49.

On August 12, 2026, the day before CMS finalized the Rule, Secretary Kennedy referred more than 200 health care organizations and providers to the HHS-OIG and DOJ for investigation, and on the day of the Rule's issuance HHS released a commissioned report describing providers of this care as "wolves in white coats" and the care itself as "child mutilation." Compl. ¶¶ 61. The Rule thus was issued as one component of a coordinated Administration effort to end this care, not as an isolated Medicaid coverage determination. Compl. ¶¶ 32–46, 60–62.

**D. The Rule's Scope and Operation**

CMS published the Rule on August 13, 2026, with an effective date of October 13, 2026. It prohibits federal Medicaid and CHIP funding from being used by states for puberty-suppressing medications, hormone therapy, and surgical interventions when used to align a patient's body with a gender identity different from the patient's sex. Compl. ¶ 51. However, it permits funding for the same pharmaceuticals and procedures when used for other purposes. *Id.* at ¶ 52. The Rule applies even when a treating provider determines that the care is medically necessary for an individual patient. Compl. ¶ 54. Although CMS disclaimed reliance on the enjoined Kennedy Declaration, the Rule was developed by the same officials pursuant to the same Executive Order as the Kennedy Declaration, and it reached the same substantive conclusion. Compl. ¶ 56.

The Rule adopted the term "sex-rejecting procedures" to describe the treatment category at issue—language that had not previously appeared in the agency's clinical or regulatory vocabulary. The term is not an independent clinical classification, but rather a mirror of the terminology of the preceding executive orders.

It defines "sex-rejecting procedure" as a "pharmaceutical or surgical intervention that attempts to align an individual's physical appearance or body with an asserted identity that differs from the individual's sex by either of the following: (1) Intentionally disrupting or suppressing the normal development of natural biological functions, including primary or secondary sex-based traits; or (2) Intentionally altering an individual's physical appearance or body, including amputating, minimizing or destroying primary or secondary sex-based traits such as the sexual and reproductive organs." 91 Fed. Reg. at 52,474. This definition seemingly attempts to encompass the components of transgender health care: puberty-suppressing medications, hormone therapy, and surgical interventions.

The Rule contains three exceptions to its broad prohibition: (1) procedures for medically verifiable disorders of sexual development; (2) procedures for purposes other than gender identity alignment; and (3) treatment of complications from prior transgender health care. *Id.* at 52,474. It provides a tapering period of up to six months for beneficiaries currently receiving cross-sex hormone therapy as of the effective date. *Id.* at 52,416. However, the tapering period does not extend to puberty-suppressing medication. *Id*.

CMS claims authority under Sections 1902(a)(19) (best interests of recipients), 1902(a)(30)(A) (quality of care and efficiency), and 2101(a) (effective and efficient provision of CHIP) of the Social Security Act ("the Act"). The Rule does not prohibit states from covering

these services with state-only funds, nor does it prohibit mental health services, psychotherapy, or counseling. 91 Fed. Reg. at 52,414.

### E. The Impact of the Rule on Children With Gender Dysphoria and the Harm to Plaintiffs

Because the Federal Government provides between 50% and approximately 83% of State Medicaid expenditures through the Federal Medical Assistance Percentage ("FMAP"), the Rule's prohibition on FFP will foreseeably cause States to cease coverage of the affected treatments. States that currently cover these services have relied on federal matching funds and face severe fiscal pressure.[8] The withdrawal of FFP will effectively deny care to Medicaid- and CHIP-enrolled youth because States and providers will predictably cease offering treatments they can no longer afford to provide.

Each Adolescent Plaintiff is receiving medical treatment for gender dysphoria, with Medicaid coverage, since before January 1, 2026. Goe Decl. at ¶¶ 4, 10; Koe Decl. at ¶ 9; Loe Decl. at ¶ 11; Moe Decl. at ¶ 9. New Hampshire law expressly authorizes health care providers to continue that treatment for minors who, like the Adolescent Plaintiffs, began it before that date. RSA 332-N:2, III. The federal share of New Hampshire's Medicaid expenditures is 50 percent. *See* 90 Fed. Reg. at 54,696 (Nov. 28, 2025). Once the Rule takes effect, the State would have to bear the entire cost of continuing that care with state-only funds, and the State has given no indication that it will do so. *Massachusetts v. Oz*, No. CV 26-12962-RGS, 2026 WL 2192092, at *2 (D. Mass. July 29, 2026), *citing RENEW Ne. v. United States Dep't of Interior*, 2026 WL

[8] Twenty-one states and the District of Columbia have separately sued to block implementation of the Rule due to its "immediate, significant, and harmful effects on Plaintiff States, including fiscal harms resulting from the loss of federal funding for necessary healthcare many Plaintiff States are required to cover and will continue to fund from their own already strained budgets, as well as significant operational costs state Medicaid agencies will incur to comply with the Rule." *See Illinois et al. v. U.S. Dep't Health & Hum. Servs.*, No. 1:26-cv-14051 (D. Mass Sept. 2, 2026) (ECF No. 1).

1078282, at *30 (D. Mass. Apr. 21, 2026) (holding that "Courts within this district have recognized that unrecoverable 'money damages resulting from agency action' are 'sufficient to establish irreparable harm in an APA suit.'")

The Rule will directly affect thousands of adolescents currently receiving transgender health care through Medicaid and CHIP that their physicians have determined is medically necessary. The Rule acknowledges that, between 2017 and 2021, more than 120,000 young people ages 6 to 17 were diagnosed with gender dysphoria, with more than 4,700 starting puberty-suppressing medications and more than 14,000 starting hormonal therapy. 91 Fed. Reg. at 52,408–09.

Abrupt discontinuation of hormone therapy and puberty-suppressing medications poses grave medical risks, including severe psychological distress, return of gender dysphoria symptoms, and dangerous physiological consequences from sudden hormonal changes. The Rule's six-month tapering period, which applies only to cross-sex hormones, is medically inadequate, and the Rule includes no tapering period for puberty-blocking medications. The Rule will result in the loss of essential, necessary, and physician-prescribed health care, causing concrete and imminent harm to each Adolescent Plaintiff.

The impacts on Adolescent Plaintiffs are cases in point.

**1. Grace Goe**

Goe has been treated for gender dysphoria since December 2021. Goe Decl. ¶¶ 4, 8. Grace's pediatric endocrinologist is monitoring her physical development and expects she will soon reach Tanner stage 2 of puberty, meaning that outward physical changes of male puberty will begin. *Id.* at ¶ 11. Goe attends public school in New Hampshire and has been known as a girl at school since her diagnosis. *Id.* at ¶¶ 4, 12.

After she was diagnosed with gender dysphoria by her primary care provider, her family began to regard her as a girl, and the symptoms of distress subsided. *Id.* at ¶ 9. The change was immediate. *Id.* Since the time of her diagnosis, Goe has lived as a girl in all aspects of her life. *See id.* at ¶ 4. She is treated as a girl at home and at school. *Id.* at ¶¶ 4, 12. Her family and peers have known her as a girl for many years. *Id.* at ¶¶ 4, 12. Because her gender dysphoria is properly treated, she no longer exhibits symptoms of distress associated with gender dysphoria. *Id*.

Without puberty-suppressing medication, Goe is at an age where she will begin to undergo changes associated with male puberty, including body hair growth and a deepening voice, in addition to the development of other secondary sex characteristics associated with adolescent boys. *Id.* at ¶¶ 11, 13. Many of these changes are irreversible. *Id.* at ¶ 13. She and her peers will be aware of these changes. *Id.* at ¶ 12. If her body masculinizes, she would predictably experience severe distress associated with gender dysphoria. *Id*.

If the Rule goes into effect, Goe will no longer be able to receive coverage for the puberty suppressing medication that she will soon need. *Id.* at ¶ 16. That change in coverage will occur immediately upon the effective date of the Rule. *Id.* at ¶ 17. Her family is unable to afford the medication without Medicaid coverage and has no alternative means by which to fund the medical care she needs.[9] *Id*.

The use of puberty-suppressing medication, as determined medically necessary by her treating endocrinologist and mental health provider, prevents the masculinizing changes of male puberty from occurring and allows Goe to continue living as, and being recognized as, the girl

[9] Low-income children in New Hampshire are covered either by traditional Medicaid or through the expansion of Medicaid through CHIP funding, depending on their families' modified adjusted gross income. *See* New Hampshire Dep't Health & Hum. Servs, Medicaid Assistance Manual a§ 223, https://tinyurl.com/yr3cf6v9. For all intents and purposes, the programs are operationally identical.

she is. If that medication is interrupted, those changes will begin within months and cannot be reversed: a deepened voice, facial and body hair, and skeletal changes will be permanent, and will mark her for the rest of her life as visibly different from other girls and women. *Id*. at ¶¶ 13, 14; Millington Decl. ¶¶ 25. The clinical consequences of that loss are not speculative in Goe's case. Before her diagnosis, the distress of being regarded as a boy produced severe anxiety, statements that she "should just be dead," and a school crisis intervention over self-harm. Goe Decl. ¶ 6. Her treating providers have determined that continued suppression is necessary to prevent the return of that distress, and the medical literature confirms that untreated gender dysphoria in adolescents carries markedly elevated risks of depression, self-harm, and suicidality. Millington Decl. ¶ 25. The Rule would force Goe to undergo, without any tapering period, precisely the bodily changes her treatment exists to prevent, at the moment in her life when they would do the most lasting harm.

**2. Kylie Koe**

Kylie Koe is a thirteen-year-old transgender girl who lives in Hillsborough County, New Hampshire. Koe Decl. ¶¶ 3–4. She has lived as a girl since she was six or seven years old—roughly half her life. *Id.* ¶ 4. She and her family are Medicaid beneficiaries, and Medicaid is her only health insurance. *Id.*

Kylie was drawn to femininity from early childhood, and in first grade she told her family she is a girl—the point at which the rest of the family caught up to what she already knew about herself. *Id*. at ¶ 5. She began seeing a mental health provider in 2021, who diagnosed her with gender dysphoria; she has also been diagnosed with depression, anxiety, and ADHD. *Id*. at ¶ 6. Before beginning treatment, she regularly shut down at school—she would stop speaking, refuse her work, sit alone, and could not be reached by her teachers—but with medication and treatment

she is now able to manage those symptoms and get through the school day, a stability that is hard-won and fragile and depends on her being able to live as who she is. *Id*.

Kylie attends school in New Hampshire, where most students do not know she is transgender and have only ever known her as a girl; being seen simply as a girl is essential to her sense of safety and belonging. *Id*. at ¶ 7. But that safety is fragile: when others at school have used her given name, she has been left despondent, unable to function at school, angry, and fearful. *Id*. at ¶ 8.

Since approximately 2024, Kylie has been treated at a New Hampshire gender clinic, where her care has been overseen by a pediatric endocrinologist. *Id*. at ¶ 9. Her endocrinologist is tracking her development closely and has advised that she recently reached Tanner stage 2—the point at which the outward physical changes of male puberty begin and she will need puberty blockers imminently. *Id*. Under her endocrinologist's care, Kylie has a treatment plan in place: her doctor plans to prescribe puberty blockers as soon as she reaches Tanner stage 2, so that she does not develop the permanent physical characteristics of an adult male while she continues to grow. *Id*. at ¶ 13. Her doctors, her father, and her mother all agree this is the right treatment, and Kylie herself wants it. *Id*.

Without puberty-suppressing medication, Kylie is at an age where she will begin to undergo the changes of male puberty. *Id.* at ¶ 9. Her endocrinologist has explained that she will soon undergo irreversible masculine changes that cannot be reversed by any medication. *Id*. at ¶ 11. The doctor has also explained that puberty-suppressing medications are effective only if started at the beginning of puberty, before these changes take hold, which is why the timing matters so much: the window in which the medication can protect Kylie is about to open, and once it closes it will not reopen. *Id*. Kylie knows these changes are coming and is terrified that

others will begin to see her as a boy; if her body changes, everyone she knows will find out at once. *Id*. at ¶ 10.

The clinical consequences of that loss are not speculative in Kylie's case. She is already living with depression and anxiety, at an age when a child's sense of self is especially vulnerable, and her mother—who has already watched a single misused name keep Kylie out of the classroom for a day—attests that if Kylie begins to develop the outward characteristics of a boy she will refuse to go to school or out in public at all. *Id*. at ¶ 12. Her mother is deeply afraid of what forced masculinization would do to Kylie's mental health, education, and safety. *Id.*

If the Rule goes into effect, Kylie will no longer be able to receive Medicaid coverage for the puberty-suppressing medication she needs. *Id*. at ¶¶ 14–15. The family is a low-income family of four; the medication costs up to $50,000 as an implant, which is more than the family earns in nine months, and they have no other insurance, savings, or resources to pay out of pocket. *Id*. at ¶ 14. Without Medicaid coverage, Kylie will not receive the medication—not a choice the family is making, but the reality of its finances. *Id*.

The Rule is scheduled to take effect on October 13, 2026—weeks away and at almost exactly the moment Kylie's doctor expects her to need the medication—and provides no transition period for children who need puberty-suppressing medication. *Id*. at ¶ 15. If the Rule takes effect, the family knows of no way for Kylie to receive puberty blockers as her puberty continues; her body will start to change, and those changes will be permanent, while this case is being decided. *Id*. The Rule would take the treatment decision away from the family, not because the medication is medically unnecessary, but because they cannot pay for it themselves. *Id*. at ¶ 16. The harm is already occurring: since learning of the Rule, Kylie's parents have lived

with constant fear, and her mother does not know how to tell her daughter that the treatment she has been counting on may be taken away at the very moment she needs it. *Id*. at ¶ 17.

**3. Logan Loe**

Logan Loe is a fifteen-year-old transgender girl living in Hillsborough County, New Hampshire, with her mother and her mother's fiancé. Loe Decl. ¶¶ 3–4. She has lived as a girl since approximately 2021 and has had Medicaid as her only insurance throughout her life. *Id.*

From early childhood, Logan consistently understood and expressed herself as a girl. *Id*. at ¶ 5. In 2021, she asked to use feminine pronouns, and soon after told her mother that she is transgender, confirming what her family had already understood. *Id*. at ¶¶ 6–7.

Logan has a history of depression and anxiety and takes medication that helps treat these conditions. *Id*. at ¶ 8. After coming out as transgender, she benefited from group therapy with LGBTQ young people and began seeing a therapist at the gender clinic to which her pediatrician referred the family. *Id*. at ¶ 9. After experiencing bullying at school during seventh and eighth grade, she began studying at home under her mother's supervision. *Id*. at ¶ 10.

At age twelve after extensive evaluation by her therapist and the gender clinic's medical team and counseling about the medication's risks, benefits, and alternatives, Logan's pediatric endocrinologist prescribed puberty-suppressing medication. *Id*. at ¶ 11. For approximately three years, she has received injections every three months with close monitoring, including regular blood work and bone density scans, all covered by New Hampshire Medicaid. *Id*. The treatment has prevented masculine pubertal changes, including facial hair, and deepening of her voice, and her appearance is very feminine. *Id*. She has an appointment at the gender clinic on October 5, 2026, to assess whether she is ready to begin estrogen therapy, which she strongly desires. Id. at ¶ 13.

Logan's doctors have explained that puberty-suppressing medication pauses, rather than stops, puberty permanently, and that masculine puberty will resume within a few months if she stopped treatment. *Id*. at ¶ 12. The resulting changes—a deeper voice, facial hair, an Adam's apple, and changes to her face and bone structure—would be irreversible. *Id*. Logan is terrified that others will begin to see her as a boy and disclose the most private fact about her. *Id*. at ¶ 15.

If the Rule takes effect, Logan will lose Medicaid coverage for her puberty-suppressing medication. *Id*. at ¶¶ 14. The family is low-income and cannot afford the medication, which the clinic states would cost approximately $70,000 per year without insurance—more than the family's household income. *Id*. at ¶ 16. The family has no other health insurance for Logan, no savings or other resources to pay out of pocket, and her mother's fiancé cannot add her to his employer's plan because he is not her legal parent; no state program has been identified that would cover the care. *Id*. Without Medicaid coverage, Logan will not receive the medication. *Id*.

The Rule is scheduled to take effect on October 13, 2026—less than three weeks away and only eleven days after Logan's clinic appointment—and provides no transition period for children receiving puberty blockers, although it permits a tapering period for adolescents already receiving hormone therapy. *Id*. at ¶ 17. Her doctors have told the family that once Logan stops treatment, masculine puberty will begin and those changes will be permanent, occurring while this case is being decided, with no ability later to undo them. *Id*.

For three years, Logan's doctors have recommended, prescribed, and monitored this treatment, and Medicaid has covered it as medically necessary. *Id*. at ¶ 18. The Rule would override that judgment because her family cannot pay for treatment. *Id*. The harm has already begun: since learning of the Rule, Logan's mother has been in a constant state of panic and has spent hours unsuccessfully searching for another way to fund her daughter's care. *Id*. at ¶ 19.

**4. Maya Moe**

Maya Moe is a fifteen-year-old transgender girl and a resident of New Hampshire, where she lives with her mother, Melissa Moe. Moe Decl. ¶¶ 3, 4. She was diagnosed with gender dysphoria at a specialized gender clinic in April 2019, following a referral from her pediatrician, and has attended the clinic every six months since. *Id.* at ¶ 8. Maya and her family are Medicaid beneficiaries; she has been enrolled in New Hampshire Medicaid since 2016, and it is her only health insurance. *Id.* at ¶ 4. She has been taking puberty-suppressing medication since it was prescribed by her treating pediatric endocrinologist in October 2022—before New Hampshire's law restricting this care for minors took effect on January 1, 2026. *Id.* at ¶ 9.

Maya has expressed that she is a girl since she was very young; at around age four she became extremely distressed shopping in the boys' clothing section, and at age five she told her mother she is a girl. *Id.* at ¶ 5. From around age five, her family allowed her to live as a girl in all aspects of her life, including at school, with no medical treatment at that age; her identity has been consistent since. *Id*. at ¶ 6. The change in her demeanor was immediate. *Id.* at ¶7. Her teachers observed that before living as a girl she was introverted, quiet, and anxious, and that afterward she became more present and engaged. *Id*. Her family and peers have known her as a girl for most of her life. *See id.* at ¶ 6.

The ongoing use of puberty-suppressing medication, together with estrogen therapy, began in 2023, and prevents the masculinizing changes of male puberty and allows Maya to continue living as, and being recognized as, the girl she is. *Id*. at ¶ 11. Her endocrinologist has determined that her implant needs to be replaced at least once before her eighteenth birthday; once the implant stops working, the medication wears off quickly and testosterone-driven puberty will begin within a few months. *Id*. at ¶ 10. If that medication is interrupted, those

changes cannot be reversed: Maya knows that a deeper voice and facial and body hair are permanent, and she is afraid of those changes. *Id*. at ¶ 15.

The clinical consequences of that loss are not speculative in Maya's case. When the blocker has worn off for only a week or two, she has become withdrawn, irritable, and depressed; going through a full masculine puberty would be far worse and its physical changes permanent. *Id*. at ¶ 16. Her mother fears she would experience severe and lasting depression and could become suicidal. *Id.* The decision to pursue this treatment was made together with Maya's pediatrician, the clinic, and her endocrinologist, who all determined it was medically necessary after years of monitoring. *Id*. at ¶ 13.

If the Rule goes into effect, Maya will no longer be able to receive Medicaid coverage for the puberty-suppressing medication and estrogen she needs; her mother understands that New Hampshire Medicaid will no longer cover her care after October 13, 2026. *Id*. at ¶ 14. Her family cannot afford this care without Medicaid coverage: the implanted version of puberty suppression medication costs more than $40,000—more than her mother's annual income—and estrogen costs approximately $100 per month, in addition to monitoring visits and bloodwork. *Id*. The Rule is already harming the family; since learning of it, Maya and her mother have lived with dread, and her mother has asked her doctor whether the implant can be replaced sooner out of fear of losing coverage. *Id*. at ¶ 17.

## LEGAL STANDARD

A preliminary injunction is an extraordinary remedy assessed under four factors: "(1) the plaintiff's likelihood of success on the merits; (2) the potential for irreparable harm in the absence of an injunction; (3) whether issuing the injunction will burden the defendants less than denying an injunction would burden the plaintiffs; and (4) the effect, if any, on the public interest." *Sindicato Puertorriqueño de Trabajadores v. Fortuño*, 699 F.3d 1, 10 (1st Cir. 2012) (cleaned up).

Likelihood of success and irreparable harm are "the most critical" factors. *Fitzmorris v. Weaver*, No. 21-CV-25-PB, 2024 WL 231883, at *2 (D.N.H. Jan. 22, 2024) (cleaned up). The balance of equities and public interest merge when the Government is the opposing party. *Nken v. Holder*, 556 U.S. at 418, 435–36 (2009). The Court should grant a preliminary injunction to the extent necessary to prevent the threatened injury to the named Plaintiffs. The requested order would bind Defendants and the persons specified in Fed. R. Civ. Rule 65(d)(2) as to the named Plaintiffs.

## ARGUMENT

The four preliminary injunction factors favor the relief requested. Plaintiffs are likely to succeed on their claims that the Rule's pharmaceutical provisions exceed CMS's statutory authority, conflict with Medicaid requirements, and are arbitrary and capricious. Each Adolescent Plaintiff faces a concrete risk of losing Medicaid coverage for prescribed or medically necessary treatment when the Rule takes effect on October 13, 2026. Their families attest that they cannot afford the treatment without coverage, and the record describes the serious, potentially irreversible physical and psychological harms that could follow interruption.

The requested injunction is narrowly drawn to the injuries established by these Plaintiffs. It would prohibit Defendants from applying the Rule's pharmaceutical provisions to the Medicaid-covered treatment of Grace, Kylie, Logan, and Maya while this action is pending.

### I. Plaintiffs Have a Strong Likelihood of Success on the Merits of Their Claims[10]

#### A. The Rule Violates the Administrative Procedure Act.

##### 1. The Rule is a Final Agency Action Subject to APA Review.

Under the APA, courts may review "final agency action for which there is no other adequate remedy in a court." 5 U.S.C. § 704. A final agency action is a "definitive statement of

[10] As a threshold matter, Plaintiffs readily satisfy the requirements for standing. The Adolescent Plaintiffs are Medicaid/CHIP beneficiaries currently receiving puberty-suppressing medication or hormone therapy that the Rule

the agency's position with direct and immediate consequences." *Trafalgar Cap. Assocs., Inc. v. Cuomo*, 159 F.3d 21, 35 (1st Cir. 1998) (cleaned up). "The core question [for finality] is whether the agency has completed its decision-making process, and whether the result of that process is one that will directly affect the parties." *Id*. The Rule—a final rule published in the Federal Register, with a fixed effective date and binding legal consequences for States, providers, and beneficiaries—plainly meets these requirements. *See Bennett v. Spear*, 520 U.S. 154, 177–78 (1997).

**2. The Rule Violates the APA Because it Exceeds CMS's Statutory Authority and Conflicts with Statutory Requirements**

The APA requires courts to "hold unlawful and set aside agency action" that is "in excess of statutory jurisdiction, authority, or limitations, or short of statutory right." 5 U.S.C. § 706(2)(C). The Rule fails that standard in three independent ways. First, no provision of the Medicaid Act or CHIP authorizes CMS to impose a nationwide, service-specific funding prohibition that Congress did not enact. Second, the Rule directly conflicts with the EPSDT mandate, which requires coverage of all medically necessary care for beneficiaries under age 21. *See* 42 U.S.C. § 1396d(r)(5). Finally, the Rule conflicts with Medicaid's comparability requirement, which forbids

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will render ineligible for FFP. Because their families cannot afford that care without Medicaid/CHIP coverage, the Rule imminently threatens loss of medically necessary treatment and serious physical and psychological harm. Each Adolescent Plaintiff began treatment before January 1, 2026, and New Hampshire law expressly authorizes providers to continue treating minors who did so. *See* RSA 332-N:2, III; *supra,* Statement of Facts Part E. The Rule—not state law—is thus the sole obstacle to the Adolescent Plaintiffs' continued care. The Parent Plaintiffs likewise face financial injury and the prospect of watching their children lose essential care, and they may assert their children's injuries as next friends under Federal Rule of Civil Procedure 17(c). These injuries are fairly traceable to the Rule because withdrawing FFP, which covers a substantial share of state Medicaid and CHIP expenditures, will predictably cause States and providers to discontinue the affected care. New Hampshire has given no indication that it will assume the full cost of continuing this care for existing patients once federal funding is withdrawn. *See supra*, Statement of Facts Part E. They are redressable because postponing the Rule's effective date would preserve the funding necessary for continued treatment. *See Dep't of Com. v. New York,* 588 U.S. 752, 767–68 (2019). Plaintiffs also fall squarely within the zone of interests protected by Medicaid and CHIP: the Adolescent Plaintiffs are the intended beneficiaries of programs Congress created to provide medically necessary care to low-income children, including Medicaid's mandatory Early and Periodic Screening, Diagnostic and Treatment ("EPSDT") benefit. *See* 42 U.S.C. §§ 1396d(r)(5), 1397aa(a).

denying covered services to eligible beneficiaries solely because of their diagnosis or condition. *Id*. at § 1396a(a)(10)(B).

**a. The Rule Violates the APA Because it Exceeds CMS's Statutory Authority.**

The Rule exceeds the authority Congress delegated to CMS. Congress created Medicaid and CHIP as cooperative federal-state programs governed by specified statutory conditions. 42 U.S.C. §§ 1396 *et seq.* It assigned States substantial responsibility to define and administer covered services through approved plans and prescribed how CMS may address noncompliance with EPSDT and CHIP requirements. None of the general provisions CMS invokes in the preamble to the Rule authorizes a nationwide, service-specific funding prohibition that Congress did not enact. Whether they do is a question of statutory interpretation that this Court decides for itself, without deference to CMS's reading of its own authority. *Loper Bright Enters. v. Raimondo*, 603 U.S. 369, 412–13 (2024).

The Rule upends Medicaid and CHIP's framework by adding a new substantive funding condition of CMS's own making. But a federal service-specific funding prohibition requires congressional authorization. For example, an analogous subpart of 42 C.F.R. Part 441 prohibits federal funding for most abortions. 42 C.F.R. pt. 441, subpt. E. That prohibition implements express statutory restrictions commonly known as the Hyde Amendment. *See* 42 C.F.R. § 441.200 (citing § 402 of Pub. L. No. 97-12 and § 204 of Pub. L. No. 98-619). The Rule here, in contrast, implements no comparable congressional command. The difference is telling: although Congress could exclude a category of services from federal Medicaid funding, it has enacted no such exclusion for transgender health care. In fact, Congress has considered, and declined to enact, legislation that would impose precisely the exclusion CMS has now adopted. *See*, *e.g.*, H.R. 10075, 118th Cong. (2024); H.R. 742, 119th Cong. (2025).

Similarly, in Section 1903(i) of the Medicaid Act, Congress, in more than two dozen paragraphs enumerated additional circumstances in which federal payment "shall not be made." *See*, *e.g.*, 42 U.S.C. § 1396b(i). And the definition of "medical assistance" in § 1396d(a) itself carves particular categories of care—for example, services furnished to patients under age 65 in institutions for mental diseases—out of the scope of federal participation. *See id.* § 1396d(a). When Congress wishes to withhold federal funding for a category of otherwise-covered services, it says so in the text of the Act. Its detailed enumeration of funding exclusions—and the absence of any express delegation to CMS—forecloses any inference that it silently delegated to CMS the power to add new ones by regulation. *See Brito v. Garland*, 22 F.4th 240, 252 (1st Cir. 2021) ("we reach the unremarkable conclusion that Congress meant only what it said – and not what it did not say"); *Russello v. United States*, 464 U.S. 16, 23 (1983) ("[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion.") (internal quotation omitted); *City of Providence v. Barr*, 954 F.3d 23, 35 (1st Cir. 2020) (reasoning that Congress's "express authorization for specific deviations" from a statutory funding formula strongly implied that Congress did not authorize the agency to impose additional grant conditions to "advance its own priorities").

In those circumstances where it did not explicitly authorize nationwide funding limitations, Congress left it to the States – not CMS – to dictate what is in the best interest of recipients. CMS relies on §§ 1902(a)(19) and 1902(a)(30)(A) of the Social Security Act to justify the Rule. But, in that very authority, the Medicaid statute makes plain: "A State plan for medical assistance" – not CMS – must Provide safeguards assuring that care and services are furnished "in a manner consistent with simplicity of administration and the best interests of the recipients." 42 U.S.C. §

1396a(a)(19) (emphasis added). Similarly, it is for the States, not CMS, to ensure that payments are made consistent with "efficiency, economy, and quality of care." 42 U.S.C. § 1396a(a)(30)(A). *See also* 91 Fed. Reg. at 52,442, 52,444. These broad standards applicable to States and the development of their Medicaid plans, cannot reasonably be read as authorizing CMS to exclude a specific service from federal funding nationwide.

CMS's rationale for removing CHIP funding fails for the same reason. Section 2101(a) directs states to provide child health assistance in an "effective and efficient manner" coordinated with other sources of coverage. *See* 42 U.S.C. § 1397aa. But that general programmatic standard neither identifies any particular service nor prohibits FFP for any specific treatment. Nor does a directive to coordinate CHIP with other coverage authorize CMS to write a new substantive exclusion into both programs.

The Secretary's general rulemaking authority cannot expand those provisions. *See Utility Air Regulatory Group v. EPA*, 573 U.S. 302, 324 (2014) (agency's interpretation of statute was unreasonable "because it would bring about an enormous and transformative expansion in EPA's regulatory authority without clear congressional authorization"); *Bowen v. Georgetown Univ. Hosp.*, 488 U.S. 204, 208 (1988) ("It is axiomatic that an administrative agency's power to promulgate legislative regulations is limited to the authority delegated by Congress"); *United States v. Larionoff*, 431 U.S. 864, 873 (1977) ("regulations, in order to be valid, must be consistent with the statute under which they are promulgated."). Authority to issue rules "not inconsistent with" the Social Security Act and necessary to its efficient administration remains bounded by the Act itself. *See* 42 U.S.C. § 1302(a). It does not permit CMS to reallocate authority between the federal government and the States or attach a new condition to FFP that Congress did not impose. Authority to implement statutory requirements is not authority to create them.

**b. The Rule conflicts with the Medicaid Act's EPSDT Mandate.**

The EPSDT benefit is a mandatory component of Medicaid for individuals under age 21. The goal of EPSDT, as explained by CMS itself, "is to ensure that children get the health care they need when they need it – the right care to the right child at the right time in the right setting." CMS, Coverage Guide, *EPSDT–Guide for States: Coverage in the Medicaid Benefit for Children and Adolescents* 1 (May, 2026), available at https://tinyurl.com/ye4efyk3.

Under the EPSDT benefit, States must provide all "necessary health care, diagnostic services, treatment, and other measures described in [§ 1396d(a)] to correct or ameliorate defects and physical and mental illnesses and conditions discovered by the screening services, whether or not such services are covered under the State plan." 42 U.S.C. § 1396d(r)(5). Congress enacted EPSDT in 1967 and expanded it significantly in 1989 to mandate that participating States provide EPSDT-eligible youth all services within the scope of § 1396d(a) that are medically necessary to correct or ameliorate their conditions, regardless of whether the State covers such services for adults. Section 1396d(a), in turn, includes, among other things, "outpatient hospital services . . . physicians' services furnished by a physician . . . clinic services furnished by or under the direction of a physician . . . [and] prescribed drugs, dentures, and prosthetic devices." 42 U.S.C. § 1396d(a)(2)(A), (5)(A), (9), (12). Courts have consistently enforced EPSDT as written: the obligation is mandatory, and the only limit Congress placed on it is medical necessity. *See*, *e.g.*, *S.D. ex rel. Dickson v. Hood*, 391 F.3d 581, 589–90 (5th Cir. 2004); *Pediatric Specialty Care, Inc. v. Ark. Dep't of Human Servs.*, 293 F.3d 472, 480–81 (8th Cir. 2002); *Katie A. ex rel. Ludin v. L.A. Cnty.*, 481 F.3d 1150, 1154–55 (9th Cir. 2007); *Rosie D. ex rel. John D. v. Romney*, 410 F. Supp. 2d 18, 25–26 (D. Mass. 2006).

The Rule is in direct conflict with the statutory requirement that Medicaid cover services for "necessary healthcare." The Rule's preamble acknowledges that its prohibition applies "'even

in circumstances in which a provider may determine that a sex rejecting procedure is medically necessary for a child diagnosed with gender dysphoria.'" 91 Fed. Reg. at 52,443. That position cannot be squared with EPSDT's text. The Rule withdraws federal funding for nearly every treatment recognized as medically necessary for minors with gender dysphoria. It replaces the individualized medical necessity determination that Section 1396d(r)(5) requires with a categorical national exclusion, and it applies even when the treating clinician and a multidisciplinary team determine that a service is necessary to correct or ameliorate the young person's condition. Courts have repeatedly held that a State may not adopt categorical exclusions that override individualized EPSDT medical necessity determinations. *See*, *e.g.*, *Hood*, 391 F.3d at 594–95 (State could not exclude medically necessary incontinence supplies from EPSDT coverage); *Rosie D.*, 410 F. Supp. 2d at 26–27. CMS, whose statutory role is to enforce the EPSDT mandate against noncompliant States, cannot itself impose the categorical exclusion the statute forbids the States to adopt.

CMS's response in the Rule was to assert, without analysis, that the Rule is "consistent" with EPSDT because EPSDT requires coverage only of medically necessary services and CMS has now determined that the targeted medications never are. 91 Fed. Reg. at 52,419. That reasoning is circular. EPSDT commits the medical necessity determination to the individualized clinical judgment of the treating provider, subject to the State's reasonable oversight; it does not authorize CMS to declare by nationwide fiat that a diagnosed condition may never be treated with medications that remain covered for every other indication. If the general plan administration provisions CMS invokes permitted that result, they would permit CMS to override EPSDT for any condition it disfavored, and the mandate Congress enacted would mean nothing. *See Gomes v. Hyde*, 804 F. Supp. 265, 274 (D. Mass. 2025) (quoting *TRW Inc. v. Andrews*, 534 U.S. 19, 31

(2001)) ("[S]tatutes should be construed so that 'no clause, sentence, or word shall be superfluous, void, or insignificant'").

That the Rule "does not prohibit" States from paying the full cost with state-only funds, 91 Fed. Reg. at 52,414, does not cure the conflict. Section 1903(a)(1) provides that the Secretary "shall pay" to each State with an approved plan the federal share of amounts "expended . . . as medical assistance under the State plan." 42 U.S.C. § 1396b(a)(1). EPSDT services are "medical assistance" that a participating State must furnish. *Id.* §§ 1396a(a)(43), 1396d(a)(4)(B), 1396d(r)(5). The Rule thus refuses federal payment for services the Act requires the State to provide and requires the Secretary to fund.

In the Rule, CMS also invokes *Harris v. McRae*, 448 U.S. 297 (1980), and *Beal v. Doe*, 432 U.S. 438 (1977), but these cases do not solve this statutory problem. *Harris* held that a State need not fund services for which federal reimbursement is unavailable because Congress itself, in the Hyde Amendment, withdrew federal funding, 448 U.S. at 308–11; it rested on Congress's power to define the scope of federal participation, not on any authority of the agency to do so. And *Beal*, while recognizing State discretion to set reasonable standards for the extent of coverage, cautioned that "serious statutory questions might be presented if a state Medicaid plan excluded necessary medical treatment from its coverage." 432 U.S. at 444. Neither decision supports an agency-created exclusion of medically necessary care from a mandatory benefit.

Nor can CMS defend the exclusion by characterizing the targeted medications as experimental or unproven. The experimental treatment doctrine has two limits, and the Rule fails both. *First*, the review must be individualized: a State may scrutinize a treating physician's medical necessity determination, but it may not displace that judgment with a categorical rule that forecloses consideration of the individual patient. *Moore ex rel. Moore v. Reese*, 637 F.3d 1220,

1255–60 (11th Cir. 2011); *Hood*, 391 F.3d at 594–95. The Rule is precisely such a categorical rule; by its terms it applies "'even when a provider determines that a sex-rejecting procedure is medically necessary.'" 91 Fed. Reg. at 52,443.

*Second*, the medications at issue are not experimental in any accepted sense. They are FDA-approved drugs with decades of clinical that are prescribed for gender dysphoria—off-label, as a large share of pediatric medications are prescribed—under published clinical guidelines endorsed by every major American medical association. Millington Decl. ¶¶ 21, 32–36, 57. And the HHS Review on which CMS relies expressly disclaimed any finding that they are ineffective: low-certainty evidence, the Review acknowledged, "does not prove that the interventions are ineffective." *See* Erchull Decl. Ex. H (HHS Review) at 230; *see supra*, Statement of Facts Part B. An agency that has not found a treatment ineffective, and that continues to fund the same medications for other children, cannot invoke the experimental-treatment doctrine to override EPSDT's medical necessity mandate.

At bottom, the Rule is incompatible with EPSDT's requirement for States to cover "necessary healthcare," and for the federal government to "pay" its share of the services. CMS's various arguments otherwise fall flat.

**c. The Rule Violates the Medicaid Act's Comparability Requirement, as CMS Itself Has Long Construed It.**

The Rule is contrary to law for a further, independent reason: it conflicts with the Medicaid Act's comparability requirement, which mandates that the medical assistance made available to any eligible individual "shall not be less in amount, duration, or scope than the medical assistance made available to any other such individual." 42 U.S.C. § 1396a(a)(10)(B)(i). For more than four decades, CMS has construed that requirement to mean that a Medicaid agency "may not arbitrarily deny or reduce the amount, duration, or scope of a required service under §§ 440.210 and 440.220

to an otherwise eligible beneficiary solely because of the diagnosis, type of illness, or condition." 42 C.F.R. § 440.230(c). Section 440.230(c) is addressed to State Medicaid agencies, but it embodies CMS's longstanding and authoritative understanding of what the statute forbids. A rule that requires every State plan to adopt the very diagnosis-based exclusion the statute forbids—by withdrawing the federal funding on which State coverage depends—is "not in accordance with law" regardless of which sovereign draws the line. Comparability is a condition Congress imposed on the State plans that the Secretary approves and funds, 42 U.S.C. § 1396a(a)(10)(B), (b), and the Secretary's statutory role is to withhold funding from plans that violate it, *id.*—not to require, by withdrawing FFP, the very diagnosis-based exclusion the statute forbids. *See Massachusetts Ass'n of Older Americans v. Sharp*, 700 F.2d 749, 753 (1st Cir. 1983) (opining that the categorically needy "are to receive assistance first and in no less comprehensive a form because they are 'persons whom Congress considered especially deserving of public assistance'") (quoting *Schweiker v. Gray Panthers*, 453 U.S. 34, 37 (1981)); *Coe v. Hooker*, 406 F. Supp. 1072, 1083 (D.N.H. 1976) (holding that through the comparability requirement, "Congress has statutorily guaranteed Medicaid recipients equal treatment by state Medicaid administrators").[11]

The Rule does exactly what the comparability requirement forbids: it categorically eliminates federal support for medications that remain covered for other diagnoses, solely because of the patient's diagnosis of gender dysphoria and the purpose for which treatment is sought. Sections 440.210 and 440.220 identify the services that participating state Medicaid plans must cover for eligible beneficiaries and defer to state plans. New Hampshire's Medicaid State Plan provides for a provider determination of medically necessary services for the covered categories

[11] To the extent CMS now reads the comparability requirement to permit what it has forbidden the States to do since 1978, that unacknowledged reversal is independently arbitrary and capricious. *See Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 221–22 (2016) (agency must "display awareness that it is changing position" and offer "good reasons for the new policy") (cleaned up); *see infra* Part I.A.2.c.

under the federal rule. *Id.*; *see also* N.H. Admin. Code §§ He-W 530(e), He-W 546. Because the services at issue are physicians' services and prescribed drugs that are medically necessary to treat gender dysphoria, and because New Hampshire law permits their continued provision to minors who began treatment before January 1, 2026, RSA 332-N:2, III, they are required services within the meaning of § 440.230(c).

Contrary to 42 C.F.R. § 440.230(c), the Rule denies and limits a required service because of a beneficiary's diagnosis, illness or condition. It leaves the same medications eligible for FFP when prescribed to treat other conditions but prohibits FFP when they are prescribed to treat gender dysphoria. The coverage decision therefore turns not on the drug, procedure, provider, beneficiary, or treatment setting, but on the diagnosis and clinical indication for which the intervention is prescribed.

CMS responded to comments raising this comparability requirement problem by contending that the Rule "turns on the purpose for which a procedure is performed, not on the identity or diagnosis of the beneficiary." 91 Fed. Reg. at 52,442. But that is semantic relabeling, not a substantive distinction. The relevant "purpose" is treatment of gender dysphoria which necessarily follows from the patient's diagnosis. Section 440.230(c) forbids a Medicaid agency to deny a required service based on diagnosis, and § 440.230(d) permits only limits based on medical necessity or utilization control. The Rule's definition of a "sex-rejecting procedure" turns on whether the patient's "asserted identity . . . differs from the individual's sex," 91 Fed. Reg. at 52,474—that is, on the presence of gender incongruence, the very condition and diagnosis the medication is prescribed to treat. Its exceptions confirm the point: the Rule preserves funding for "medically verifiable disorders of sexual development" and for "purposes other than gender identity alignment," thereby continuing coverage for the same medications when prescribed for

conditions other than a diagnosis of gender dysphoria. In other words, funding is available for every diagnosis but one. *See id.* A rule that covers and funds a medication for precocious puberty, endometriosis, and disorders of sexual development, but withdraws coverage and funding when the same medication is prescribed for gender dysphoria, denies a service "solely because of the diagnosis, type of illness, or condition" within the ordinary meaning of those words. CMS cannot escape the limitations of § 440.230(c) by describing the excluded condition as a "purpose."[12]

CMS also argues that § 440.230(c) prohibits only *arbitrary* diagnosis-based distinctions and that its evidentiary assessment supplies a rational basis for this one. 91 Fed. Reg. at 52,448. But "arbitrary" in § 440.230(c) has never been read to permit what CMS has done. The regulation has always accommodated limits on the amount, duration, and scope of a service that rest on individualized medical necessity or utilization control, 42 C.F.R. § 440.230(d), while forbidding a Medicaid agency to single out a diagnosis and exclude treatment of it outright for which is otherwise a covered service. *See*, *e.g.*, *White v. Beal*, 555 F.2d 1146, 1151–52 (3d Cir. 1977) (State could not furnish eyeglasses to beneficiaries whose vision loss resulted from one cause while denying them to beneficiaries whose vision loss resulted from another); *Weaver v. Reagen*, 886 F.2d 194, 198–200 (8th Cir. 1989) (State could not categorically exclude AZT for Medicaid beneficiaries with AIDS whose physicians deemed it medically necessary, notwithstanding the

[12] *United States v. Skrmetti*, 605 U.S. 495 (2025), does not hold otherwise, nor does it support CMS's effort to recast a diagnosis-based exclusion as a distinction based only on treatment "purpose." *Skrmetti* addressed whether a state law classified on the basis of sex under the Equal Protection Clause; it did not interpret the Medicaid Act or 42 C.F.R. § 440.230(c), which expressly prohibits distinctions based on a beneficiary's "diagnosis, type of illness, or condition." More fundamentally, the Court's own description of Tennessee's law confirms the substance of the distinction CMS seeks to obscure: the law "remov[ed] one set of diagnoses—gender dysphoria, gender identity disorder, and gender incongruence—from the range of treatable conditions," and therefore established "diagnosis-based classifications." *Id.* at 519, 523. The Rule operates in precisely that manner. It preserves federal funding for the medications at issue across other diagnoses but withdraws funding when the patient has gender dysphoria and the medication is prescribed to treat that condition. Whatever constitutional significance *Skrmetti* assigned to the label "medical purpose," CMS cannot use that label to erase the diagnosis-based line the Rule actually draws or to circumvent a Medicaid regulation that expressly prohibits distinctions based on diagnosis and condition.

drug's then-limited FDA labeling); *cf. Ellis v. Patterson*, 859 F.2d 52, 55 (8th Cir. 1988) (upholding exclusion of liver transplants where the State's decision rested on the experimental nature of the procedure rather than the beneficiary's diagnosis). The Rule falls squarely on the forbidden side of that line. It does not limit the amount or duration of a service based on individual need; it eliminates the service entirely for one diagnosis while preserving it for the same treatment across other diagnoses and conditions.

Nor can CMS convert the categorical exclusion into a permissible one merely by asserting that the HHS Review's assessment of the evidence was "rigorous." That CMS now disputes the evidence supporting the excluded use does not make the distinction any less diagnosis-based. Section 440.230(d) already supplies the mechanism for acting on evidentiary concerns: "appropriate limits on a service based on such criteria as medical necessity or on utilization control procedures." 42 C.F.R. § 440.230(d). An agency that believed the evidence warranted closer scrutiny of these prescriptions could have required individualized review; it instead chose the one tool the regulation withholds.

The Rule removes FFP for required services on the precise diagnosis-based ground that the comparability requirement, as CMS has construed it since 1978, prohibits. The Rule is therefore "not in accordance with law," 5 U.S.C. § 706(2)(A), and should be enjoined before it disrupts the lawful operation of New Hampshire's approved Medicaid State Plan and Plaintiffs' access to medically necessary care.

**3. The Rule Violates the APA Because it is Arbitrary and Capricious.**

A reviewing court "shall" set aside agency action that is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A). An agency acts arbitrarily and capriciously when it "entirely fail[s] to consider an important aspect of the problem, offer[s] an explanation for its decision that runs counter to the evidence before the agency, or is so

implausible that it could not be ascribed to a difference in view or the product of agency expertise." *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co*., 463 U.S. 29, 43 (1983).

In addition to the various statutory problems identified above, the Rule is arbitrary and capricious in at least four, independent respects: (1) CMS failed to consider the reliance interests of children currently in treatment or the obvious alternative of protecting them; (2) CMS failed to respond meaningfully to significant comments; (3) CMS offered no reasoned explanation for abandoning its longstanding practice of leaving medical necessity determinations to individualized clinical judgment; and (4) CMS adopted a safety rationale that its own exceptions contradict. The history of the rulemaking— a documented Administration campaign to suppress transgender health care—explains those failures; it does not excuse them.

**a. CMS Failed to Consider the Reliance Interests of Adolescents Currently in Treatment or the Obvious Alternative of Protecting Them.**

The Rule failed to adequately consider the serious reliance interests engendered by CMS's prior policy. Thousands of young people and their families have relied on the availability of Medicaid and CHIP coverage for transgender health care.[13] CMS is free to change its policies in accordance with the established law, but when doing so, it must explain its changed position and "be cognizant that longstanding policies may have 'engendered serious reliance interests that must be taken into account.'" *Encino Motorcars*, 579 U.S. at 221–22 (quoting *FCC v. Fox Television Stations*, 556 U.S. 556 U.S. 502, 515 (2009)). "It would be arbitrary and capricious to ignore such matters." *DHS v. Regents of Univ. of Cal.*, 591 U.S. 1, 30 (2020) (quoting *Fox Television Stations*, 556 U.S. at 515).

[13] Lindsey Dawson, "New Regulation Prohibits Federal Medicaid Funds From Covering Gender-Affirming Medical Care for Young People," KFF (Aug. 13, 2026), available at https://tinyurl.com/36s9wmrw (estimating that "about 130,000 young trans people with Medicaid or CHIP coverage . . . live in states without restrictions" on access to transgender health care).

The agency's six-month tapering provision (which is limited to hormone therapy) is manifestly inadequate to address the reliance interests of patients currently receiving puberty-suppressing medications or who have structured their care around continued access to these treatments. CMS acknowledges that beneficiaries "who are unable to find alternative means to pay for these services may either have to rely on other methods of treatment such as psychotherapy or mental health counseling or elect to not receive these services because of the rule." 91 Fed. Reg. 52,414. CMS thus frames the loss of treatment as a voluntary choice that beneficiaries might "elect," when, in reality, low-income children and families who depend on Medicaid or CHIP will be forced to forgo medically indicated care because they cannot afford to pay for it. This failure to grapple with the predictable consequences of eliminating coverage for financially vulnerable beneficiaries underscores the agency's disregard of the reliance interests at stake.

The reliance failure is compounded by CMS's failure to consider obvious, less drastic alternatives that commenters placed squarely before it. An agency acts arbitrarily when it fails to consider "alternatives within the ambit of the existing policy," *Regents*, 591 U.S. at 30 (cleaned up); *State Farm*, 463 U.S. at 51, and in *Regents* the Supreme Court set aside a rescission precisely because the agency ended benefits without considering whether narrower measures would address its stated concerns. 591 U.S. at 30–33. Commenters here proposed, among other things, exempting beneficiaries already in treatment; requiring individualized prior authorization or multidisciplinary assessment; and leaving the determination, as the Medicaid Act contemplates, to States and treating providers. CMS did not explain why none of those alternatives would address its asserted concerns; it adopted the most sweeping option available and did not acknowledge that any other existed.

**b. CMS Failed to Reasonably Engage with Comments on the Proposed Rule.**

The APA requires that, in notice-and-comment rulemaking, an agency must genuinely consider submitted comments, respond to significant objections, and articulate a rational basis for its decision that reflects reasonable engagement with the comment record. *See* 5 U.S.C. § 553; *State Farm*, 463 U.S. at 43 (an "agency must examine the relevant data and articulate a satisfactory explanation for its action"); *Ohio v. EPA*, 603 U.S. 279, 292 (2024) ("An agency action qualifies as arbitrary or capricious if it is not reasonable and reasonably explained.") (internal quotations removed); *Nw. Bypass Grp. v. U.S. Army Corps of Eng'rs*, 552 F. Supp. 2d 97, 106 (D.N.H. 2008). An agency's failure to respond to significant comments renders its action arbitrary and capricious under 5 U.S.C. § 706(2)(A).

CMS acknowledged receiving approximately 11,000 "timely" comments—including submissions from state agencies, treating providers and medical associations—and conceded that "more than 90 percent" opposed the proposed provisions. 91 Fed. Reg. 52,421. The Rule's preamble confirmed that commentators including medical associations, researchers, providers, and patients submitted scientific evidence supporting the safety and efficacy of the targeted treatments and challenging the materials on which CMS relied. *Id*. Those comments included research and professional guidance asserting that the targeted treatments were medically necessary and safe and were associated with reductions in depression, anxiety, self-harm, and suicide. 91 Fed. Reg. 52,455. Yet CMS did not meaningfully engage several specific objections.

For example, the Endocrine Society explained that the standard methodology for assessing certainty in a body of evidence (called "GRADE") integrates research evidence with clinical knowledge and patient circumstances, that observational studies generally begin with "low" or "very low" ratings, and that guideline panels may make strong recommendations based on low- or

very-low-quality evidence after considering additional criteria, including patients' values and preferences.[14] CMS did not address the Endocrine Society's guidelines developed pursuant to that methodology; it instead repeated the HHS Review's assessments that the guidelines received low methodological-quality scores and that evidence of benefit was of "very low certainty," while evidence of certain physiological harms rested on established biological mechanisms. 91 Fed. Reg. 52,427, 52,453–54.

The American Academy of Pediatrics commented that a "very low" GRADE rating reflects limited and uncertain evidence—not affirmative evidence that an intervention is ineffective or harmful—and that the relevant care is individualized and multidisciplinary, with surgery contemplated only "in very rare cases."[15] It also explained that the gender-affirmative care model is individualized and multidisciplinary, may include surgery only "in very rare cases," and requires careful evaluation by qualified professionals. CMS responded by repeating the HHS Review's general criticisms of the AAP guidance and its conclusion that the evidence of benefit was of very low certainty, without addressing the AAP's description of its recommendations or its explanation of what a GRADE rating means. 91 Fed. Reg. 52,427, 52,453–54.

The American Public Health Association and 123 public health and health policy deans, chairs, and scholars cited a published critique concluding that the HHS Review "misrepresents and improperly appraises studies, often ignoring their primary conclusion," offers no evidence that puberty-pausing medications and hormone therapy are harmful, and itself describes evidence of

[14] Endocrine Society Comment on Proposed Rule to Prohibit Federal Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children (Feb. 17, 2026), available at https://tinyurl.com/4ypm2xpe.

[15] American Academy of Pediatrics, Comment on Proposed Rule to Prohibit Federal Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children (Feb. 19, 2026), https://tinyurl.com/3c79jntx ("AAP Comment").

harms as "sparse."[16] CMS answered these objections by reiterating the HHS Review's methodological-quality and certainty assessments and asserting that certain physiological harms were grounded in established biological mechanisms, without addressing the commenters' specific explanations and critiques. 91 Fed. Reg. 52,427, 52,453–54. Nor did CMS meaningfully address the AAP's continuity-of-care evidence that abrupt withdrawal could cause psychological and physiological harm and that no professionally recognized standards—and little, if any, high-quality evidence—exist for tapering these treatments.[17] Instead, CMS authorized federal funding only for a six-month taper of cross-sex hormones, excluded puberty blockers and surgery, and justified those limitations by invoking the same HHS-Review-based risk-benefit determination while asserting that the taper addressed the "most acute continuity-of-care concerns." 91 Fed. Reg. 52,421–22.[18]

CMS asserted that it "carefully considered" all comments but dismissed widely accepted clinical guidance as resting on "legal and political considerations rather than clinical ones." *Id*. at 52,427. Yet "the opportunity to comment is meaningless unless the agency responds to significant points raised by the public." *Home Box Off., Inc. v. F.C.C.*, 567 F.2d 9, 35–36 (D.C. Cir. 1977); *see also Allied Local & Reg'l Mfrs. Caucus v. EPA*, 215 F.3d 61, 80 (D.C. Cir. 2000) (an agency

[16] American Public Health Association, Comment on Proposed Rule to Prohibit Federal Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children (Feb. 17, 2026), https://tinyurl.com/mtnjzr9.

[17] AAP Comment at 9.

[18] For example, the American Public Health Association ("APHA") commented, "CMS cherry-picked the evidence it relied on while failing to contend with the evidence that runs counter to its position." APHA and Public Health Deans and Scholars' Comments on the Centers for Medicare and Medicaid Services' "Hospital Condition of Participation: Prohibiting Sex-Rejecting Procedures for Children" (Feb. 17, 2026), available at https://tinyurl.com/5xjbtpfv. It noted that the two reports relied upon by CMS—the "HHS Review and the Cass Review—have both been heavily criticized by medical experts for misrepresenting scientific evidence and data." *Id.* And it stated that authors cited in the HHS Review claim that the report misrepresented their studies, ignored their primary conclusions, and provided "no evidence for its assertion that puberty-pausing medications and hormone therapy are harmful to [transgender] youth, and it even states that evidence of harms is 'sparse.'" *Id.* at 8 (quoting Nadia Dowshen, et al., *A Critical Scientific Appraisal of the Health and Human Services Report on Pediatric Gender Dysphoria*, 77 J. ADOLESCENT HEALTH, 77(3), 342 (2025)).

must respond to significant comments and consider significant alternatives). CMS's conclusory assertion of "careful consideration" does not satisfy that obligation.

**c. CMS Offered No Reasoned Explanation for Abandoning Its Longstanding Practice of Deferring to Individualized Medical Necessity Determinations.**

The Rule is also arbitrary and capricious because CMS failed to provide a reasoned explanation for its unprecedented departure from decades of agency policy not to take a position on whether specific treatments are medically necessary. CMS affirmatively acknowledged that it has "not historically taken a position at the Federal level that particular services when provided to particular individuals for a particular purpose are inherently not medically necessary," but justified its reversal solely by a general and vague reference to "the prevailing evidentiary landscape." 91 Fed. Reg. 52,443. This is insufficient to "show that there are good reasons for the new policy" as any agency changing course must do. *Fox*, 556 U.S. at. A vague reference to "the prevailing evidentiary landscape" does not satisfy that standard, particularly given the extensive contrary evidence submitted to CMS during the comment period. CMS failed to explain why evidence that previously supported—or, at a minimum, did not preclude—coverage now compels a categorical nationwide ban on federal funding.

**d. The Rule's Safety Rationale Is Contradicted by Its Own Exceptions.**

The Rule's stated safety rationale is undermined on its own terms. CMS justified the exclusion in part by pointing to the risks of the medications themselves—including effects on bone density and fertility—but those risks do not depend on the diagnosis for which the medication is prescribed. 91 Fed. Reg. at 52,409. Puberty-suppressing medication produces the same physiological effect, suspension of pubertal development, whether the diagnosis is central precocious puberty or gender dysphoria, and children treated for precocious puberty are commonly

suppressed for periods as long as or longer than adolescents with gender dysphoria. Millington Decl. ¶¶ 28, 29. Yet the Rule preserves FFP for the former and eliminates it for the latter without explaining why the same effects are acceptable in one group of children and intolerable in the other. 91 Fed. Reg. at 52,416. An agency must "articulate a satisfactory explanation" for indication-specific lines, *State Farm*, 463 U.S. at 43, and it may not rest a categorical exclusion on asserted harms that its own exceptions treat as tolerable. CMS did not confront that inconsistency; it did not even acknowledge it.

The history recounted above explains why CMS's explanation is so thin. Executive Order 14187 directed HHS to "end" this care before any evidence had been reviewed; the HHS Review that supplies the Rule's evidentiary foundation was commissioned by that Order to support a conclusion the President had already announced; and HHS described the rulemaking package as "answering President Trump's call to action." *See supra* Statement of Facts Part B; 90 Fed. Reg. 8,771; Erchull Decl. Ex. L. An agency may, of course, change policy at the direction of a new administration. But when it does, the APA still requires "good reasons for the new policy," *Fox*, 556 U.S. at 515, grounded in the record and responsive to the evidence before it. The sequence here—directive first, evidence review second, rulemaking third—is what one would expect to produce a preamble that dismisses the consensus of the medical profession as "political," invokes a "prevailing evidentiary landscape" without identifying what in that landscape changed, preserves the same medications for every other indication without explaining why, and leaves the comments described above unanswered. That is not reasoned decision-making; it is the record of an agency that reached its conclusion before it began. *See State Farm*, 463 U.S. at 43 (agency may not offer an explanation that "runs counter to the evidence before the agency"); *Dep't of Commerce v. New*

*York*, 588 U.S. 752, 785 (2019) (reviewing courts are "not required to exhibit a naiveté from which ordinary citizens are free").

Had CMS genuinely engaged with the comment record and the evidence submitted—rather than merely referencing its "careful consideration" of the record—it would have confronted substantial evidence contrary to its decision and the less drastic alternatives discussed above, which it was obligated to consider and did not.

## II. The Rule Will Cause Irreparable Harm.

"Irreparable injury" means "an injury that cannot adequately be compensated for either by a later-issued permanent injunction, after a full adjudication on the merits, or by a later-issued damages remedy." *Rio Grande Cmty. Health Ctr., Inc. v. Rullan*, 397 F.3d 56, 76 (1st Cir. 2005). Plaintiffs bear the burden of demonstrating that irreparable injury is likely in the absence of interim relief. *Nat'l Parks Conservation Ass'n v. U.S. Dep't of Interior*, 180 F.4th 348, 352 (1st Cir. 2026). Here, there are at least two irreparable injuries.

***First,*** under First Circuit precedent, the loss of Medicaid benefits that results in individuals becoming "financially unable to obtain necessary medical care . . . is clearly irreparable injury." *See Mass. Ass'n of Older Americans v. Sharp*, 700 F.2d 749, 753 (1st Cir. 1983). Similarly, other federal courts have also recognized that loss of necessary medical treatment can constitute irreparable harm. *See*, *e.g.*, *Henderson v. Bodine Aluminum*, 70 F.3d 958, 961–62 (8th Cir. 1995) ("It is hard to imagine a greater harm than losing a chance for potentially life-saving medical treatment. . . . Urgent medical treatment is the kind of equitable relief that cannot abide trial."); *Norsworthy v. Beard*, 87 F. Supp. 3d 1164, 1192 (N.D. Cal. 2015) ("Emotional distress, anxiety, depression, and other psychological problems can constitute irreparable injury.").

Here, if the Rule goes into effect, Plaintiffs would immediately lose access to essential and urgent healthcare, which could lead to serious psychological harm, including depression, anxiety,

and suicidality. *See* Millington Decl. ¶ 25.[19] For example, without puberty-suppressing medication, Plaintiff Goe and Koe are both at ages where they will begin to undergo changes associated with male puberty and, if their bodies masculinize, they will predictably experience severe distress associated with gender dysphoria. Goe Decl. ¶ 11; Koe Decl. ¶ 9. As detailed above, each adolescent's family is unable to afford the medication without Medicaid coverage and has no alternative means by which to fund the medical care she needs. Goe Decl. ¶ 16; Koe Decl. ¶ 14; Loe Decl. ¶ 16; Moe Decl. ¶ 14.

The Rule's six-month tapering provision for hormone therapy does not make the requested injunctive relief unnecessary. The taper does not preserve treatment; it funds its withdrawal. From the effective date, federal funding is available only to reduce Plaintiff Loe and Moe's prescribed dose to zero, contrary to their treating physicians' judgment, and the physiological and psychological harms of withdrawal begin with the first reduction, not at the end of six months. Millington Decl. ¶ 25; Loe Decl. ¶ 17; Moe Decl. ¶¶ 9, 10, 16. Relief is therefore necessary now, not in April 2027.[20]

***Second,*** and in addition to the medical harm to the Adolescent Plaintiffs, which is sufficient on its own, the Rule overrides the Parent Plaintiffs' considered decisions about their children's

[19] Because transgender healthcare is urgent and time-sensitive, *see* Millington Decl. ¶ 25, some Medicaid recipients may be compelled to pay for this care with money that would otherwise be used for necessities like food, housing, and utilities. The First Circuit has recognized that this type of significant economic harm constitutes irreparable injury. *See United Steelworkers v. Textron, Inc*., 836 F.2d 6, 8 (1st Cir. 1987) (irreparable-injury factor satisfied where most of the plaintiffs lived on fixed incomes and where increases in the cost of accessing medical care would cause "concern about financial disaster" and "possibly deprivation of life's necessities"); *Justiniano v. Social Sec. Admin*., 876 F.3d 14, 28 (1st Cir. 2017) (determining that "retroactive payment would not be a sufficient remedy" for the harms of "forgoing access to essential medical, water, and electric services" caused by the termination of federal benefits). The Rule forces Plaintiffs and others into making these impossible, and irreparable choices.

[20] The pending challenge to the Rule by twenty-one States and the District of Columbia in the District of Massachusetts, *see supra* n.8, does not diminish the need for relief here. New Hampshire is not a plaintiff in that action, and, to date, no request for immediate relief has been filed. Moreover, any relief entered there may be limited to the plaintiff States, and no order has yet issued. Plaintiffs will promptly advise the Court of any ruling in that case bearing on this motion.

medical care. Parents, together with their children's physicians, have primary responsibility for judgments concerning a child's "need for medical care or treatment." *Parham v. J.R.*, 442 U.S. 584, 604 (1979); *see also Troxel v. Granville*, 530 U.S. 57, 65–66 (2000). The Parent Plaintiffs, together with their children's physicians, have made a considered medical decision, in accordance with the applicable standards of care, that the Rule forecloses in practice by withdrawing the only means of paying for it. The loss of that decision—and of the developmental window in which it must be carried out—during the pendency of this case cannot be remedied afterward by any judgment on the merits. Goe Decl. ¶ 18; Koe Decl. ¶ 16; Loe Decl. ¶ 18; Moe Decl. ¶ 17; Millington Decl. ¶ 25.

## III. The Public Interest Overwhelmingly Favors Relief.

The balance of harms and public interest favor Plaintiffs because they are likely to succeed on the merits, will suffer irreparable harm without relief, and seek to preserve the coverage Congress guaranteed to low-income children through the Medicaid Act. *See supra*, Part I. "[T]he public has an important interest in making sure government agencies follow the law." *Neighborhood Ass'n of the Back Bay, Inc. v. Fed. Transit Admin.*, 407 F. Supp. 2d 323, 343 (D. Mass. 2005); *see also Washington v. Reno*, 35 F.3d 1093, 1103 (6th Cir. 1994) (recognizing the public interest "in having governmental agencies abide by the federal laws that govern their existence and operations").

Issuing the injunction will burden Defendants less than denying an injunction would burden the Plaintiffs. Denying relief would put the four named adolescents at risk of losing coverage for treatment their families cannot afford. *See* Goe Decl. ¶ 16; Koe Decl. ¶ 14; Loe Decl. ¶ 16; Moe Decl. ¶ 14. The consequences of denying relief are not merely financial. The record describes the risk of irreversible pubertal changes for Grace, Kylie, and Logan, as well as serious psychological distress associated with interrupted or unavailable treatment. For Maya, the record

describes worsening withdrawal, irritability, and depression when her puberty blocker wore off. *See* Goe Decl. ¶ 14; Koe Decl. ¶ 12; Loe Decl. ¶ 18; Moe Decl. ¶ 16. The practical burden of denying relief would fall on these families and the children facing interruption of treatment. In contrast, the burden of granting it would be limited to maintaining the status quo of continued federal participation for the named Plaintiffs. On this record, that limited burden is outweighed by the concrete and potentially irreversible harms Plaintiffs face absent an injunction.

By contrast, any harm to Defendants is minimal. Relief would merely preserve the longstanding federal policy that preceded the Rule as to the named Plaintiffs. *See Braintree Lab'ys, Inc. v. Citigroup Glob. Mkts. Inc.*, 622 F.3d 36, 41 n.5 (1st Cir. 2010) ("The status quo [is] the last uncontested status which preceded the pending controversy." (cleaned up)). Defendants cannot claim cognizable harm from an order prohibiting unlawful conduct. *See Lanier v. City of Boston*, 95 F. Supp. 2d 17, 21 (D. Mass. 2000). Nor does the public interest favor enforcing an unlawful policy that inflicts grave harm without legitimate justification.

Any harm to Defendants is minimal, and there is no public interest in withdrawing physician-prescribed care from children who are thriving on it. The status quo that would be preserved as to Plaintiffs has been in place for years; CMS's own evidentiary foundation, the HHS Review, describes the evidence of harm from these medications as "sparse," *see supra* Statement of Facts Part B; and the medications remain federally funded for other children in whom they produce the same physiological effects, *see supra* Part I.A.3.d. On this record, the asserted governmental interest cannot outweigh the concrete and imminent harm to Plaintiffs.

## CONCLUSION

For the foregoing reasons, the Court should grant the motion and, under Federal Rule of Civil Procedure 65(a), preliminarily enjoin Defendants and the persons described in Rule 65(d)(2) from implementing, enforcing, or applying the Rule, 91 Fed. Reg. 52,406, including 42 C.F.R. §§

441.800–441.802, insofar as those provisions prohibit FFP for puberty-suppressing medications and hormone therapy prescribed for gender dysphoria to Plaintiffs, pending final judgment in this action. Alternatively, if this Court is unable to issue a preliminary injunction decision by October 13, 2026, Plaintiffs respectfully request that this Court issue a temporary restraining order enjoining enforcement of the Rule as to Plaintiffs while this Motion remains pending.

Dated: October 1, 2026

Respectfully submitted,

*/s/ Chris Erchull*
Chris Erchull

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*Attorneys for Plaintiffs*

**CERTIFICATE OF SERVICE**

I hereby certify that this motion, the attached memorandum of law, attached exhibits, and proposed order will be served concurrently with the service of the Summonses and Complaint in this matter upon the following defendants and, as required by Fed. R. Civ. P. 4(i)(1), upon the United States Attorney for the District of New Hampshire and the Attorney General of the United States, by certified mail, return receipt requested. To facilitate expedited consideration, courtesy copies will also be transmitted by electronic mail to the Civil Division of the United States Attorney's Office for the District of New Hampshire and the Federal Programs Branch of the Department of Justice.

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Washington, DC 20201

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CENTERS FOR MEDICARE AND MEDICAID SERVICES
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ATTORNEY GENERAL OF THE UNITED STATES
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950 Pennsylvania Avenue NW
Washington, DC 20530

Dated: October 1, 2026

*/s/ Chris Erchull*
Chris Erchull

**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. _____

**DECLARATION OF GINA GOE IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR PRELIMINARY INJUNCTION AND PLAINTIFFS' MOTION TO PROCEED UNDER PSEUDONYM**

I, Gina Goe,[1] hereby declare and state as follows:

1. I am over the age of 18, of sound mind, and in all respects competent to testify. I have personal knowledge of the information contained in this Declaration and would testify competently to those facts if called to do so.

2. I am a plaintiff in this Action and I am the parent and next friend of my minor child, Grace Goe.

3. I am a resident of New Hampshire. I live in Sullivan County with my two children.

[1] Because of concerns about my child's privacy and safety, I am seeking to proceed in this case under a pseudonym. *See Motion to Proceed Under Pseudonym*, filed concurrently herewith. In addition, contemporaneous with signing this declaration, I have signed with my legal name a separate copy of this declaration. My attorneys have a copy of that separate declaration.

4. My daughter Grace is eleven years old. She is a transgender girl. She began treatment for gender dysphoria in or around January 2021, and she has lived as a girl every day since then—for more than half of her life. Grace is a Medicaid beneficiary. Medicaid is her only health insurance.

5. From the time she was very young, Grace was attracted to clothing, toys, and decorations that are usually associated with girls. She loved movies about princesses. She carried around a purse and wore light-up shoes depicting Elsa from the movie Frozen. She asked to wear tutus. I never saw it as a problem that she was feminine, because I always believed a parent should let kids be kids. She was free to be herself.

6. At around the age of five, Grace changed. She suddenly began to have horrific outbursts that were completely out of character for her. She had regular breakdowns at bedtime. She began to say degrading things about herself—that she was "ugly," "stupid," and "can't do anything right." My five-year-old daughter told me that she "should just be dead." On one occasion, her school called a crisis counselor to speak with her because Grace had indicated that she could use scissors to hurt herself.

7. I was terrified for her. I went through her bedroom and removed anything I thought she could use to hurt herself. I did not yet understand what was causing my child so much pain, and I did not know how to keep her safe.

8. In or around January 2021, I took Grace to her pediatrician because I was frightened by how she was suffering. Her pediatrician spoke with Grace at length and told me that what I was describing was consistent with gender dysphoria. She recommended that we allow Grace to live as a girl, using a female name and pronouns, and referred us to a specialized gender

clinic for evaluation. Grace's diagnosis was confirmed by the clinic's providers over the following months.

9. I began speaking to family and friends, letting them know that Grace would be living as a girl. With few exceptions, our friends and family have been extremely supportive. The change in Grace was immediate. Her anxiety and distress subsided. The bedtime breakdowns stopped. She stopped calling herself ugly and stupid, and she stopped talking about being dead. Living as a girl did not just make Grace happier; it made her safe.

10. Since her diagnosis, Grace has been a patient at a gender clinic in New Hampshire, where a pediatric endocrinologist has seen her every six months for years. Her care has been continuous and closely monitored.

11. Grace's pediatric endocrinologist is monitoring her physical development and has told me that Grace will very soon reach Tanner stage 2, the point at which the outward physical changes of male puberty begin. Her next appointment is scheduled for October of 2026.

12. Grace knows what is coming. Although the outward changes of male puberty have not yet begun, she understands that without medication her body will soon begin to change in ways that will make other people see her as a boy. This causes her extreme distress. She is a girl, and her family, her friends, and her classmates all know her as a girl. The idea that her own body could take that away from her is a source of constant fear and anxiety for her.

13. I understand from Grace's doctor that many of the changes of male puberty—including a deeper voice, growth of facial and body hair, an Adam's apple, and changes to the shape of her face and body—are permanent once they occur. Puberty blockers work only if they are started before those changes happen. If Grace misses that window, no medication can undo what has already happened to her body.

14. I know what happened to my daughter before she was able to live as a girl, and I know that if she is forced to go through male puberty, it will be worse. She was five years old when she told me she should be dead. She is eleven now—old enough to understand exactly what is happening to her body and to know that she cannot stop it. I fear that she will not be able to function at school, that she will be singled out and harassed as her body changes, and that she will once again become a danger to herself. I am afraid for my daughter's life.

15. Under the care of Grace's pediatric endocrinologist, we have developed a medical treatment plan. As soon as Grace reaches Tanner stage 2, her doctor will prescribe puberty blockers. I understand that this medication will pause puberty so that Grace does not develop the permanent physical characteristics of an adult male while she continues to grow and mature. Her doctor, Grace, and I all agree that this is the right treatment for her, and it is the only treatment that will prevent the harm I have described.

16. I am a single mother raising two children on a low income. The only way I can afford puberty blockers for Grace is through Medicaid. I understand that this medication costs more than I earn in a year. I do not have any other health insurance for Grace, and I have no savings or other resources I could use to pay for this medication out of pocket. Without Medicaid coverage, my daughter will not receive this medication. That is not a choice; it is simply the reality of our finances.

17. I understand that the federal rule prohibiting Medicaid coverage for this care is scheduled to take effect on October 13, 2026—only weeks from now, and at almost exactly the time Grace's doctor expects her to need this medication. I also understand that the rule provides no transition period for children who need puberty blockers. If the rule takes effect, I know of no

way for Grace to receive puberty blockers when her puberty begins. Her body will start to change, and those changes will be permanent, while this case is being decided.

18. Grace's doctor has recommended this treatment. Grace needs it to treat her gender dysphoria. As her mother, I have decided that it is in her best interest. The rule takes that decision away from us—not because anyone has concluded that this treatment is wrong for my daughter, but because I cannot pay for it myself.

19. The rule is already harming our family. Since I learned of it, I have lived with constant fear about what will happen to Grace. I do not know how I will explain to my daughter that the treatment she has been counting on may be taken away just as she needs it most. I am asking the Court to stop this rule before it is too late for her.

20. I want Grace to proceed under a pseudonym so that she can maintain her privacy during this lawsuit. She is a child. The national and state-level attention on transgender kids in recent years has scared me. Most people in her life do not know that she is transgender. Grace wants agency over who knows personal information about her, especially when it comes to members of the public. We do not know how people will treat Grace if they know her identity and that she is a part of this lawsuit.

21. I also ask to proceed under a pseudonym because using my full name would identify Grace as well. My identity can easily be linked to Grace, especially because we share an unusual last name. Using our real names could expose our family to harassment from being part of this lawsuit. For these reasons, I request that the Court allow us to use pseudonyms in this case.

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

Executed this ___ day of September 2026.

Respectfully,

_____
Gina Goe

Executed this 30 day of September 2026.

Respectfully,

Gina Goe

Gina Goe

**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. _____

**DECLARATION OF KARLA KOE IN SUPPORT OF EXPEDITED MOTION FOR PRELIMINARY INJUNCTION AND PLAINTIFFS' MOTION TO PROCEED UNDER PSEUDONYM**

I, Karla Koe,[1] hereby declare and state as follows:

1. I am over the age of 18, of sound mind, and in all respects competent to testify. I have personal knowledge of the information contained in this Declaration and would testify competently to those facts if called to do so.

2. I am a plaintiff in this Action and I am the parent and next friend of my minor child, Kylie Koe.

[1] Because of concerns about my child's privacy and safety, I am seeking to proceed in this case under a pseudonym. *See Motion to Proceed Under Pseudonym*, filed concurrently herewith. In addition, contemporaneous with signing this declaration, I have signed with my legal name a separate copy of this declaration. My attorneys have a copy of that separate declaration.

3. I am a resident of New Hampshire. I live in Hillsborough County with my two children and their father.

4. My daughter Kylie is thirteen years old. She is a transgender girl. She has lived as a girl since she was six or seven years old—roughly half of her life. Kylie is a Medicaid beneficiary. Medicaid is her only health insurance.

5. Kylie was drawn to femininity from early childhood, and long before she had the words for it, she was showing us who she was. In first grade she found the words. She told her brother that she is a girl, and he came to me and said, "We are not brothers anymore." That was not the beginning of anything for Kylie, but it was the point at which the rest of us caught up to what she already knew about herself. She began living fully as a girl around age six or seven, and she has lived that way, consistently, for roughly half of her life.

6. Kylie began seeing a mental health provider in 2021, who diagnosed her with gender dysphoria. She has also been diagnosed with depression, anxiety, and ADHD. Before she began mental health treatment, she regularly shut down at school. She would stop speaking, refuse to do her work, she sat alone in a corner, and could not be reached by her teachers. With medication and treatment, she is now able to manage those symptoms and get through the school day. But her stability is hard-won and fragile, and it depends on her being able to live as who she is.

7. Most of the students at Kylie's school do not know that she is transgender. They have only ever known her as a girl. That is how Kylie wants it. Being seen simply as a girl—not as a transgender girl—is essential to her sense of safety and belonging at school.

8. I have seen how devastating it is for Kylie when even one person sees her as anything other than a girl. On one occasion, a neighborhood boy called her by her given name, which is a boy's name. His mother corrected him right away, but the damage was done. Kylie

became despondent. She spent the entire next school day in the counselor's office, unable to bring herself to go to class. On another occasion, a classmate used her given name, and Kylie was overcome with anger and fear. She accused her brother of revealing her name to other students, even though he had done nothing of the kind. A single word from one person was enough to keep her out of the classroom for a day and to turn her against her own brother.

9. Since approximately 2024, Kylie has been treated at a gender clinic in New Hampshire, where her care has been overseen by a pediatric endocrinologist for several years. Her endocrinologist is tracking her physical development closely and has told us this week that Kylie has reached Tanner stage 2, the point at which the outward physical changes of male puberty begin.

10. Kylie knows those changes are coming. She is terrified that other people will begin to see her as a boy. For Kylie, this is not an abstract fear. She has spent her entire school life as a girl, and the students around her do not know she is transgender. If her voice deepens and her face and body begin to change, every one of them will find out at once—not because she chose to tell them, but because her body will tell them for her. She would lose control over the most private fact about herself, in front of everyone she knows.

11. Kylie's endocrinologist has explained to us what male puberty would do to her body if it is allowed to proceed: her voice would drop and would never come back, hair would grow on her face and chest, her jaw and brow would broaden, and an Adam's apple would form. Once those changes have happened, they cannot be reversed by any medication. The doctor has also explained that puberty blockers are effective only if they are started at the beginning of puberty, before these changes take hold. That is why the timing matters so much: the window in which this medication can protect Kylie is about to open, and once it closes it will not open again.

12. I know my daughter. If she begins to develop the outward physical characteristics of a boy, she will refuse to go to school. She will refuse to go out in public at all if she believes people will not see her as a girl. I know this because I have already watched a single misused name keep her out of the classroom for a day. Kylie is thirteen. She is already living with depression and anxiety, and she is at an age when a child's sense of self is especially vulnerable. I am deeply afraid of what forced masculinization would do to her mental health, her education, and her safety.

13. Under the care of her pediatric endocrinologist, Kylie has a medical treatment plan in place. Her doctor plans to prescribe puberty blockers now that she has reached Tanner stage 2. I understand that this medication will pause puberty so that Kylie does not develop the permanent physical characteristics of an adult male while she continues to grow and mature. Her doctors, her father, and I all agree that this is the right treatment for Kylie, and Kylie herself wants it.

14. We are a low-income family of four. The only way we can afford puberty blockers for Kylie is through Medicaid. I understand that this medication costs up to $50,000 as an implant, which is more than our family earns in nine months. We have no other health insurance for Kylie and no savings or other resources to pay for this medication out of pocket. Without Medicaid coverage, Kylie will not receive this medication. That is not a choice we are making; it is simply the reality of our family's finances.

15. I understand that the federal rule prohibiting Medicaid coverage for this care is scheduled to take effect on October 13, 2026, which is weeks from now, and at almost exactly the moment Kylie needs this medication. I also understand that the rule provides no transition period for children who need puberty blockers. If the rule takes effect, I know of no way for Kylie to receive puberty blockers. Her body will start to change, and those changes will be permanent, while this case is being decided.

16. Kylie's doctors have recommended this treatment. Kylie wants it. Her father and I have decided that it is in her best interest. The rule takes that decision away from us—not because anyone has concluded that this treatment is wrong for our daughter, but because we cannot pay for it ourselves.

17. The rule is already harming our family. Since we learned of it, Kylie's father and I have lived with constant fear about what will happen to her. I do not know how to tell my daughter that the treatment she has been counting on may be taken away at the very moment she needs it. I am asking the Court to stop this rule before it is too late for her.

18. I am asking that Kylie be permitted to proceed under a pseudonym so that she can maintain her privacy during this lawsuit. She is young and I am afraid because of the attention placed on transgender kids nationally and in New Hampshire. Kylie wants agency over who knows personal information about her, including that she is transgender, especially when it comes to members of the public. While she has a supportive family and community, we do not know how other people will treat Kylie if they learn that she is a part of this lawsuit.

19. I am also asking to proceed under a pseudonym because using my full name would identify Kylie as well. My identity could easily be linked to Kylie, given that we live in a small community in a small state. For these reasons, I am asking that the Court allow Kylie and me to use pseudonyms in this case.

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

Executed this ___ day of September 2026.

Respectfully,

_____
Karla Koe

16. Kylie's doctors have recommended this treatment. Kylie wants it. Her father and I have decided that it is in her best interest. The rule takes that decision away from us—not because anyone has concluded that this treatment is wrong for our daughter, but because we cannot pay for it ourselves.

17. The rule is already harming our family. Since we learned of it, Kylie's father and I have lived with constant fear about what will happen to her. I do not know how to tell my daughter that the treatment she has been counting on may be taken away at the very moment she needs it. I am asking the Court to stop this rule before it is too late for her.

18. I am asking that Kylie be permitted to proceed under a pseudonym so that she can maintain her privacy during this lawsuit. She is young and I am afraid because of the attention placed on transgender kids nationally and in New Hampshire. Kylie wants agency over who knows personal information about her, including that she is transgender, especially when it comes to members of the public. While she has a supportive family and community, we do not know how other people will treat Kylie if they learn that she is a part of this lawsuit.

19. I am also asking to proceed under a pseudonym because using my full name would identify Kylie as well. My identity could easily be linked to Kylie, given that we live in a small community in a small state. For these reasons, I am asking that the Court allow Kylie and me to use pseudonyms in this case.

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

Executed this 30th day of September 2026.

Respectfully, Karla Koe

Karla Koe

**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. _____

**DECLARATION OF LAURA LOE IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR PRELIMINARY INJUNCTION AND PLAINTIFFS' MOTION TO PROCEED UNDER PSEUDONYM**

I, Laura Loe,[1] hereby declare and state as follows:

**A. Background**

1. I am over the age of 18, of sound mind, and in all respects competent to testify. I have personal knowledge of the information contained in this Declaration and would testify competently to those facts if called to do so.

2. I am a plaintiff in this Action and I am the parent and next friend of my minor child, Logan Loe.

[1] Because of concerns about my child's privacy and safety, I am seeking to proceed in this case under a pseudonym. *See Motion to Proceed Under Pseudonym*, filed concurrently herewith. In addition, contemporaneous with signing this declaration, I have signed with my legal name a separate copy of this declaration. My attorneys have a copy of that separate declaration.

3. I am a resident of New Hampshire. I live in Hillsborough County with my daughter and my fiancé.

4. My daughter Logan is fifteen years old. She is a transgender girl. She has lived as a girl since approximately 2021. Logan is a Medicaid beneficiary and has been covered by Medicaid her entire life. Medicaid is her only health insurance.

**B. Logan's Gender Dysphoria and Her Medical Treatment**

5. From the time she was a small child, Logan has consistently understood and expressed herself as a girl. This was not a phase; it has been a constant of her life for as long as I can remember. My fiancé and I encouraged her to play flag football, but she did not enjoy being on a team with boys.

6. When she was nine or ten years old, Logan began to experience extreme anxiety around getting her haircut. I had always kept her hair short, but she made it clear that she wanted to grow it out. During the COVID pandemic, when Logan was not attending school in person, she became increasingly comfortable presenting herself as very feminine at home. At one point in 2021, Logan and I were watching television and somebody on screen mentioned pronouns. I asked Logan what pronouns she preferred, and she told me she wanted to use feminine pronouns.

7. Logan was very close with her grandmother—my mother—who helped me raise her and who was her biggest champion. That year, her grandmother passed away. That was a very difficult time for our family. Soon after her grandmother passed away, Logan came to me and told me that she is transgender. What she told me confirmed what my mother and I had already come to understand about my daughter.

8. Logan has a history of suffering from depression and anxiety. I have taken her to see many counselors, but she does not usually open up to them. She takes medication to treat these conditions, and the medication helps. But she is a quiet and withdrawn teenager.

9. She had success in a group therapy setting with LGBTQ young people after she came out as transgender. She started seeing a therapist at the gender clinic where her pediatrician referred us, and she has continued to see this counselor every few months. This is the only time in her life that she has had a good and sustained relationship with a mental health counselor.

10. During seventh and eighth grade, she was enrolled in public school. She had a very difficult time in school. She experienced bullying and harassment from her peers. Too frequently, she refused to go to school, complaining of stomach pain, anxiety, or grief. I transferred her to a charter school, but there was not an improvement. Now that she is in high school, she studies at home and I supervise her education.

11. Logan was prescribed puberty blockers when she was twelve years old by her pediatric endocrinologist at the gender clinic. Before she was prescribed this medication, she was evaluated by her therapist and by the clinic's medical team, and I attended multiple appointments at which her doctors explained the purpose of the medication, its risks and benefits, and the alternatives. Her doctors, Logan, and I all agreed that this was the right treatment for her. She has now been on puberty blockers for approximately three years. She receives an injection every three months, and the clinic has monitored her closely throughout, including regular blood work and bone density scans. Medicaid has covered all of this care. She has not had any changes to her body associated with masculine puberty. For example, she has never had facial hair and her voice has not changed. Her appearance is very feminine.

12. Her doctors have explained to me that puberty blockers pause puberty; they do not stop it permanently. Her doctors have told me that if Logan stops receiving her medication, masculine puberty will resume within a few months, and that the changes that would follow—a deeper voice, facial hair, an Adam's apple, and changes to her face and bone structure—would be permanent. No later treatment could reverse them.

13. Logan has an appointment at the gender clinic on October 5, 2026, to determine whether she is ready to begin estrogen therapy. Her doctors have explained to me that estrogen would allow her body to develop the feminine characteristics that other girls her age have already developed. She strongly desires to see these changes.

**C. The Rule's Impact on Logan and Our Family**

14. When I told Logan that Medicaid will no longer cover the cost of puberty blockers, she looked at me with terror in her eyes and she asked me, "Wait, does that mean I am not going to have puberty blockers? There's a chance I'll go through puberty?" She is scared, and I am scared for her, that she will not be able to continue with her medical treatment.

15. Logan knows what would happen to her body if her medication stops. She is terrified that other people will begin to see her as a boy. For Logan, this is not an abstract fear. She has already had to leave school because of the bullying and harassment she experienced. If her voice deepens and her face and body begin to change, people in our community will find out at once—not because she chose to tell them, but because her body will tell them for her. She would lose control over the most private fact about herself.

16. We are a low-income family. The only way we can afford puberty blockers for Logan is through Medicaid. The gender clinic has told me that, without insurance, her medication would cost approximately $70,000 per year, which is more than our family income. We have no

other health insurance for Logan and no savings or other resources to pay for this medication out of pocket. My fiancé is not Logan's legal parent and cannot add her to his employer's health plan. No one from New Hampshire Medicaid or from the clinic has told me about any state program that would pay for this care if the federal rule takes effect. Without Medicaid coverage, Logan will not receive this medication. That is not a choice we are making; it is simply the reality of our family's finances.

17. I understand that the federal rule prohibiting Medicaid coverage for this care is scheduled to take effect on October 13, 2026, less than three weeks from now and only eleven days after Logan's appointment at the gender clinic. I also understand that the rule provides no transition period for children who , like Logan, are already receiving puberty blockers, even though it allows a tapering period for children who are already receiving hormone therapy. If the rule takes effect, I know of no way for Logan to continue the medication she has been receiving for the past three years. Her doctors have told me that once her medication stops, her body will begin to go through masculine puberty, and those changes will be permanent. That would happen while this case is being decided, and no decision afterward could undo it.

18. Logan's doctors have recommended this treatment, and they have prescribed and monitored it for three years. Logan wants it and needs it for her well-being. I have decided that it is in her best interest after working for years with her medical treatment team to understand the risks and benefits of treatment. For those three years, Medicaid has covered this care as medically necessary for her. The rule takes that decision away from us—not because anyone who knows my daughter has concluded that this treatment is wrong for her, but because we cannot pay for it ourselves.

19. The rule is already harming our family. Since I learned of it, I have been in a constant state of panic because I do not know how to help my daughter. I have spent hours trying to find some other way to pay for her care, and I have found none. I am asking the Court to stop this rule before it is too late for her.

20. I am asking that Logan be permitted to proceed under a pseudonym to protect her privacy and safety. This case concerns the medical treatment of a teenager for a sensitive condition. Logan is aware of and anxious about the hostility directed at transgender kids nationally and in New Hampshire. Logan wants control over who knows that she is transgender. While she has a supportive family and community, we do not know how other people will treat Logan if they learn that she is a part of this lawsuit.

21. I am also asking to proceed under a pseudonym because using my name would identify Logan. We live in a small community in a small state, and my identity could easily be linked to hers. I therefore ask the Court to allow Logan and me to use pseudonyms in this case.

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

Executed this 29th day of September 2026.

Laura Loe

**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. _____

**DECLARATION OF MELISSA MOE IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR PRELIMINARY INJUNCTION AND PLAINTIFFS' MOTION TO PROCEED UNDER PSEUDONYM**

I, Melissa Moe,[1] hereby declare and state as follows:

1. I am over the age of 18 and competent to testify. I have personal knowledge of the facts stated in this Declaration and would testify to them if called to do so.

2. I am a plaintiff in this Action and I am the parent and next friend of my minor child, Maya Moe.

[1] Because of concerns about my child's privacy and safety, I am seeking to proceed in this case under a pseudonym. *See Motion to Proceed Under Pseudonym*, filed concurrently herewith. In addition, contemporaneous with signing this declaration, I have signed with my legal name a separate copy of this declaration. My attorneys have a copy of that separate declaration.

3. I am a resident of New Hampshire. I live with my daughter.

4. My daughter Maya is fifteen years old. She is a transgender girl. She has lived as a girl since she was five years old, which is most of her life. Maya has been enrolled in New Hampshire Medicaid since 2016. Medicaid is her only health insurance. I have no employer-sponsored or other coverage available for her.

5. Maya has expressed that she is a girl since she was very young. At around the age of four, she became extremely distressed while shopping for clothes in the boys' section, because she only wanted to wear girls' clothing. One morning, when she was five years old, she woke up and told me that she is a girl.

6. I allowed her to live as a girl, including at school, from around the age of five. No medical treatment was involved at that age. Since then, her identity has been consistent.

7. Her teachers noticed an immediate change in her demeanor when she was recognized as a girl. Before, she was introverted, quiet, and anxious. After she started living as a girl, she became more present and engaged.

8. In April 2019, Maya's pediatrician referred her to a specialized gender clinic, where she was diagnosed with gender dysphoria. Since then, she has gone to the clinic every six months for appointments to monitor her development.

9. In October 2022, after her doctors determined that she had begun puberty, she was prescribed puberty blockers, which were administered every few months by injection. While the medication was effective at delaying puberty, the injections were painful. Maya would also experience serious changes in her demeanor about one or two weeks before she was due for another shot, as the medication wore off. During those periods she was

irritable and depressed. In 2025, Maya's pediatric endocrinologist recommended that she switch to an implanted version of puberty blockers, which she currently has. The implant has kept her mood much more stable.

10. Maya's endocrinologist determined that her implant needs to be replaced at least once before her eighteenth birthday. Once the implant stops working, the medication wears off quickly and testosterone-driven puberty will begin within a few months. Medicaid has covered every injection and the implant since 2022.

11. Maya began estrogen therapy in 2023, which Medicaid has also covered. As a result, she has developed secondary sex characteristics typical of a girl her age. Her doctors have told me that she needs to continue both the puberty blocker and estrogen.

12. Maya began this treatment in 2022, before New Hampshire's law restricting this care for minors took effect on January 1, 2026, and her doctors in New Hampshire have continued to provide it.

13. I made the decision to pursue this treatment for Maya together with her pediatrician, the clinic, and her endocrinologist, after years of monitoring. Based on their advice and on what I have seen in my own daughter, I believe this care is medically necessary for her. The Rule takes that decision away from me and from her doctors.

14. Maya follows the news and knows that the federal government intends to stop Medicaid from paying for puberty blockers and hormones. She is very worried about what will happen to her. Our family cannot afford to pay for this care. We do not have any family or friends who can help with expenses. An implant costs more than $40,000, which is more than my annual income. Estrogen costs approximately $100 per month, in

addition to the cost of monitoring visits and bloodwork. My understanding is that New Hampshire Medicaid will no longer cover her care after October 13, 2026.

15. Maya knows that some of the changes caused by a masculine puberty, including a deeper voice and facial and body hair, are permanent. She is afraid of those changes.

16. When the blocker has worn off for only a week or two, Maya has become withdrawn, irritable, and depressed. Going through a full masculine puberty would be far worse, and the physical changes would be permanent. I am afraid that she would experience severe and lasting depression and that she could become suicidal.

17. The Rule is already harming our family. Since we learned of it, Maya and I have lived with dread about what will happen to her. I have asked her doctor if the implant can be replaced sooner out of fear. I am asking the Court to stop the Rule before it is too late for her.

18. I am asking that Maya be permitted to proceed under a pseudonym to protect her privacy and safety. This case concerns the medical treatment of a fifteen-year-old for a sensitive condition. Maya is aware of and anxious about the hostility directed at transgender kids nationally and in New Hampshire. Maya wants control over who knows that she is transgender. While she has a supportive family and community, we do not know how other people will treat Maya if they learn that she is a part of this lawsuit.

19. I am also asking to proceed under a pseudonym because using my name would identify Maya. We live in a small community in a small state, and my identity could easily be linked to hers. I therefore ask the Court to allow Maya and me to use pseudonyms in this case.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 29 day of September 2026.

Respectfully,

Melissa Moe

Melissa Moe

**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. 1:26-cv-803

**EXPERT DECLARATION OF KATE MILLINGTON, MD IN SUPPORT OF PLAINTIFFS' MOTION FOR A PRELIMINARY INJUNCTION AND PLAINTIFFS' MOTION TO PROCEED UNDER A PSEUDONYM**

I, Kate Millington, M.D., declare as follows:

1. I submit this declaration based on my personal knowledge.

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

3. I have actual knowledge of the matters stated herein. If called to testify, I will testify truthfully based on my expert opinion.

**Professional Background and Qualifications**

4. I am a pediatric endocrinologist and Assistant Professor of Pediatrics, Clinician Educator at Brown University. I earned my medical degree at the Perelman School of Medicine at the University of Pennsylvania. I completed my residency in pediatrics and fellowship in pediatric endocrinology at Boston Children's Hospital. A true and correct copy of my curriculum vitae is attached hereto as **Exhibit A**.

5. I am a member of the American Academy of Pediatrics, the Pediatric Endocrine Society, and the Endocrine Society. I have active licenses to practice medicine in Massachusetts and Rhode Island.

6. I have extensive clinical experience in caring for transgender patients and patients with disorders of sex development as well as a variety of endocrine conditions including disorders of growth and puberty, diabetes, and thyroid disease. The care of transgender youth is the major focus of my clinical practice, research, and teaching. I have been caring for transgender youth since 2018 and have personally cared for hundreds of transgender patients.

7. I currently care for transgender youth in the Gender and Sexuality clinic in the Division of Adolescent Medicine at Hasbro Children's Brown University Health in Rhode Island. The Gender and Sexuality clinic is made up of specialists in adolescent medicine, reproductive health, psychiatry, and pediatric endocrinology, as well as social work.

8. As listed in **Exhibit A**, I have published extensively on the medical care of transgender youth and have peer reviewed scientific abstracts and manuscripts on the topic prior to publication. I have also co-authored a chapter in a medical textbook related to the medical care of transgender youth. My primary research is focused on the medical outcomes of gender affirming care for youth. I have many past publications as well as ongoing research projects examining

outcomes of gender affirming hormones (GAH) and puberty blocking medications in transgender youth. My research has been funded by grants from the National Institutes of Health and the Doris Duke Foundation.

9. I have been invited to give talks at multiple hospitals and conferences about the care of transgender youth and about my research.

10. I am involved in teaching and training medical students, residents, and fellows at Brown University. I am the co-director of the Endocrine Sciences course at the Warren Alpert Medical School of Brown University. In this course I give lectures titled "Puberty" and "Transgender Health."

11. During my fellowship in pediatric endocrinology, I worked in the Gender Multi-specialty (GeMS) clinic at Boston Children's Hospital. GeMS was founded by Dr. Norman Spack in 2007 and is one of the nation's oldest clinics dedicated to the care of transgender youth. I was mentored by the clinicians in the GeMS clinic. While working and training in GeMS, I began doing clinical care and researching the care of transgender youth.

12. My expert opinions are based on my education, training, review of the medical literature, my own research and scholarship, participation in national and regional conferences, and my professional experience.

13. In preparing this declaration, I reviewed the medical literature listed in the bibliography attached hereto as **Exhibit B**.

14. The materials I have relied upon in preparing this declaration are the same types of materials that experts in my field regularly rely on when forming opinions. I may wish to supplement these opinions or the bases for them as a result of new research or publications or in response to statements and issues that may arise in my area of expertise.

15. I am being compensated by counsel for Plaintiffs at a rate of $450 per hour, with a maximum of $3,600 per day. My compensation does not depend on the outcome of this litigation, the opinions I express, or the testimony I provide.

**Introduction to Sex, Gender Identity, and Gender Dysphoria**

16. Sex and gender are both parts of human biology and experience. *Sex* is multifactorial. It typically refers to a composite of several biological attributes including genetics, internal reproductive organs, external genitalia, and gonadal identity, although gender identity is another sex attribute that has a biological basis. In most cases, infants have typically-appearing genitalia and sex is identified based on the impression of the external genitalia by a medical provider at birth.

17. *Gender identity* refers to one's internal sense of self. (Safer & Tangpricha, 2019) Everyone has a gender identity. Gender expression does not always conform to gender identity. (Gülgöz et al., 2019) Gender identity has a biological basis. (Carswell et al., 2022) Most people have a gender identity that conforms with their sex identified at birth. However, some individuals have a gender identity that does not conform with their sex identified at birth. The term *transgender* is used to describe those individuals with a gender identity that is different than the sex identified at birth. (Safer & Tangpricha, 2019).

18. Gender dysphoria is a sustained and significant difference between one's experienced gender and that identified at birth. The criteria for this diagnosis are laid out in the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision* (DSM-5-TR) (American Psychiatric Association, 2022). To meet the criteria for a diagnosis of gender dysphoria, patients must experience an incongruence between their gender identity and birth sex leading to impairment in their functioning at school, work, home,

with friends, or in other important areas for at least six months. In my experience, because of the steps necessary to attend a gender specialty clinic, most if not all patients have experienced symptoms of gender dysphoria for much longer than six months by the time of their first clinic visit.

## Current Guidelines and Approach to Treatment of Gender Dysphoria

19. Several professional guidelines set the standard for the treatment of gender dysphoria today. These include the Standards of Care for the Health of Transgender and Gender Diverse People Version 8 (SOC 8), updated in 2022, and Endocrine Treatment of Gender Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline, published in 2017. (Coleman et al., 2022; Hembree et al., 2017)

20. Pursuant to these guidelines, gender affirming care for minors is broad and may include social transition (e.g., changing name, pronouns, clothing, hair style, etc.), medication, and/or, in rare cases, surgery. (Clark et al., 2025; Coleman et al., 2022; Hembree et al., 2009; Hidalgo et al., 2013; Rosenthal, 2014)

21. For a typical patient, prescription of gender affirming medications comes at the end of a lengthy process. First, the child or adolescent must feel comfortable discussing their identity with their parent or guardian. Then they must obtain a referral from their pediatrician to a gender clinic. This assumes that the pediatrician knows of a gender clinic in their area, can refer there, the clinic is taking new patients, and the patient and family can schedule an appointment and travel to the clinic. Finally, the patient must come to the clinic for an often lengthy intake appointment. In my experience, patients who I meet for the first time have typically understood themselves as transgender for many years before our visit.

### A. Diagnosis of Gender Dysphoria

22. Referral to a gender specialty clinic typically first requires a diagnosis of gender dysphoria by a mental health or medical provider. To receive this diagnosis, patients must have "a marked incongruence between one's experienced gender and natal gender of at least 6 months" that "is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning." (American Psychiatric Association, 2022) In my experience transgender youth frequently have a clear incongruence between their gender and birth sex for much longer than six months before they receive a gender dysphoria diagnosis.

23. The first step in the care of transgender youth is a comprehensive mental health assessment by a mental health professional who has been specifically trained in the assessment of transgender youth. This assessment helps the treatment team understand the youth's experience with gender identity and what their goals for treatment are, assess if they meet the diagnosis for gender dysphoria, and identify any co-occurring mental health or social conditions that should be addressed. (Coleman et al., 2022; Hembree et al., 2017; Rosenthal, 2014) In our clinic, all new patients meet with our program director, a clinical social worker, and the clinic medical director, a pediatric psychiatrist. All patients in our clinic are encouraged to have ongoing care with an outside mental health professional. Our program director speaks to the patients' mental health provider to further inform their assessment. Following that assessment, patients who are ready for medical intervention are then seen by a medical provider. Not all patients are ready for a medical visit after the initial assessment.

**B. Endocrine Interventions**

24. Many of the physical characteristics that we perceive as typically male or female (e.g., facial hair, breast development, deep voice, facial structure, etc.) are created under the influence of testosterone or estrogen during puberty. Puberty is a time of transition that happens

in non-transgender girls between ages 8 and 13 years and in non-transgender boys between ages 9 and 14 years. When non-transgender girls go through puberty, their ovaries start to produce estrogen. Estrogen causes physical changes such as breast development, softening of the skin and hair, etc. These changes are typically associated with a feminine appearance. When non-transgender boys go through puberty, their testes start producing testosterone. Testosterone causes physical changes such as a deeper voice, facial hair, and increased body hair that are typically associated with appearing or sounding male.

25. Medical care for transgender youth is time sensitive. If transgender youth do not receive appropriate medical care at the time of puberty, they will undergo physical changes that can only possibly be reversed by surgical intervention later in adulthood or that cannot ever be reversed. They may undergo serious psychological harm, including depression, anxiety, and suicidality.

26. Different interventions may be warranted at different developmental stages, as set out below:

**1. Pre-Pubertal Minors**

27. For children who have not yet reached puberty, treatment guidelines do not recommend the use of hormonal interventions.

**2. Early Pubertal Minors**

28. For those transgender youth who have entered puberty (e.g., achieved Tanner stage II[1] breast development or testicular volume > 3 mL), GnRH analogs (GnRHa) can be used to pause

[1] Tanner staging is a scale used to describe how far a child or adolescent has progressed through puberty. It rates physical signs of development such as breast development, testicular enlargement, pubic hair growth, and genital changes on a scale from I (no puberty) to V (completed puberty). Tanner stage II represents the beginning of pubertal changes.

pubertal development. GnRHa have been used in the treatment of precocious or early puberty since the 1980s. (Carel & Léger, 2008) These medications are versions of the hormone GnRH, which is naturally released in pulses by the brain to start puberty. When given continuously, GnRHa block this signal and pause puberty. GnRHa are reversible and when they are discontinued puberty will resume. GnRHa do not change a patient's body. Instead, they pause changes that would have happened if endogenous puberty progressed. GnRHa give transgender youth more time to explore their gender identity by pausing physical changes that don't match their gender identity. For transgender youth who continue treatment, GnRHa prevent physical changes—like facial hair or breast development—that would otherwise need surgery or may not possibly be able to be reversed later in life. (Coleman et al., 2022; de Vries & Cohen-Kettenis, 2012; Hembree et al., 2017; Rosenthal, 2014)

29. GnRHa have the same physiologic mechanism in gender affirming care as they do in precocious puberty. The same forms of GnRHa are used in both populations. Patients with precocious puberty develop pubertal changes before the typical age of puberty (e.g., 8 years in girls and 9 years in boys). For these patients, treatment with GnRHa typically begins at the time of diagnosis of precocious puberty and is continued until between age 10 and 12 years. So, for patients who start early these medications could be continued for up to 10 years. Studies of children who received GnRHa for precocious puberty in childhood have not shown any long term impact on reproduction or pregnancy. (Lazar et al., 2014) Transgender youth would not be treated with GnRHa alone for this length of time. (Hembree et al., 2017; Coleman et al., 2022) Therefore, children with precocious puberty treated with the same GnRHa medications would have their puberty paused for as long or longer than transgender youth. Long term data in this population have shown that GnRHa are safe for long term use.

### 3. Gender Affirming Hormones

30. The medical care of transgender adolescents is aimed at bringing the physical body in line with one's gender identity. Hormones (estrogen or testosterone) are used to produce physical characteristics that would be in line with the patient's gender. For example, for someone who was identified as female at birth but has a male gender identity, testosterone would produce a deep voice and body and facial hair to allow the person to appear masculine. For a person who was identified as male at birth who has a female gender identity, estrogen would produce breast development and fat redistribution amongst other changes that would allow them to appear feminine.

31. All the medications used in the care of transgender patients including testosterone, estrogen, and GnRHa are commonly used to treat other conditions in youth and adolescents (e.g., hypogonadism, early or delayed puberty, gonadal insufficiency, etc.). Testosterone is given to non-transgender boys who have not entered puberty by the typical time for the same reason it is given to transgender boys, to produce physical characteristics that are in line with their gender identity. Likewise, estrogen is given to non-transgender girls who do not go through puberty at the normal time to produce feminine physical characteristics as well as to prevent osteoporosis, mature the uterus, and produce a menstrual cycle.

## C. Current Medical Research on Transgender Medical Care

32. To help clinicians make medical decisions, medical societies write clinical guidelines. Clinical guidelines are written by groups of experts after a careful review of the available literature. Such a review would include review of observational studies, case reports and series, RCTs, and expert opinion. The guidelines that guide the care of transgender youth were written in this fashion. (Coleman et al., 2022; Hembree et al., 2017)

33. The literature on outcomes of GnRHa and GAH in transgender youth has also been summarized in several systematic reviews (Baker et al., 2021; Doyle et al., 2023; Thompson et al., 2023; Heathcote et al., 2024; Taylor, Hall, Heathcote, Hewitt et al., 2024b, 2024a; Taylor, Mitchell, Hall, Heathcote et al., 2024; Taylor, Mitchell, Hall, Langton et al., 2024; Miroshnychenko et al., 2025a; Miroshnychenko et al., 2025b) and reports. (Cass, 2024; Dopp et al., 2024; Strohecker et al., 2024)

34. These systematic reviews cover an overlapping body of evidence and have reached similar conclusions with regards to the positive outcomes associated with gender affirming medical care.

35. A report commissioned by the Utah Department of Health and Human Services, at the direction of the Utah Legislature as part of the moratorium on gender affirming care for youth enacted in January 2023, and completed by the University of Utah, which again reviewed the same body of literature, reached the following conclusion: "The conventional wisdom among non-experts has long been that there are limited data on the use of [gender affirming hormone therapy] in pediatric patients with [gender dysphoria]. However, results from our exhaustive literature searches have led us to the opposite conclusion." And "[t]he consensus of the evidence supports that the treatments are effective in terms of mental health, psychosocial outcomes, and the induction of body changes consistent with the affirmed gender in pediatric [gender dysphoria] patients. The evidence also supports that the treatments are safe in terms of changes to bone density, cardiovascular risk factors, metabolic changes, and cancer." (Strohecker et al., 2024)

36. The majority of transgender youth who begin gender affirming therapy continue therapy. Of the minority of transgender youth who discontinue gender affirming therapy, many discontinue medical therapy as part of their gender expression goals (e.g., using gender affirming

hormones for a short time for specific changes). Recent longitudinal studies of transgender youth treated in Oregon and New Jersey found that the rate of regret is extremely low—only 0.7% and 2.3% respectively of youth regretted starting hormone or GnRHa therapy. (Crabtree et al., 2024; Olson et al., 2024)

## Benefit and Safety of Gender Affirming Care

### A. Benefits

37. It is important to keep in mind that the primary goal of medical treatment for gender dysphoria is to treat the patient's gender dysphoria by bringing the person's body into alignment with their identity and as a result, reduce the significant distress and anxiety that such misalignment causes that person. And while, as explained below, gender affirming medical treatment has additional mental health benefits, particularly when co-morbidities are associated with the patient's gender dysphoria, gender affirming medical care is not meant to treat all of a person's mental health conditions, which may be unrelated to gender dysphoria or may be attendant to other stressors associated with being transgender, such as the stress caused by discrimination, harassment, and alienation.

38. With that in mind, it is important to understand that treatments such as GnRHa are meant to *prevent* the worsening of dysphoria, the deterioration of mental health, and the development of further body dissatisfaction, whereas the purpose of GAH is to attain feminization or masculinization of the transgender person's body, and thus *decrease* gender dysphoria and associated distress.

39. Consistent with those principles, the scientific literature shows that gender affirming medical care is effective to treat gender dysphoria. Although the treatment of transgender youth has been part of medical care of transgender people for decades (Carswell et al., 2022), the

first publications to suggest that medical treatment for transgender youth may treat gender dysphoria were published by the group in the Netherlands. (A. de Vries et al., 2011; Delemarre-van de Waal et al., 2006; Gooren et al., 2011) In the first observational study (de Vries et al., 2011), the authors reported on 70 transgender patients (33 designated male at birth and 37 designated female at birth) who received GnRHa in childhood followed by GAH. They found that gender dysphoria as measured by the Utrecht Gender Dysphoria Scale[2] did not change during GnRHa use. A follow up report of 55 of these participants found that gender dysphoria did decrease significantly after GAH therapy. (A. L. C. de Vries et al., 2014) This is expected. GnRHa do not change the outside appearance but rather pause ongoing changes. Only once the external body is changed by GAH did participants note improvement in their gender dysphoria. Thus, although GnRHa did not improve gender dysphoria, they were effective in preventing the increase of gender dysphoria as the adolescent progressed through puberty. The subsequent use of GAH, following GnRHa treatment, then improved gender dysphoria, as they cause body changes that better aligned the patient's physical appearance with their identity.

40. Since then, multiple studies have documented the efficacy of GnRHa at preventing increased gender dysphoria and GAH at decreasing/improving an adolescent's gender dysphoria, as well as improving their mental and psychosocial functioning.[3]

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[2] Notably, there are various scales and measures that have been developed and used to measure gender dysphoria, including measures about body satisfaction and appearance congruence. (Strauss et al., 2024)

[3] For pubertal suppression, see for example: de Vries, A.L., Steensma, T.D., Doreleijers, T.A., & 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; Costa, R., Dunsford, M., Skagerberg, E., Holt, V., Carmichael, P., & Colizzi, M. (2015). Psychological Support, Puberty Suppression, and Psychosocial Functioning in Adolescents with Gender Dysphoria. *The journal of sexual medicine*, *12*(11), 2206–2214; 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; van der Miesen, A.I., Steensma, T.D., de Vries,

41. With regards to GnRHa, systematic reviews of these studies document that the studies found either "no change before and after" receiving GnRHa in measurements of gender dysphoria and body satisfaction (Taylor et al., 2024a), which is the intention of this treatment for those measures, or "that gender dysphoria may be lower . . . after receiving puberty blockers compared with before." (Miroshnychenko et al., 2025a)

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A.L., *et al*. (2020). Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care Compared with Cisgender General Population Peers. *Journal of Adolescent Health*, 66(6), 699-704; Achille, C., Taggart, T., Eaton, N.R., *et al*. (2020). Longitudinal Impact of Gender-Affirming Endocrine Intervention on the Mental Health and Well-Being of Transgender Youths: Preliminary Results. *International Journal of Pediatric Endocrinology*, 2020(8), 1-5; and McGregor, K., McKenna, J. L., Williams, C. R., Barrera, E. P., & Boskey, E. R. (2024). Association of Pubertal Blockade at Tanner 2/3 With Psychosocial Benefits in Transgender and Gender Diverse Youth at Hormone Readiness Assessment. *The Journal of adolescent health*, *74*(4), 801–807.

For GAH, see for example: Chelliah, P., Lau, M., & Kuper, L. E. (2024). Changes in Gender Dysphoria, Interpersonal Minority Stress, and Mental Health Among Transgender Youth After One Year of Hormone Therapy. *The Journal of Adolescent Health*, S1054-139X(24)00005-3; Chen, D., Berona, J., Chan, Y. M., Ehrensaft, D., Garofalo, R., Hidalgo, M. A. & Olson-Kennedy, J. (2023). Psychosocial Functioning in Transgender Youth after 2 Years of Hormones. *New England Journal of Medicine*, *388*(3), 240-250; Turban, J. L., King, D., Kobe, J., Reisner, S. L., & Keuroghlian, A. S. (2022). Access to gender-affirming hormones during adolescence and mental health outcomes among transgender adults. *PLoS One*, *17*(1), e0261039; Becker-Hebly, I., Fahrenkrug, S., Campion, F., Richter-Appelt, H., Schulte-Markwort, M., & Barkmann, C. (2021). Psychosocial health in adolescents and young adults with gender dysphoria before and after gender-affirming medical interventions: A descriptive study from the Hamburg Gender Identity Service. *European Child & Adolescent Psychiatry*, 30(11), 1755–1767; Grannis, C., Leibowitz, S. F., Gahn, S., Nahata, L., Morningstar, M., Mattson, W. I., Chen, D., Strang, J. F., & Nelson, E. E. (2021). Testosterone treatment, internalizing symptoms, and body image dissatisfaction in transgender boys. *Psychoneuroendocrinology*, 132, 105358, 1-8; Kuper, L. E., Stewart, S., Preston, S., Lau, M., & Lopez, X. (2020). Body dissatisfaction and mental health outcomes of youth on gender-affirming hormone therapy. *Pediatrics*, 145(4); Achille, C., Taggart, T., Eaton, N.R., *et al*. (2020). Longitudinal Impact of Gender-Affirming Endocrine Intervention on the Mental Health and Well-Being of Transgender Youths: Preliminary Results. *International Journal of Pediatric Endocrinology*, 2020(8), 1-5; de Lara, D.L., Rodríguez, O.P., Flores, I.C., *et al*. (2020). Psychosocial Assessment in Transgender Adolescents. *Anales de Pediatría (English Edition)*, 93(1), 41-48; and Allen, L.R., Watson, L.B., Egan, A.M., & Moser, C.N. (2019). Well-Being and Suicidality Among Transgender Youth After Gender-Affirming Hormones. *Clinical Practice in Pediatric Psychology*, 7(3), 302-311.

42. With regards to GAH, studies looking at other markers of gender dysphoria such as appearance congruence or body satisfaction have found that such gender affirming medical treatments lead to an improvement. (Achille et al., 2020; Chen et al., 2023; Kuper et al., 2020) This is further documented in the systematic reviews looking at the body of evidence. For example, Miroshnychenko et al. (2025b) documented that comparative observational studies have shown that gender dysphoria for patients who received GAH "may be lower" than in "those who did not" and that before-after studies similarly show decreased gender dysphoria after treatment with GAH. Similarly, Taylor et al. (2024b) documented that studies looking at the provision of GAH for adolescents reported "reduction in dysphoria."

43. As noted, gender affirming medical treatment has the added benefit of improving transgender adolescent patients' mental health, wellbeing, and quality of life, particularly when the patient's mental health co-morbidities are associated with their gender dysphoria. There have been many studies that have shown that medical gender affirming care for youth decreases depression and anxiety, improves psychosocial functioning and overall wellbeing, and decreases suicidality and self-harm. (Achille et al., 2020; L. R. Allen et al., 2019; Chen et al., 2023; Costa et al., 2015; A. de Vries et al., 2011; A. L. C. de Vries et al., 2014; Fisher et al., 2024; Khatchadourian et al., 2014; McGregor et al., 2024; Tordoff et al., 2022; van der Miesen et al., 2020)

44. To highlight relevant examples, Green et al. (2021) reported that gender-affirming hormone therapy is correlated with reduced rates of depression and suicidality among transgender adolescents. Similarly, Turban et al. (2022) found that access to gender-affirming hormone therapy in adolescence is associated with favorable mental health outcomes in adulthood compared to individuals who could not access hormonal interventions. Moreover, Chelliah et al. (2024) demonstrated reductions in body dissatisfaction, victimization, depression, and anxiety as well as

improvements in psychosocial functioning one year after patients initiated medical treatment at a multidisciplinary gender-affirming program.

**B. Safety**

45. Like all medications, GnRHa have side effects. However, side effects from GnRHa are relatively rare. In children and adolescents, side effects can include local reactions at the injection site such as the formation of a fluid pocket (sterile abscess), and temporary hot flashes because of a drop in estrogen. (Popovic et al., 2022) Seizures have been reported in a few case reports as have fractures at the growth plate in the hip (slipped capital femoral epiphysis). (Bangalore Krishna et al., 2019) There were six cases of increased pressure around the brain reported in children receiving GnRHa. However, in a large study of more than 400 transgender individuals receiving GnRHa, there were no cases of increased intracranial pressure. (Karamanis et al., 2023) Side effects can occur in patients receiving GnRHa for any indication. There have been few to no reports of adverse effects of GnRHa in transgender youth. (Khatchadourian et al., 2014)

46. In transgender youth, who go on to receive GAH after GnRHa, there are two additional potential adverse effects to consider: fertility potential and bone health. (Betsi et al., 2024; Rosenthal, 2014)

47. A discussion of fertility, the impact of medications on fertility, and options for fertility preservation is part of the counseling before starting any gender affirming medications. The conversation starts at the initial medical visit and is revisited again at key junctions in the treatment journey. The guidelines include a recommendation that all transgender youth receiving gender affirming medications receive fertility preservation and, if desired by the patient, be referred to a fertility specialist. (Coleman et al., 2022; Hembree et al., 2017)

48. GnRHa temporarily stop the development of eggs and sperm. If treatment is stopped—either before starting GAH or later in adulthood—fertility will resume normally. Long-term studies have shown that people who use GnRHa have the same rates of pregnancy and pregnancy outcomes as those who do not. (Lazar et al., 2014; Martinerie et al., 2021)

49. If GnRHa treatment is followed by GAH, eggs or sperm may never fully develop. In adulthood, individuals can choose to stop treatment to allow puberty and gamete development to resume, or explore other options for building a family—such as egg or sperm donation, embryo adoption, or adoption. (Cheng et al., 2019; De Roo et al., 2025) For transgender youth starting GAH without prior GnRHa, current guidelines recommend discussing fertility preservation, like banking eggs or sperm. (Coleman et al., 2022; Hembree et al., 2017) However, even if they are unable to preserve eggs or sperm, there is growing evidence that some transgender adults who have used GAH have had successful pregnancies and births. (Baram et al., 2019; De Roo et al., 2025; Light et al., 2014)

50. Gender affirming care is not the only area in pediatrics where fertility may be affected, and fertility preservation is recommended. For example, chemotherapy poses a high and well-known risk of infertility. Yet even in that setting, fertility preservation is not routinely done due to various barriers. (Johnson et al., 2017; Yang et al., 2024) For any treatment that may impact fertility, patients, families, and care teams should discuss the risks and benefits, including the consequences of delaying or avoiding treatment.

51. Puberty is a time of peak bone mass accrual, and estrogen and testosterone are important for the development of bone mass. The bone mass that is accumulated during puberty determines lifetime skeletal health, and impaired bone mass accrual during this time can increase the risk of osteoporosis in adulthood. There have been multiple studies of bone health in

transgender individuals. (Guss et al., 2022; Joseph et al., 2019; Klink et al., 2015; Lee, 2023; Lee et al., 2020; Navabi et al., 2021; Schagen et al., 2020; Van Der Loos et al., 2022; Vlot et al., 2017) In general, these studies have found that GnRHa pause bone mass accrual and that once patients receive GAH their bone mass accrual resumes and they develop normal bone mass.

52. Multiple studies have found that transgender youth designated male at birth have lower bone mineral density compared to their peers *before* receiving GnRHa. (Hodax et al., 2023; Klaver et al., 2020; Lee et al., 2020; Navabi et al., 2021; Schagen et al., 2020; Vlot et al., 2017) These studies also found that transgender youth have lower Vitamin D levels, report lower calcium intake, and lower physical activity levels than their non-transgender peers. Vitamin D, calcium, and physical activity are factors that improve bone health. I recommend that all my patients take vitamin D supplements, get the recommended daily amount of calcium (1300 mg for adolescents), and engage in physical activity. I have never had a patient receiving gender affirming medical care sustain a broken bone without a clear cause (e.g., falling from a horse, sports injury, etc.).

53. Many of the older studies on bone health only included short term outcomes. One recent article by van der Loos et. al., looked at 75 individuals (25 designated male at birth and 50 designated female at birth) with over nine years of follow-up. This study found that during GnRHa treatment, bone mineral density decreased when compared to age and sex matched peers, however, after treatment with GAH bone density recovered to match their peers with the exception of one site, the lumbar spine, in those designated male at birth. (Van Der Loos et al., 2022)

54. In summary, although bone mineral density does decrease compared to peers during GnRHa, it recovers after GAH treatment.

## Conclusion

55. Gender dysphoria is a sustained and significant difference between one's experienced gender and their identified sex at birth. Treatment for gender dysphoria has existed for over 100 years, and the care of transgender youth has been an integral part of the field of gender medicine for decades. Studies conducted during that time have consistently shown that transgender youth, whose sex assigned at birth does not match their gender identity, benefit from medical care to bring their physical body in line with their gender identity.

56. The overwhelming conclusion from the available medical research, including systematic reviews, is that medical interventions for transgender youth improve gender dysphoria, anxiety, depression, and psychological well-being. In particular, puberty blocking medications have been consistently shown to achieve their intended purpose of preventing the worsening of gender dysphoria, and GAH have similarly been shown to improve gender dysphoria in adolescents.

57. The evidence used to guide decision making in the care of transgender youth is no different in terms of its quality than the evidence in other areas of pediatrics. Likewise, the medications used in the care of transgender youth are safe and routinely used in other pediatric endocrine conditions. Side effects from medications are relatively rare and easily managed. The care of transgender youth is complex, as are many clinical scenarios in pediatrics and medicine. The people best suited to help guide youth and their families through these decisions are mental health and medical providers with specific expertise in the field of transgender youth care, patients, and their families.

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

Executed this 29th day of September 2026.



Kate Millington, M.D.

# Exhibit A

July 2026

# CURRICULUM VITAE
Kate Millington

Division of Pediatric Endocrinology and Diabetes
Hasbro Children's Brown University Health
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## EDUCATION

| | | |
|---|---|---|
| 2007 | BA (Liberal Arts) | Bard College at Simon's Rock |
| 2008 | BS (Biomedical Engineering) | Fu Foundation School of Engineering<br>Columbia University |
| 2014 | MD | Perelman School of Medicine<br>University of Pennsylvania |

## POSTGRADUATE TRAINING

| | | |
|---|---|---|
| 2014 - 2017 | Residency, Pediatrics | Boston Combined Residency Program<br>Boston Children's Hospital<br>Boston Medical Center |
| 2017 – 2020 | Fellowship, Pediatric Endocrinology | Boston Children's Hospital |

## POSTGRADUATE HONORS AND AWARDS

| | | |
|---|---|---|
| 2011 | Medical Student Research Program | NIDDK |
| 2014 | Medical Student Award | Endocrine Society |
| 2017 | Medical Student Teaching Award | Harvard Medical School |
| 2017 | Farley Fellows Award | Boston Children's Hospital |
| 2017 | Travel Award | Pediatric Endocrine Society |
| 2018 | BCH Alumni Travel Award | Boston Children's Hospital |
| 2018 | Fellow Teaching Award | Boston Combined Residency Program |
| 2018 - 2022 | Faculty Teaching Honor Roll | Boston Combined Residency Program |
| 2020 | Best Novel Insight Paper | Pediatric Endocrine Society |
| 2025 | Dean's Excellence in Teaching | Warren Alpert Medical School |
| 2025 | Positive Champions of the Learning Environment | Warren Alpert Medical School |

## PROFESSIONAL LICENSES AND BOARD CERTIFICATION

| | |
|---|---|
| 2017 | Massachusetts Medical License |
| 2017 | Certification in General Pediatrics, American Board of Pediatrics |
| 2020 | Certification in Pediatric Endocrinology, American Board of Pediatrics |
| 2022 | Rhode Island Medical License (MD18450) |

## ACADEMIC APPOINTMENTS

| | |
|---|---|
| 2022 - Present | Assistant Professor of Pediatrics, Warren Alpert Medical School |
| 2020 - 2022 | Instructor in Pediatrics, Harvard Medical School |
| 2020 - 2022 | Instructor in Pediatrics, Boston University School of Medicine |

## HOSPITAL APPOINTMENTS

| | |
|---|---|
| 2025 – Present | Consultant, TransHealth |
| 2022 - Present | Attending Physician, Pediatric Endocrinology and Diabetes, Hasbro Children's Brown University Health |
| 2020 - 2022 | Attending Physician, Pediatric Endocrinology, Boston Children's Hospital |
| 2020 - 2022 | Attending Physician, Pediatric Endocrinology, Boston Medical Center |

## OTHER APPOINTMENTS

| | |
|---|---|
| 2020 – 2023 | Scientific Symposium Abstract Review Committee<br>United States Professional Association for Transgender Health |
| 2023 – Present | Member, Newborn Screening Advisory Committee |
| 2023 – Present | Rhode Island T1D Screening Committee |
| 2024 | Judge, 18th Warren Alpert Medical School Academic Symposium |
| 2024 – Present | Abstract Reviewer, Pediatric Endocrine Society |
| 2023 – Present | Faculty Mentor, LGBTQ+ Healthcare and Advocacy Scholarly Concentration, Warren Alpert Medical School |
| 2024 – Present | Reviewer, Alpert Medical School Summer Research Assistantships |
| 2025 – Present | Reviewer, UpToDate |
| 2025 | Mentor, PedsENDO Discovery Program, Pediatric Endocrine Society |
| 2025 | U.S. Coalition for Early T1D Action, Ariadne Labs, T.H. Chan School of Public Health, Harvard University and Brigham and Women's Hospital |
| 2025 – Present | Expert Member, Ask the Experts, Barbara Davis Center for Diabetes, University of Colorado Anschutz Medical Campus |
| 2026 | Abstract Reviewer, GLMA Annual Conference on LGBTQ+ Health |
| 2026 – Present | Member, Subboard of Pediatric Endocrinology, The American Board of Pediatrics |

Journal Reviewer

| | |
|---|---|
| Journal of Adolescent Health | 2020, 2026 |
| European Journal of Pediatrics | 2023 |
| Transgender Health | 2023, 2024, 2025 |
| BMC Medical Education | 2024 |
| BMC Endocrine Disorders | 2025 |
| BMJ Open | 2025 |

| | |
|---|---|
| Nature Medicine | 2025 |
| Diabetes, Obesity, Cardiometabolic CARE | 2026 |
| American Journal of Health Promotion | 2026 |

## HOSPITAL COMMITTEES

| | |
|---|---|
| 2018 – 2022 | Hypoglycemia Committee, Boston Children's Hospital |
| 2019 – 2020 | IPASS Implementation Committee, Boston Children's Hospital |
| 2020 – 2022 | GENESIS Scientific Review Committee, Boston Children's Hospital |
| 2022 - Present | Pediatric Endocrine Fellowship Clinical Competency Committee, Hasbro Children's Brown University Health |
| 2025 - Present | Congenital Hypothyroidism Quality Improvement, Hasbro Children's Brown University Health |

## MEMBERSHIP IN SOCIETIES

| | |
|---|---|
| 2014 – 2022 | Massachusetts Medical Society |
| 2014 – Present | American Academy of Pediatrics |
| 2015 – Present | Endocrine Society |
| 2017 – Present | Pediatric Endocrine Society |
| 2019 – 2022 | United States Professional Association for Transgender Health |
| 2019 – 2022 | World Professional Association for Transgender Health |
| 2020 – 2022 | Society for Pediatric Research, In – training member |
| 2025 – Present | Society for Pediatric Research |

## PUBLICATIONS LIST

## ORIGINAL PUBLICATIONS IN PEER-REVIEWED JOURNALS

1. **Millington K**, Miller V, Rubenstein RC, Kelly A. Patient and parent perceptions of the diagnosis and management of cystic fibrosis-related diabetes. Journal of clinical & translational endocrinology. 2014 Jul 11; 1(3): 100-107.

2. **Millington K**, Charrow A, Smith J. Case Series: Minocycline-Associated Thyroiditis. Hormone research in Paediatrics. 2019 Jan 1; 92(4): 276-283.

3. Ahmed F, Zeve D, **Millington K**, Rea C. 11-year old boy with facial hair, acne and deepened voice. BMJ case reports. 2019 Mar 20; 12(3).

4. **Millington K**, Liu E, Chan Y. The Utility of Potassium Monitoring in Gender-Diverse Adolescents Taking Spironolactone. Journal of the Endocrine Society. 2019 Apr 4; 3(5): 1031-1038.

5. Tremblay E, **Millington K**, Monuteaux M, Bachur R, Wolfsdorf J. Plasma β-Hydroxybutyrate for the Diagnosis of Diabetic Ketoacidosis in the Emergency Department. Pediatric emergency care. 2020 Feb 1.

6. **Millington K**, Schulmeister C, Finlayson C, Grabert R, Olson-Kennedy J, Garofalo R, Rosenthal SM, Chan Y. Physiological and Metabolic Characteristics of a Cohort of Transgender and Gender-Diverse Youth in the United States. The Journal of adolescent health: official publication of the Society for Adolescent Medicine. 2020 May 13.

7. **Millington K**, Hayes K, Pilcher S, Roberts S, Vargas SO, French A, Veneris J, O'Neill AF. A serous borderline ovarian tumour in a transgender male adolescent. British journal of cancer. 2021 Feb 1; 124(3): 567-569.

8. Maru J, **Millington K**, Carswell J. Greater Than Expected Prevalence of Type 1 Diabetes Mellitus Found in an Urban Gender Program. Transgender health. 2021 Feb 15; 6(1): 57-60.

9. **Millington K**, Finlayson C, Olson-Kennedy J, Garofalo R, Rosenthal SM, Chan Y. Association of High-Density Lipoprotein Cholesterol With Sex Steroid Treatment in Transgender and Gender-Diverse Youth. JAMA pediatrics. 2021 May 1; 175(5): 520-521.

10. Schulmeister C, **Millington K**, Kaufman M, Finlayson C, Kennedy JO, Garofalo R, Chan Y, Rosenthal SM. Growth in Transgender/Gender-Diverse Youth in the First Year of Treatment With Gonadotropin-Releasing Hormone Agonists. The Journal of adolescent health: official publication of the Society for Adolescent Medicine. 2021 Jul 24.

11. **Millington K**, Chan Y. Lipoprotein subtypes after testosterone therapy in transmasculine adolescents. Journal of clinical lipidology. 2021 Nov 1; 15(6): 840-844.

12. Aamodt K, Fitzgerald S, Hanono A, Majzoub J, **Millington K**, Richmond T, Peeler K. Severe Hypernatremia in an Adolescent With Anorexia Nervosa. Clinical pediatrics. 2021 Dec 1; 60(14): 586-590.

13. Pollock NI, Flamand Y, Zhu J, **Millington K**, Stevenson K, Silverman L, Vrooman L, Cohen L. Hyperglycemia during induction therapy for acute lymphoblastic leukemia is temporally linked to pegaspargase administration. Pediatric blood & cancer. 2021 Dec 21: e29505.

14. Andzelm MM, Balasubramaniam S, Yang E, Compton AG, **Millington K**, Zhu J, Anselm I, Rodan LH, Thorburn DR, Christodoulou J, Srivastava S. Expansion of the clinical and neuroimaging spectrum associated with NDUFS8-related disorder. JIMD Rep. 2022 Aug 23;63(5):391-399.

15. **Millington K**, Barrera E, Daga A, Mann N, Olson-Kennedy J, Garofalo R, Rosenthal SM, Chan YM. The effect of gender-affirming hormone treatment on serum creatinine in transgender and gender-diverse youth: implications for estimating GFR. Pediatr Nephrol. 2022 Sep;37(9):2141-2150.

16. Tremblay ES, **Millington K**, Wu Y, Wypij D, Yang Y, Agus MSD, Wolfsdorf J. Utility of plasma beta-hydroxybutyrate to define resolution of diabetic ketoacidosis. Pediatr Diabetes. 2022 Dec;23(8):1621-1627.

17. Kempf AM, Burns ZT, Guss CE, **Millington K**, Pilcher S, Boyle PJ, Charlton BM, Haas-Kogan DA, Liu KX. Clinical outcomes and considerations of gender-affirming care for transgender and gender-diverse pediatric and young adult patients with cancer. Pediatr Blood Cancer. 2023 Jan;70(1):e29851.

18. Hranilovich JA, **Millington K**. Headache prevalence in transgender and gender diverse youth: A single-center case-control study. Headache. 2023 Apr;63(4):517-522. doi: 10.1111/head.14493. Epub 2023 Mar 29.

19. Sasidharan Pillai S, **Millington K**. Co-existence of Type 1 Diabetes Mellitus and Myasthenia Gravis: A Case Report and Review of the Literature. AACE Clin Case Rep. 2023 Dec 18;10(2):52-54. doi: 10.1016/j.aace.2023.12.004.

20. Hodson N, **Millington K**, Hyland P, Williams CR, Garofalo R, Rosenthal SM, Olson-Kennedy J, Chan Y-M. Physical activity among youth receiving gender-affirming treatment in the United States. Transgender Health 2024. doi: 10.1089/Trgh.2022.0155.

21. **Millington K**, Lee JY, Olson-Kennedy J, Garofalo R, Rosenthal SM, Chan YM. Laboratory Changes During Gender-Affirming Hormone Therapy in Transgender Adolescents. Pediatrics. 2024 May 1;153(5):e2023064380. doi: 10.1542/peds.2023-064380.

22. Logel SN, Maru J, Whitehead J, Brady C, Walch A, Lasarev M, Rehm JL, **Millington K**. Higher Rates of Certain Autoimmune Diseases in Transgender and Gender Diverse Youth. Transgend Health. 2024 Jun 17;9(3):197-204. doi: 10.1089/trgh.2022.0079.

23. Seetharaman S, Sasidharan Pillai S, Ganta A, **Millington K**, Quintos JB, Topor LS, Serrano-Gonazalez M. Iodine Deficiency Hypothyroidism Among Children in the United States – 21st Century Resurgance? AACE Clin Case Rep. 2024 Aug 14:10(6):236-239

24. Schneider D, Scully K, Quintos JB, **Millington K**. Severe Hyperandrogenism Secondary to Polycystic Ovarian Syndrome in a Gender-diverse Adolescent. JCEM Case Rep. 2025 Sep 9;3(10):luaf186.

25. Li M, Feldman N, Tanzer JR, Tremblay E, **Millington K**. Impact of Demographic Features on Glycemic Management With Tubeless Automated Insulin Delivery Systems in Youth With Type 1 Diabetes. Diabetes Spectr. 2025 Jul 24;38(4):423-430.

26. Harrison J, **Millington K**. A long-term survivor of campomelic dysplasia with 46,XY disorder of sex development and hypogonadotropic hypogonadism. BMJ Case Rep. 2025 Dec 23;18(12):e265280. doi: 10.1136/bcr-2025-265280. PMID: 41436212.

27. Schneider D, Feldman N, Li M, Tanzer J, Chapman H, Rafferty J, Rotondo K, **Millington K**. Change in the QT Interval During Gender-Affirming Hormone Therapy. JACC Clin Electrophysiol. 2026 Feb 17:S2405-500X(26)00020-4. doi: 10.1016/j.jacep.2026.01.013. PMID: 41711616.

OTHER PEER-REVIEWED PUBLICATIONS

1. Kremen J, Williams C, Barrera EP, Harris R, McGregor K, **Millington K**, Guss C, Pilcher S, Tishelman AC, Baskaran C, Carswell J, Roberts S. Addressing Legislation That Restricts Access to Care for Transgender Youth. Pediatrics. 2021 May 1; 147(5).

2. Barrera E, **Millington K**, Kremen J. The Medical Implications of Banning Transgender Youth From Sport Participation. JAMA Pediatrics. 2022 Mar 1; 176(3): 223-224.

3. Krebs D, Harris RM, Steinbaum A, Pilcher S, Guss C, Kremen J, Roberts SA, Baskaran C, Carswell J, **Millington K**. Care for Transgender Young People. Horm Res Paediatr. 2022;95(5):405-414.

BOOKS AND BOOK CHAPTERS

**Millington K**, Williams C. Transgender Health. Endocrine Conditions in Pediatrics: Springer.

PUBLICATIONS SUBMITTED OR IN PREPARATION

ABSTRACTS

1. Seetharaman S, Sasidharan Pillai S, Ganta A, **Millington K**, Quintos, JB, Topor LS, Serrano-Gonzalez, M, Iodine Deficiency Hypothyroidism Among Children in the United States - 21st Century Resurgence? Pediatric Endocrine Society Meeting, San Diego, CA May 2023.

2. Li M, Feldman, N, Tanzer JR, **Millington K**. Impact of Demographic Features on Glycemic Control with Tubeless Automated Insulin Delivery System in Youth with Type 1 Diabetes Mellitus. 17th Warren Alpert Medical School Academic Symposium, Providence, RI, November 2023.

3. Li M, Feldman, N, Tanzer JR, **Millington K**. Impact of Demographic Features on Glycemic Control with Tubeless Automated Insulin Delivery System in Youth with Type 1 Diabetes Mellitus. Pediatric Endocrine Society Meeting, Chicago, IL, May 2024.

4. Schneider, D, Feldman, N, **Millington K**. Impact of GnRH Analogs on QTc Interval in Gender Diverse Youth. 18th Warren Alpert Medical School Academic Symposium, Providence, RI, November 2024.

5. Michles M, Sun F, Clark M, O'Toole D, Swartz S, **Millington K**, Svokos K, Doberstein C, Klinge P, Woo A, Kwan D, Gokaslan Z, Zadnik Sullivan P. Gender Affirming Care:

Considerations for and Recommendations from Neurosurgery. Oral Presentation at the Student Neurology and Neurosurgery Research Conference, The Warren Alpert Medical School of Brown University, Providence, RI. January 2025

6. Michles M, Sun F, Clark M, O'Toole D, Swartz S, **Millington K**, Svokos K, Doberstein C, Klinge P, Woo A, Kwan D, Gokaslan Z, Zadnik Sullivan P. Gender Affirming Care: Considerations for and Recommendations from Neurosurgery. Oral Presentation at the Virtual Women in Neurosurgery Collaborative DEI Symposium. April 2025

7. The Effects of Sex Steroids on Electrocardiogram Measurements in Transgender and Gender Diverse Youth. Shetty N, Shah K, Rafael S, Rotondo K, Rafferty J, Chapman H, **Millington K**. Poster presentation Hasbro Children's Hospital Annual Celebration of Scholarship, Providence, RI, April 8, 2025.

8. Schneider D, Scully K, Quintos JB, **Millington K** Severe Hyperandrogenism Secondary to Polycystic Ovarian Syndrome in a Gender Diverse Adolescent. Pediatric Endocrine Society Meeting, Washington DC, May 2025.

9. Greenblatt L, Topor LS, **Millington K** Puberty Without A Sign: Amastia in Meier Gorlin Syndrome. Pediatric Endocrine Society Meeting, San Francisco CA, April2026.

## SCHOLARLY WORK PUBLISHED IN OTHER MEDIA

**Millington,K**. Interview by Barbara Morse. Interview on Screening for Type 1 Diabetes Mellitus. WJAR10. TV. Aired 2/27/2025

## INVITED PRESENTATIONS

### LOCAL

| | |
|---|---|
| 2017 | An 18-year-old female with fever and pulmonary lesions<br>Department of Pediatrics Grand Rounds, Boston Children's Hospital |
| 2018 | Transgender Health: Past, Present, and Future<br>Division of Endocrinology Grand Rounds, Brigham and Women's Hospital |
| 2019 | Gender Affirming Care of Children and Adolescents<br>Center for Infertility and Reproductive Surgery, Brigham and Women's Hospital |
| 2019 | The Hyperinsulinemia and Hyperammonemia Syndrome<br>Longwood Area Nutrition Seminar |
| 2019 | Endocrine Board Review<br>Department of Pediatrics, Boston Children's Hospital |
| 2020 | Diabetes 101<br>Division of Emergency Medicine, Boston Children's Hospital |
| 2020 | Gender Affirming Care of Children and Adolescents<br>Leadership in Adolescent Health Fellowship, Boston Children's Hospital |
| 2022, 2023 | Normal and Abnormal Puberty |

General Pediatrics Residency, Hasbro Children's Brown University Health
2023-26 Normal and Abnormal Puberty
REI Fellowship Didactics, Women and Infant's Hospital
2023 Gender Affirming Care of Children
REI Fellowship Didactics, Women and Infant's Hospital
2023 Interesting Endocrinology in Transgender Health, Endocrine Grand Rounds
Division of Endocrinology, Rhode Island Hospital
2024 Beyond the Binary, Interesting Cases in the Care of Transgender Youth
Department of Pediatrics, Hasbro Children's Brown University Health
2024 Pediatric Gender Affirming Care
Spectrum, LGBTQ Medical Student Group, Warren Alpert Medical School of Brown University
2024, 2025 The Care of LGBTQ Patients
Doctoring I, Warren Alpert Medical School of Brown University
2025 Differences of Sex Development
Neonatology Fellowship Didactics, Women and Infant's Hospital
2025 Morbidity and Mortality Conference, Endocrinology
Department of Pediatrics, Hasbro Children's Brown University Health
2025 Pediatric Hidden Hunger in and Age of Caloric Abundance
Department of Pediatrics, Hasbro Children's Brown University Health
2025, 2026 Type 1 Diabetes for Primary Care Pediatricians, Primary Care, Hasbro Children's Brown University Health

REGIONAL

2020, 2021 Introduction to Pediatric Transgender Health, Exeter Health System, Exeter NH
2021, 2022 Making Clinical Research Gender Inclusive, Association of Research Nurses
2022 Transgender Health and Diabetes, Joslin Diabetes Center, Boston MA
2023 Update on Diabetes for Primary Care Physicians, East Greenwich Pediatrics
East Greenwich, Rhode Island
2024 Procedures in the Care of Transgender and Gender Diverse Youth
Rhode Island Trans Health Conference, Providence, RI
2025 Physical Health for LGBTQ+ Youth, Rhode Island Care Transformation Collaborative
2026 Screening for Early T1D For PCPs, Rhode Island American Academy of Pediatrics Annual Meeting

NATIONAL

2024 Pediatric Transgender Health, Pediatric Grand Rounds
Georgetown Department of Pediatrics, Washington D.C.
2025 Laboratory Changes During Gender Affirming Care
Pediatric Endocrine Society Meeting, Washington D.C.
2025 Pediatric Transgender Health
Division of Pediatric Diabetes and Endocrinology
Children's Hospital at Montefiore Einstein, Bronx NY

GRANTS

2011 NIDDK Medical Student Research Program in Diabetes

2013 – 2014 Medical Student Research Grant, Cystic Fibrosis Foundation

2019 – 2022 "Effects of Sex Steroids on Cardiovascular Risk Factors in Transgender Adolescents"
Doris Duke Charitable Foundation (2019-119)
Principal Investigator, $200,000

2019 – 2021 "Effects of Sex Steroids on Cardiovascular Risk Factors in Transgender Adolescents"
National Institutes of Health Loan Repayment Program
Principal Investigator, $60,000

2020 – 2021 "Medical Gender Transition as a Novel Approach to Study the Effects of Sex Steroids on Cardiovascular Health"
Institutional Centers of Clinical and Translational Research
Principal Investigator, $10,000

2021 – 2022 "Defining the Role of Sex Steroids in Cardiovascular Disease Risk"
Boston Children's Hospital Office of Faculty Development (90158)
Principal Investigator, $75,000

2024 – 2025 "The Effect of Gender-Affirming Treatment on Electrocardiogram Measurements in Transgender and Gender Diverse Youth."
Children's Miracle Network
Department of Pediatrics, Hasbro Children's Hospital
Co-Investigator, $25,000

2024 – Present Type 1 Diabetes Trial Net Pathway to Prevention
National Institutes of Health, Subaward from Yale University
Co-Investigator

UNIVERSITY TEACHING, ADVISING and MENTORING ROLES

UNIVERSITY LEADERSHIP

2023 – Present Course Co-Leader, Integrated Medical Sciences III, BIOL 3654 IMS-III: Endocrine Sciences
Warren Alpert Medical School of Brown University
This course is a required part of the curriculum for second year medical students. Over 3 weeks the course covers all aspects of endocrinology

including physiology, pharmacology, pathology, and pathophysiology. In addition to being a co-leader of the course I also contribute through participating as a small group leader over 5 small group sessions and give 4 of the lectures in the course. I review the exam questions and update questions based on student response metrics. I have developed new curriculum for this course including a small group session on diabetes technology.

## UNIVERSITY TEACHING, ADVISING and MENTORING ROLES

### UNIVERSITY TEACHING

| | |
|---|---|
| 2020, 2022 | Medical Student Pediatric Clerkship, Boston University<br>1 – 2 lectures for 3rd year medical students in their pediatric clerkship. (~15 students) |
| 2020, 2021 | Homeostasis II (PWY 131), Harvard Medical School<br>Co-facilitated one small group session on endocrine topics for 2nd year medical students (~80 – 100 students) |
| 2020, 2021 | Disease and Therapy Course, Boston University<br>1 lecture for entire 2nd year class |
| 11/2022, 11/2023 | Integrated Medical Sciences III, BIO: Human Reproduction<br>Warren Alpert School of Medicine at Brown University, Providence, RI<br>1 lecture for entire 2nd year class |
| 11/2022 - Present | Integrated Medical Sciences III, BIOL3654: Endocrine Sciences<br>Warren Alpert School of Medicine at Brown University, Providence, RI<br>4 - 5 lectures for entire 2nd year class; twice weekly small group sessions for three weeks (~15 students) |
| 5/2023 – Present | Longitudinal Integrated Clerkship Mentor.<br>1 student per 8-month longitudinal clerkship during 3rd year of medical school |
| 8/2023 – Present | Small Group Faculty, BIOL3640 - Doctoring I/ II<br>Warren Alpert School of Medicine at Brown University, Providence, RI<br>Co-lead weekly small group session for 1st year medical students (8 students). Teach physical exam, clinical skills, trauma informed care principles, and approach to difficult topics in medicine. |

### UNIVERSITY MENTORING

1. Melinda Li, research mentor. Completed research project regarding the impact of insulin pump therapy on youth with type 1 diabetes mellitus. Melinda completed the PedsENDO Discovery program through the Pediatric Endocrine Society. Presented her project as a poster at the Pediatric Endocrine Society meeting. She is planning on applying for residency in General Pediatrics with plans to continue on to Pediatric Endocrinology. Current 4th year medical student.

2. Noah Feldman, research mentor. Worked on a retrospective review of electrocardiogram changes in transgender youth. Current 4th year medical student.

3. Derek Schneider, research mentor. Participated in multiple research projects including retrospective review of electrocardiogram changes in transgender youth and a case report of a patient with severe hyperandrogenism. Derek also completed the PedsENDO Discovery program through the Pediatric Endocrine Society and presented a poster at the Pediatric Endocrine Society meeting. He had two successful publications from his research projects. He is planning on applying for residency in medicine and pediatrics. Current 3rd year medical student.

4. Zoe Weissman, research and career mentor. Current undergraduate at Brown University participating in research project examining the use of norethindrone in transgender care.

5. Joshua Emerson, research mentor. Worked on a prospective study of EKG changes in transgender and gender diverse youth supported by the Basic Translational Research program through Brown University. Current 2nd year medical student.

6. Erin Pickert, research and practicum mentor. Earned M.P.H from Brown University School of Public Health 2026. Mentored for her practicum project on outcomes of gender affirming care for youth.

7. Ummara Khan, research and clerkship mentor. Completed her longitudinal integrated clerkship in my clinic. Currently working on a research project examining rates of admission for young adults with type 1 diabetes in Rhode Island. Planning on applying for residency in pediatrics. Current 3rd year medical student.

8. Lala Mammadova, research mentor. Current Pediatric Endocrinology fellow. She is currently working on her fellowship research project, *Impact of GLP-1 Agonists on Menstrual Function*.

DEMONSTRATION OF COMMITMENT TO DEI

My clinical, research, teaching, and mentoring interest is in the care of transgender and gender diverse (TGD) youth. I provide clinical care to this vulnerable and underserved population through the Gender and Sexuality clinic in the Division of Adolescent Medicine. My research examining outcomes of gender affirming care for youth has produced multiple publications and has been supported by multiple local and national grants. I have spoken extensively both on my research findings and generally about the care of TGD youth. I have taught LGBTQ health topics to medical students in the Endocrine Sciences course and in the Doctoring course, serve as a mentor for the LGBTQ scholarly concentration, and have mentored multiple students who identify as LGBTQ.

# Exhibit B

# BIBLIOGRAPHY

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**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. 1:26-cv-803

**DECLARATION OF CHRIS ERCHULL**
**IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION**
**FOR A PRELIMINARY INJUNCTION**

I, Chris Erchull, Esq., pursuant to 28 U.S.C. § 1746, declare under penalty of perjury as follows:

1. I am a Senior Staff Attorney at GLBTQ Legal Advocates & Defenders, attorneys for Plaintiffs Gina Goe, Grace Goe, Karla Koe, Kylie Koe, Laura Loe, Logan Loe, Melissa Moe, and Maya Moe.

2. Attached hereto as **Exhibit A** is a true and correct copy of the American Medical Association policy on evidence-based gender affirming care. American Medical Association, "Clarification of Evidence-Based Gender-Affirming Care H-185.927" (2024),

https://policysearch.ama-assn.org/policyfinder/detail/%22Clarification%20of%20Evidence-Based%20Gender-Affirming%20Care%22?uri=%2FAMADoc%2FHOD-185.927.xml.

3. Attached hereto as **Exhibit B** is a true and correct copy of the American Academy of Pediatrics guidelines on treatment of gender dysphoria. American Academy of Pediatrics, "Support for Transgender and Gender-Diverse Children and Adolescents the Guidelines for the Treatment of Gender Dysphoria," 142 PEDIATRICS 4 (Oct. 2018), https://publications.aap.org/pediatrics/article/142/4/e20182162/37381/Ensuring-Comprehensive-Care-and-Support-for.

4. Attached hereto as **Exhibit C** is a true and correct copy of "APA Policy Statement on Affirming Evidence-Based Inclusive Care for Transgender, Gender Diverse, and Nonbinary Individuals, Addressing Misinformation, and the Role of Psychological Practice and Science" (Feb. 2024), https://www.apa.org/about/policy/transgender-nonbinary-inclusive-care.pdf.

5. Attached hereto as **Exhibit D** is a true and correct copy of the Endocrine Society guideline for treating gender dysphoria. Wylie C. Hembree et al., "Endocrine Treatment of Gender-Dysphoric/ Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline," 102 J CLINICAL ENDOCRINOLOGY & METABOLISM 3869–3903, https://academic.oup.com/jcem/article/102/11/3869/4157558.

6. Attached hereto as **Exhibit E** is a true and correct copy of Jo Yurcaba, "At least 21 hospitals have ended or restricted trans care for minors since January," NBC News (Aug. 24, 2025), https://tinyurl.com/34bzz89z.

7. Attached hereto as **Exhibit F** is a true and correct copy of Letter from Drew Snyder to State Medicaid Directors (Apr. 11, 2025), https://www.cms.gov/files/document/letter-stm.pdf.

8. Attached hereto as **Exhibit G** is a true and correct copy of HHS, "HHS Releases Comprehensive Review of Medical Interventions for Children and Adolescents with Gender Dysphoria" (May 1, 2025), https://www.hhs.gov/press-room/gender-dysphoria-report-release.html.

9. Attached hereto as **Exhibit H** is a true and correct copy of HHS, "Treatment for Pediatric Gender Dysphoria, Review of Evidence and Best Practices" (May 1, 2025), https://opa.hhs.gov/sites/default/files/2026-06/gender-dysphoria-report.pdf..

10. Attached hereto as **Exhibit I** is a true and correct copy of Susan J. Kressly, AAP Statement on HHS Report Treatment for Pediatric Gender Dysphoria (May 1, 2025), https://tinyurl.com/bdhcuz8x.

11. Attached hereto as **Exhibit J** is a true and correct copy of APA Statement on Access to Treatment for Transgender, Gender Diverse, and Nonbinary People (May 1, 2025), https://tinyurl.com/y642tsf4

12. Attached hereto as **Exhibit K** is a true and correct copy of Robert F. Kennedy, Jr., "Declaration of the Secretary of the Department of Health and Human Services RE: Safety, Effectiveness, and Professional Standards of Care for Sex-Rejecting Procedures on Children and Adolescents" (Dec. 18, 2025).

13. Attached hereto as **Exhibit L** is a true and correct copy of HHS, "HHS Acts to Bar Hospitals from Performing Sex-Rejecting Procedures on Children" (Dec. 18, 2025), https://www.cms.gov/newsroom/press-releases/hhs-acts-bar-hospitals-performing-sex-rejecting-procedures-children.

/s/ *Chris Erchull*
Chris Erchull, Esq.

# Exhibit A to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

# Health Insurance

## Clarification of Evidence-Based Gender-Affirming Care H-185.927

**Topic:** Health Insurance
**Policy Subtopic:** Benefits and Coverage
**Meeting Type:** Interim
**Year Last Modified:** 2024
**Action:** Reaffirmed
**Type:** Health Policies
**Council & Committees:** Board of Trustees

1. Our American Medical Association recognizes that medical and surgical treatments for gender dysphoria and gender incongruence, as determined by shared decision making between the patient and physician, are medically necessary as outlined by generally-accepted standards **of** medical and surgical practice.
2. Our AMA will work with state and specialty societies and other interested stakeholders to:
    a. advocate for federal, state, and local laws and policies to protect access to **evidence-based care** for gender dysphoria and gender incongruence;
    b. oppose laws and policies that criminalize, prohibit or otherwise impede the provision **of evidence-based**, **gender-affirming care**, including laws and policies that penalize parents and guardians who support minors seeking and/or receiving **gender-affirming care**;
    c. support protections against violence and criminal, civil, and professional liability for physicians and institutions that provide **evidence-based**, genderaffirming **care** and patients who seek and/or receive such **care**, as well as their parents and guardians; and
    d. communicate with stakeholders and regulatory bodies about the importance **of gender-affirming care** for patients with gender dysphoria and gender incongruence.
3. Our AMA will advocate for equitable, **evidence-based** coverage **of gender-affirming care** by health insurance providers, including public and private insurers.

**Policy Timeline**

Res. 05, A-16 Modified: Res. 015, A-21 Modified: Res. 223, A-23 Appended: Res. 304, A-23 Reaffirmed: CSAPH Rep. 08, A-24 Reaffirmed: BOT Rep. 23, I-24

# Exhibit B to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

POLICY STATEMENT Organizational Principles to Guide and Define the Child Health Care System and/or Improve the Health of all Children

American Academy of Pediatrics
DEDICATED TO THE HEALTH OF ALL CHILDREN™

**This Policy Statement was reaffirmed August 2023.**

# Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents

Jason Rafferty, MD, MPH, EdM, FAAP, COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH, COMMITTEE ON ADOLESCENCE, SECTION ON LESBIAN, GAY, BISEXUAL, AND TRANSGENDER HEALTH AND WELLNESS

## abstract

FREE

As a traditionally underserved population that faces numerous health disparities, youth who identify as transgender and gender diverse (TGD) and their families are increasingly presenting to pediatric providers for education, care, and referrals. The need for more formal training, standardized treatment, and research on safety and medical outcomes often leaves providers feeling ill equipped to support and care for patients that identify as TGD and families. In this policy statement, we review relevant concepts and challenges and provide suggestions for pediatric providers that are focused on promoting the health and positive development of youth that identify as TGD while eliminating discrimination and stigma.

*Department of Pediatrics, Hasbro Children's Hospital, Providence, Rhode Island; Thundermist Health Centers, Providence, Rhode Island; and Department of Child Psychiatry, Emma Pendleton Bradley Hospital, East Providence, Rhode Island*

*Dr Rafferty conceptualized the statement, drafted the initial manuscript, reviewed and revised the manuscript, approved the final manuscript as submitted, and agrees to be accountable for all aspects of the work.*

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*All policy statements from the American Academy of Pediatrics automatically expire 5 years after publication unless reaffirmed, revised, or retired at or before that time.*

**To cite:** Rafferty J, AAP COMMITTEE ON PSYCHOSOCIAL ASPECTS OF CHILD AND FAMILY HEALTH, AAP COMMITTEE ON ADOLESCENCE, AAP SECTION ON LESBIAN, GAY, BISEXUAL, AND TRANSGENDER HEALTH AND WELLNESS. Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents. *Pediatrics*. 2018;142(4): e20182162

## INTRODUCTION

In its dedication to the health of all children, the American Academy of Pediatrics (AAP) strives to improve health care access and eliminate disparities for children and teenagers who identify as lesbian, gay, bisexual, transgender, or questioning (LGBTQ) of their sexual or gender identity.[1,2] Despite some advances in public awareness and legal protections, youth who identify as LGBTQ continue to face disparities that stem from multiple sources, including inequitable laws and policies, societal discrimination, and a lack of access to quality health care, including mental health care. Such challenges are often more intense for youth who do not conform to social expectations and norms regarding gender. Pediatric providers are increasingly encountering such youth and their families, who seek medical advice and interventions, yet they may lack the formal training to care for youth that identify as transgender and gender diverse (TGD) and their families.[3]

This policy statement is focused specifically on children and youth that identify as TGD rather than the larger LGBTQ population, providing brief, relevant background on the basis of current available research





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by guest

**TABLE 1** Relevant Terms and Definitions Related to Gender Care

| Term | Definition |
|---|---|
| Sex | An assignment that is made at birth, usually male or female, typically on the basis of external genital anatomy but sometimes on the basis of internal gonads, chromosomes, or hormone levels |
| Gender identity | A person's deep internal sense of being female, male, a combination of both, somewhere in between, or neither, resulting from a multifaceted interaction of biological traits, environmental factors, self-understanding, and cultural expectations |
| Gender expression | The external way a person expresses their gender, such as with clothing, hair, mannerisms, activities, or social roles |
| Gender perception | The way others interpret a person's gender expression |
| Gender diverse | A term that is used to describe people with gender behaviors, appearances, or identities that are incongruent with those culturally assigned to their birth sex; gender-diverse individuals may refer to themselves with many different terms, such as transgender, nonbinary, genderqueer,[7] gender fluid, gender creative, gender independent, or noncisgender. "Gender diverse" is used to acknowledge and include the vast diversity of gender identities that exists. It replaces the former term, "gender nonconforming," which has a negative and exclusionary connotation. |
| Transgender | A subset of gender-diverse youth whose gender identity does not match their assigned sex and generally remains persistent, consistent, and insistent over time; the term "transgender" also encompasses many other labels individuals may use to refer to themselves. |
| Cisgender | A term that is used to describe a person who identifies and expresses a gender that is consistent with the culturally defined norms of the sex they were assigned at birth |
| Agender | A term that is used to describe a person who does not identify as having a particular gender |
| Affirmed gender | When a person's true gender identity, or concern about their gender identity, is communicated to and validated from others as authentic |
| MTF; affirmed female; trans female | Terms that are used to describe individuals who were assigned male sex at birth but who have a gender identity and/or expression that is asserted to be more feminine |
| FTM; affirmed male; trans male | Terms that are used to describe individuals who were assigned female sex at birth but who have a gender identity and/or expression that is asserted to be more masculine |
| Gender dysphoria | A clinical symptom that is characterized by a sense of alienation to some or all of the physical characteristics or social roles of one's assigned gender; also, gender dysphoria is the psychiatric diagnosis in the *DSM-5*, which has focus on the distress that stems from the incongruence between one's expressed or experienced (affirmed) gender and the gender assigned at birth. |
| Gender identity disorder | A psychiatric diagnosis defined previously in the *DSM-IV* (changed to "gender dysphoria" in the *DSM-5*); the primary criteria include a strong, persistent cross-sex identification and significant distress and social impairment. This diagnosis is no longer appropriate for use and may lead to stigma, but the term may be found in older research. |
| Sexual orientation | A person's sexual identity in relation to the gender(s) to which they are attracted; sexual orientation and gender identity develop separately. |

This list is not intended to be all inclusive. The pronouns "they" and "their" are used intentionally to be inclusive rather than the binary pronouns "he" and "she" and "his" and "her." Adapted from Bonifacio HJ, Rosenthal SM. Gender variance and dysphoria in children and adolescents. *Pediatr Clin North Am.* 2015;62(4):1001–1016. Adapted from Vance SR Jr, Ehrensaft D, Rosenthal SM. Psychological and medical care of gender nonconforming youth. *Pediatrics.* 2014;134(6):1184–1192. DSM-5, *Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition*; DSM-IV, *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition*; FTM, female to male; MTF, male to female.

and expert opinion from clinical and research leaders, which will serve as the basis for recommendations. It is not a comprehensive review of clinical approaches and nuances to pediatric care for children and youth that identify as TGD. Professional understanding of youth that identify as TGD is a rapidly evolving clinical field in which research on appropriate clinical management is limited by insufficient funding.[3,4]

## DEFINITIONS

To clarify recommendations and discussions in this policy statement, some definitions are provided. However, brief descriptions of human behavior or identities may not capture nuance in this evolving field. "Sex," or "natal gender," is a label, generally "male" or "female," that is typically assigned at birth on the basis of genetic and anatomic characteristics, such as genital anatomy, chromosomes, and sex hormone levels. Meanwhile, "gender identity" is one's internal sense of who one is, which results from a multifaceted interaction of biological traits, developmental influences, and environmental conditions. It may be male, female, somewhere in between, a combination of both, or neither (ie, not conforming to a binary conceptualization of gender). Self-recognition of gender identity develops over time, much the same way as a child's physical body does. For some people, gender identity can be fluid, shifting in different contexts. "Gender expression" refers to the wide array of ways people display their gender through clothing, hair styles, mannerisms, or social roles. Exploring different ways of expressing gender is common for children and may challenge social expectations. The way others interpret this expression is referred to as "gender perception" (Table 1).[5,6]

These labels may or may not be congruent. The term "cisgender" is used if someone identifies and expresses a gender that is consistent with the culturally defined norms of the sex that was assigned at birth. "Gender diverse" is an umbrella term to describe an ever-evolving array of labels that people may apply when their gender identity, expression, or even perception does not conform



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to the norms and stereotypes others expect of their assigned sex. "Transgender" is usually reserved for a subset of such youth whose gender identity does not match their assigned sex and generally remains persistent, consistent, and insistent over time. These terms are not diagnoses; rather, they are personal and often dynamic ways of describing one's own gender experience.

Gender identity is not synonymous with "sexual orientation," which refers to a person's identity in relation to the gender(s) to which they are sexually and romantically attracted. Gender identity and sexual orientation are distinct but interrelated constructs.[8] Therefore, being transgender does not imply a sexual orientation, and people who identify as transgender still identify as straight, gay, bisexual, etc, on the basis of their attractions. (For more information, *The Gender Book*, found at www.thegenderbook.com, is a resource with illustrations that are used to highlight these core terms and concepts.)

## EPIDEMIOLOGY

In population-based surveys, questions related to gender identity are rarely asked, which makes it difficult to assess the size and characteristics of the population that is TGD. In the 2014 Behavioral Risk Factor Surveillance System of the Centers for Disease Control and Prevention, only 19 states elected to include optional questions on gender identity. Extrapolation from these data suggests that the US prevalence of adults who identify as transgender or "gender nonconforming" is 0.6% (1.4 million), ranging from 0.3% in North Dakota to 0.8% in Hawaii.[9] On the basis of these data, it has been estimated that 0.7% of youth ages 13 to 17 years (~150 000) identify as transgender.[10] This number is much higher than previous estimates, which were extrapolated from individual states or specialty clinics, and is likely an underestimate given the stigma regarding those who openly identify as transgender and the difficulty in defining "transgender" in a way that is inclusive of all gender-diverse identities.[11]

There have been no large-scale prevalence studies among children and adolescents, and there is no evidence that adult statistics reflect young children or adolescents. In the 2014 Behavioral Risk Factor Surveillance System, those 18 to 24 years of age were more likely than older age groups to identify as transgender (0.7%).[9] Children report being aware of gender incongruence at young ages. Children who later identify as TGD report first having recognized their gender as "different" at an average age of 8.5 years; however, they did not disclose such feelings until an average of 10 years later.[12]

## MENTAL HEALTH IMPLICATIONS

Adolescents and adults who identify as transgender have high rates of depression, anxiety, eating disorders, self-harm, and suicide.[13–20] Evidence suggests that an identity of TGD has an increased prevalence among individuals with autism spectrum disorder, but this association is not yet well understood.[21,22] In 1 retrospective cohort study of 180 trans youth and matched cisgender peers, 56 youth who identified as transgender reported previous suicidal ideation, and 31 reported a previous suicide attempt, compared with 20 and 11 among matched youth who identified as cisgender, respectively.[13] Some youth who identify as TGD also experience gender dysphoria, which is a specific diagnosis given to those who experience impairment in peer and/or family relationships, school performance, or other aspects of their life as a consequence of the incongruence between their assigned sex and their gender identity.[23]

There is no evidence that risk for mental illness is inherently attributable to one's identity of TGD. Rather, it is believed to be multifactorial, stemming from an internal conflict between one's appearance and identity, limited availability of mental health services, low access to health care providers with expertise in caring for youth who identify as TGD, discrimination, stigma, and social rejection.[24] This was affirmed by the American Psychological Association in 2008[25] (with practice guidelines released in 2015[8]) and the American Psychiatric Association, which made the following statement in 2012:

> *Being transgender or gender variant implies no impairment in judgment, stability, reliability, or general social or vocational capabilities; however, these individuals often experience discrimination due to a lack of civil rights protections for their gender identity or expression.… [Such] discrimination and lack of equal civil rights is damaging to the mental health of transgender and gender variant individuals.*[26]

Youth who identify as TGD often confront stigma and discrimination, which contribute to feelings of rejection and isolation that can adversely affect physical and emotional well-being. For example, many youth believe that they must hide their gender identity and expression to avoid bullying, harassment, or victimization. Youth who identify as TGD experience disproportionately high rates of homelessness, physical violence (at home and in the community), substance abuse, and high-risk sexual behaviors.[5,6,12,27–31] Among the 3 million HIV testing events that were reported in 2015, the highest percentages of new infections were among women who identified as transgender[32] and were also at particular risk for not knowing their HIV status.[30]



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## GENDER-AFFIRMATIVE CARE

In a gender-affirmative care model (GACM), pediatric providers offer developmentally appropriate care that is oriented toward understanding and appreciating the youth's gender experience. A strong, nonjudgmental partnership with youth and their families can facilitate exploration of complicated emotions and gender-diverse expressions while allowing questions and concerns to be raised in a supportive environment.[5] In a GACM, the following messages are conveyed:

- transgender identities and diverse gender expressions do not constitute a mental disorder;
- variations in gender identity and expression are normal aspects of human diversity, and binary definitions of gender do not always reflect emerging gender identities;
- gender identity evolves as an interplay of biology, development, socialization, and culture; and
- if a mental health issue exists, it most often stems from stigma and negative experiences rather than being intrinsic to the child.[27,33]

The GACM is best facilitated through the integration of medical, mental health, and social services, including specific resources and supports for parents and families.[24] Providers work together to destigmatize gender variance, promote the child's self-worth, facilitate access to care, educate families, and advocate for safer community spaces where children are free to develop and explore their gender.[5] A specialized gender-affirmative therapist, when available, may be an asset in helping children and their families build skills for dealing with gender-based stigma, address symptoms of anxiety or depression, and reinforce the child's overall resiliency.[34,35] There is a limited but growing body of evidence that suggests that using an integrated affirmative model results in young people having fewer mental health concerns whether they ultimately identify as transgender.[24,36,37]

In contrast, "conversion" or "reparative" treatment models are used to prevent children and adolescents from identifying as transgender or to dissuade them from exhibiting gender-diverse expressions. The Substance Abuse and Mental Health Services Administration has concluded that any therapeutic intervention with the goal of changing a youth's gender expression or identity is inappropriate.[33] Reparative approaches have been proven to be not only unsuccessful[38] but also deleterious and are considered outside the mainstream of traditional medical practice.[29,39–42] The AAP described reparative approaches as "unfair and deceptive."[43] At the time of this writing,* conversion therapy was banned by executive regulation in New York and by legislative statutes in 9 other states as well as the District of Columbia.[44]

Pediatric providers have an essential role in assessing gender concerns and providing evidence-based information to assist youth and families in medical decision-making. Not doing so can prolong or exacerbate gender dysphoria and contribute to abuse and stigmatization.[35] If a pediatric provider does not feel prepared to address gender concerns when they occur, then referral to a pediatric or mental health provider with more expertise is appropriate. There is little research on communication and efficacy with transfers in care for youth who identify as TGD, particularly from pediatric to adult providers.

## DEVELOPMENTAL CONSIDERATIONS

Acknowledging that the capacity for emerging abstract thinking in childhood is important to conceptualize and reflect on identity, gender-affirmation guidelines are being focused on individually tailored interventions on the basis of the physical and cognitive development of youth who identify as TGD.[45] Accordingly, research substantiates that children who are prepubertal and assert an identity of TGD know their gender as clearly and as consistently as their developmentally equivalent peers who identify as cisgender and benefit from the same level of social acceptance.[46] This developmental approach to gender affirmation is in contrast to the outdated approach in which a child's gender-diverse assertions are held as "possibly true" until an arbitrary age (often after pubertal onset) when they can be considered valid, an approach that authors of the literature have termed "watchful waiting." This outdated approach does not serve the child because critical support is withheld. Watchful waiting is based on binary notions of gender in which gender diversity and fluidity is pathologized; in watchful waiting, it is also assumed that notions of gender identity become fixed at a certain age. The approach is also influenced by a group of early studies with validity concerns, methodologic flaws, and limited follow-up on children who identified as TGD and, by adolescence, did not seek further treatment ("desisters").[45,47] More robust and current research suggests that, rather than focusing on who a child will become, valuing them for who they are, even at a young age, fosters secure attachment and resilience, not only for the child but also for the whole family.[5,45,48,49]

* For more information regarding state-specific laws, please contact the AAP Division of State Government Affairs at stgov@ aap.org.



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## MEDICAL MANAGEMENT

Pediatric primary care providers are in a unique position to routinely inquire about gender development in children and adolescents as part of recommended well-child visits[50] and to be a reliable source of validation, support, and reassurance. They are often the first provider to be aware that a child may not identify as cisgender or that there may be distress related to a gender-diverse identity. The best way to approach gender with patients is to inquire directly and nonjudgmentally about their experience and feelings before applying any labels.[27,51]

Many medical interventions can be offered to youth who identify as TGD and their families. The decision of whether and when to initiate gender-affirmative treatment is personal and involves careful consideration of risks, benefits, and other factors unique to each patient and family. Many protocols suggest that clinical assessment of youth who identify as TGD is ideally conducted on an ongoing basis in the setting of a collaborative, multidisciplinary approach, which, in addition to the patient and family, may include the pediatric provider, a mental health provider (preferably with expertise in caring for youth who identify as TGD ), social and legal supports, and a pediatric endocrinologist or adolescent-medicine gender specialist, if available.[6,28] There is no prescribed path, sequence, or end point. Providers can make every effort to be aware of the influence of their own biases. The medical options also vary depending on pubertal and developmental progression.

### Clinical Setting

In the past year, 1 in 4 adults who identified as transgender avoided a necessary doctor's visit because of fear of being mistreated.[31] All clinical office staff have a role in affirming a patient's gender identity. Making flyers available or displaying posters related to LGBTQ health issues, including information for children who identify as TGD and families, reveals inclusivity and awareness. Generally, patients who identify as TGD feel most comfortable when they have access to a gender-neutral restroom. Diversity training that encompasses sensitivity when caring for youth who identify as TGD and their families can be helpful in educating clinical and administrative staff. A patient-asserted name and pronouns are used by staff and are ideally reflected in the electronic medical record without creating duplicate charts.[52,53] The US Centers for Medicare and Medicaid Services and the National Coordinator for Health Information Technology require all electronic health record systems certified under the Meaningful Use incentive program to have the capacity to confidentially collect information on gender identity.[54,55] Explaining and maintaining confidentiality procedures promotes openness and trust, particularly with youth who identify as LGBTQ.[1] Maintaining a safe clinical space can provide at least 1 consistent, protective refuge for patients and families, allowing authentic gender expression and exploration that builds resiliency.

### Pubertal Suppression

Gonadotrophin-releasing hormones have been used to delay puberty since the 1980s for central precocious puberty.[56] These reversible treatments can also be used in adolescents who experience gender dysphoria to prevent development of secondary sex characteristics and provide time up until 16 years of age for the individual and the family to explore gender identity, access psychosocial supports, develop coping skills, and further define appropriate treatment goals. If pubertal suppression treatment is suspended, then endogenous puberty will resume.[20,57,58]

Often, pubertal suppression creates an opportunity to reduce distress that may occur with the development of secondary sexual characteristics and allow for gender-affirming care, including mental health support for the adolescent and the family. It reduces the need for later surgery because physical changes that are otherwise irreversible (protrusion of the Adam's apple, male pattern baldness, voice change, breast growth, etc) are prevented. The available data reveal that pubertal suppression in children who identify as TGD generally leads to improved psychological functioning in adolescence and young adulthood.[20,57–59]

Pubertal suppression is not without risks. Delaying puberty beyond one's peers can also be stressful and can lead to lower self-esteem and increased risk taking.[60] Some experts believe that genital underdevelopment may limit some potential reconstructive options.[61] Research on long-term risks, particularly in terms of bone metabolism[62] and fertility,[63] is currently limited and provides varied results.[57,64,65] Families often look to pediatric providers for help in considering whether pubertal suppression is indicated in the context of their child's overall well-being as gender diverse.

### Gender Affirmation

As youth who identify as TGD reflect on and evaluate their gender identity, various interventions may be considered to better align their gender expression with their underlying identity. This process of reflection, acceptance, and, for some, intervention is known as "gender affirmation." It was formerly referred to as "transitioning," but many view the process as an affirmation and acceptance of who they have always been rather than a transition



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**TABLE 2** The Process of Gender Affirmation May Include ≥1 of the Following Components

| Component | Definition | General Age Range[a] | Reversibility[a] |
|---|---|---|---|
| Social affirmation | Adopting gender-affirming hairstyles, clothing, name, gender pronouns, and restrooms and other facilities | Any | Reversible |
| Puberty blockers | Gonadotropin-releasing hormone analogues, such as leuprolide and histrelin | During puberty (Tanner stage 2–5)[b] | Reversible[c] |
| Cross-sex hormone therapy | Testosterone (for those who were assigned female at birth and are masculinizing); estrogen plus androgen inhibitor (for those who were assigned male at birth and are feminizing) | Early adolescence onward | Partially reversible (skin texture, muscle mass, and fat deposition); irreversible once developed (testosterone: Adam's apple protrusion, voice changes, and male pattern baldness; estrogen: breast development); unknown reversibility (effect on fertility) |
| Gender-affirming surgeries | "Top" surgery (to create a male-typical chest shape or enhance breasts); "bottom" surgery (surgery on genitals or reproductive organs); facial feminization and other procedures | Typically adults (adolescents on case-by-case basis[d]) | Not reversible |
| Legal affirmation | Changing gender and name recorded on birth certificate, school records, and other documents | Any | Reversible |

[a] Note that the provided age range and reversibility is based on the little data that are currently available.
[b] There is limited benefit to starting gonadotropin-releasing hormone after Tanner stage 5 for pubertal suppression. However, when cross-sex hormones are initiated with a gradually increasing schedule, the initial levels are often not high enough to suppress endogenous sex hormone secretion. Therefore, gonadotropin-releasing hormone may be continued in accordance with the Endocrine Society Guidelines.[68]
[c] The effect of sustained puberty suppression on fertility is unknown. Pubertal suppression can be, and often is indicated to be, followed by cross-sex hormone treatment. However, when cross-sex hormones are initiated without endogenous hormones, then fertility may be decreased.[68]
[d] Eligibility criteria for gender-affirmative surgical interventions among adolescents are not clearly defined between established protocols and practice. When applicable, eligibility is usually determined on a case-by-case basis with the adolescent and the family along with input from medical, mental health, and surgical providers.[68–71]

from 1 gender identity to another. Accordingly, some people who have gone through the process prefer to call themselves "affirmed females, males, etc" (or just "females, males, etc"), rather than using the prefix "trans-." Gender affirmation is also used to acknowledge that some individuals who identify as TGD may feel affirmed in their gender without pursuing medical or surgical interventions.[7,66]

Supportive involvement of parents and family is associated with better mental and physical health outcomes.[67] Gender affirmation among adolescents with gender dysphoria often reduces the emphasis on gender in their lives, allowing them to attend to other developmental tasks, such as academic success, relationship building, and future-oriented planning.[64] Most protocols for gender-affirming interventions incorporate World Professional Association of Transgender Health[35] and Endocrine Society[68] recommendations and include ≥1 of the following elements (Table 2):

1. Social Affirmation: This is a reversible intervention in which children and adolescents express partially or completely in their asserted gender identity by adapting hairstyle, clothing, pronouns, name, etc. Children who identify as transgender and socially affirm and are supported in their asserted gender show no increase in depression and only minimal (clinically insignificant) increases in anxiety compared with age-matched averages.[48] Social affirmation can be complicated given the wide range of social interactions children have (eg, extended families, peers, school, community, etc). There is little guidance on the best approach (eg, all at once, gradual, creating new social networks, or affirming within existing networks, etc). Pediatric providers can best support families by anticipating and discussing such complexity proactively, either in their own practice or through enlisting a qualified mental health provider.

2. Legal Affirmation: Elements of a social affirmation, such as a name and gender marker, become official on legal documents, such as birth certificates, passports, identification cards, school documents, etc. The processes for making these changes depend on state laws and may require specific documentation from pediatric providers.

3. Medical Affirmation: This is the process of using cross-sex hormones to allow adolescents who have initiated puberty to develop secondary sex characteristics of the opposite biological sex. Some changes are partially reversible if hormones are stopped, but others become



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irreversible once they are fully developed (Table 2).

4. Surgical Affirmation: Surgical approaches may be used to feminize or masculinize features, such as hair distribution, chest, or genitalia, and may include removal of internal organs, such as ovaries or the uterus (affecting fertility). These changes are irreversible. Although current protocols typically reserve surgical interventions for adults,[35,68] they are occasionally pursued during adolescence on a case-by-case basis, considering the necessity and benefit to the adolescent's overall health and often including multidisciplinary input from medical, mental health, and surgical providers as well as from the adolescent and family.[69–71]

For some youth who identify as TGD whose natal gender is female, menstruation, breakthrough bleeding, and dysmenorrhea can lead to significant distress before or during gender affirmation. The American College of Obstetrics and Gynecology suggests that, although limited data are available to outline management, menstruation can be managed without exogenous estrogens by using a progesterone-only pill, a medroxyprogesterone acetate shot, or a progesterone-containing intrauterine or implantable device.[72] If estrogen can be tolerated, oral contraceptives that contain both progesterone and estrogen are more effective at suppressing menses.[73] The Endocrine Society guidelines also suggest that gonadotrophin-releasing hormones can be used for menstrual suppression before the anticipated initiation of testosterone or in combination with testosterone for breakthrough bleeding (enables phenotypic masculinization at a lower dose than if testosterone is used alone).[68] Masculinizing hormones in natal female patients may lead to a cessation of menses, but unplanned pregnancies have been reported, which emphasizes the need for ongoing contraceptive counseling with youth who identify as TGD.[72]

## HEALTH DISPARITIES

In addition to societal challenges, youth who identify as TGD face several barriers within the health care system, especially regarding access to care. In 2015, a focus group of youth who identified as transgender in Seattle, Washington, revealed 4 problematic areas related to health care:

1. safety issues, including the lack of safe clinical environments and fear of discrimination by providers;
2. poor access to physical health services, including testing for sexually transmitted infections;
3. inadequate resources to address mental health concerns; and
4. lack of continuity with providers.[74]

This study reveals the obstacles many youth who identify as TGD face in accessing essential services, including the limited supply of appropriately trained medical and psychological providers, fertility options, and insurance coverage denials for gender-related treatments.[74]

Insurance denials for services related to the care of patients who identify as TGD are a significant barrier. Although the Office for Civil Rights of the US Department of Health and Human Services explicitly stated in 2012 that the nondiscrimination provision in the Patient Protection and Affordable Care Act includes people who identify as gender diverse,[75,76] insurance claims for gender affirmation, particularly among youth who identify as TGD, are frequently denied.[54,77] In 1 study, it was found that approximately 25% of individuals who identified as transgender were denied insurance coverage because of being transgender.[31] The burden of covering medical expenses that are not covered by insurance can be financially devastating, and even when expenses are covered, families describe high levels of stress in navigating and submitting claims appropriately.[78] In 2012, a large gender center in Boston, Massachusetts, reported that most young patients who identified as transgender and were deemed appropriate candidates for recommended gender care were unable to obtain it because of such denials, which were based on the premise that gender dysphoria was a mental disorder, not a physical one, and that treatment was not medically or surgically necessary.[24] This practice not only contributes to stigma, prolonged gender dysphoria, and poor mental health outcomes,[77] but it may also lead patients to seek nonmedically supervised treatments that are potentially dangerous.[24] Furthermore, insurance denials can reinforce a socioeconomic divide between those who can finance the high costs of uncovered care and those who cannot.[24,77]

The transgender youth group in Seattle likely reflected the larger TGD population when they described how obstacles adversely affect self-esteem and contribute to the perception that they are undervalued by society and the health care system.[74,77] Professional medical associations, including the AAP, are increasingly calling for equity in health care provisions regardless of gender identity or expression.[1,8,23,72] There is a critical need for investments in research on the prevalence, disparities, biological underpinnings, and standards of care relating to gender-diverse populations. Pediatric providers who work with state government and insurance officials can play an essential role in advocating for



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stronger nondiscrimination policies and improved coverage.

There is a lack of quality research on the experience of youth of color who identify as transgender. One theory suggests that the intersection of racism, transphobia, and sexism may result in the extreme marginalization that is experienced among many women of color who identify as transgender,[79] including rejection from their family and dropping out of school at younger ages (often in the setting of rigid religious beliefs regarding gender),[80] increased levels of violence and body objectification,[81] 3 times the risk of poverty compared with the general population,[31] and the highest prevalence of HIV compared with other risk groups (estimated as high as 56.3% in 1 meta-analysis).[30] One model suggests that pervasive stigma and oppression can be associated with psychological distress (anxiety, depression, and suicide) and adoption of risk behaviors by such youth to obtain a sense of validation toward their complex identities.[79]

## FAMILY ACCEPTANCE

Research increasingly suggests that familial acceptance or rejection ultimately has little influence on the gender identity of youth; however, it may profoundly affect young people's ability to openly discuss or disclose concerns about their identity. Suppressing such concerns can affect mental health.[82] Families often find it hard to understand and accept their child's gender-diverse traits because of personal beliefs, social pressure, and stigma.[49,83] Legitimate fears may exist for their child's welfare, safety, and acceptance that pediatric providers need to appreciate and address. Families can be encouraged to communicate their concerns and questions. Unacknowledged concerns can contribute to shame and hesitation in regard to offering support and understanding,[84] which is essential for the child's self-esteem, social involvement, and overall health as TGD.[48,85–87] Some caution has been expressed that unquestioning acceptance per se may not best serve questioning youth or their families. Instead, psychological evidence suggests that the most benefit comes when family members and youth are supported and encouraged to engage in reflective perspective taking and validate their own and the other's thoughts and feelings despite divergent views.[49,82]

In this regard, suicide attempt rates among 433 adolescents in Ontario who identified as "trans" were 4% among those with strongly supportive parents and as high as 60% among those whose parents were not supportive.[85] Adolescents who identify as transgender and endorse at least 1 supportive person in their life report significantly less distress than those who only experience rejection. In communities with high levels of support, it was found that nonsupportive families tended to increase their support over time, leading to dramatic improvement in mental health outcomes among their children who identified as transgender.[88]

Pediatric providers can create a safe environment for parents and families to better understand and listen to the needs of their children while receiving reassurance and education.[83] It is often appropriate to assist the child in understanding the parents' concerns as well. Despite expectations by some youth with transgender identity for immediate acceptance after "coming out," family members often proceed through a process of becoming more comfortable and understanding of the youth's gender identity, thoughts, and feelings. One model suggests that the process resembles grieving, wherein the family separates from their expectations for their child to embrace a new reality. This process may proceed through stages of shock, denial, anger, feelings of betrayal, fear, self-discovery, and pride.[89] The amount of time spent in any of these stages and the overall pace varies widely. Many family members also struggle as they are pushed to reflect on their own gender experience and assumptions throughout this process. In some situations, youth who identify as TGD may be at risk for internalizing the difficult emotions that family members may be experiencing. In these cases, individual and group therapy for the family members may be helpful.[49,78]

Family dynamics can be complex, involving disagreement among legal guardians or between guardians and their children, which may affect the ability to obtain consent for any medical management or interventions. Even in states where minors may access care without parental consent for mental health services, contraception, and sexually transmitted infections, parental or guardian consent is required for hormonal and surgical care of patients who identify as TGD.[72,90] Some families may take issue with providers who address gender concerns or offer gender-affirming care. In rare cases, a family may deny access to care that raises concerns about the youth's welfare and safety; in those cases, additional legal or ethical support may be useful to consider. In such rare situations, pediatric providers may want to familiarize themselves with relevant local consent laws and maintain their primary responsibility for the welfare of the child.

## SAFE SCHOOLS AND COMMUNITIES

Youth who identify as TGD are becoming more visible because gender-diverse expression is increasingly admissible in the media, on social media, and in schools and communities. Regardless of whether a youth with a gender-diverse



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identity ultimately identifies as transgender, challenges exist in nearly every social context, from lack of understanding to outright rejection, isolation, discrimination, and victimization. In the US Transgender Survey of nearly 28 000 respondents, it was found that among those who were out as or perceived to be TGD between kindergarten and eighth grade, 54% were verbally harassed, 24% were physically assaulted, and 13% were sexually assaulted; 17% left school because of maltreatment.[31] Education and advocacy from the medical community on the importance of safe schools for youth who identify as TGD can have a significant effect.

At the time of this writing,* only 18 states and the District of Columbia had laws that prohibited discrimination based on gender expression when it comes to employment, housing, public accommodations, and insurance benefits. Over 200 US cities have such legislation. In addition to basic protections, many youth who identify as TGD also have to navigate legal obstacles when it comes to legally changing their name and/or gender marker.[54] In addition to advocating and working with policy makers to promote equal protections for youth who identify as TGD, pediatric providers can play an important role by developing a familiarity with local laws and organizations that provide social work and legal assistance to youth who identify as TGD and their families.

School environments play a significant role in the social and emotional development of children. Every child has a right to feel safe and respected at school, but for youth who identify as TGD, this can be challenging. Nearly every aspect of school life may present safety concerns and require negotiations regarding their gender expression, including name/pronoun use, use of bathrooms and locker rooms, sports teams, dances and activities, overnight activities, and even peer groups. Conflicts in any of these areas can quickly escalate beyond the school's control to larger debates among the community and even on a national stage.

The formerly known Gay, Lesbian, and Straight Education Network (GLSEN), an advocacy organization for youth who identify as LGBTQ, conducts an annual national survey to measure LGBTQ well-being in US schools. In 2015, students who identified as LGBTQ reported high rates of being discouraged from participation in extracurricular activities. One in 5 students who identified as LGBTQ reported being hindered from forming or participating in a club to support lesbian, gay, bisexual, or transgender students (eg, a gay straight alliance, now often referred to as a genders and sexualities alliance) despite such clubs at schools being associated with decreased reports of negative remarks about sexual orientation or gender expression, increased feelings of safety and connectedness at school, and lower levels of victimization. In addition, >20% of students who identified as LGBTQ reported being blocked from writing about LGBTQ issues in school yearbooks or school newspapers or being prevented or discouraged by coaches and school staff from participating in sports because of their sexual orientation or gender expression.[91]

One strategy to prevent conflict is to proactively support policies and protections that promote inclusion and safety of all students. However, such policies are far from consistent across districts. In 2015, GLSEN found that 43% of children who identified as LGBTQ reported feeling unsafe at school because of their gender expression, but only 6% reported that their school had official policies to support youth who identified as TGD, and only 11% reported that their school's antibullying policies had specific protections for gender expression.[91] Consequently, more than half of the students who identified as transgender in the study were prevented from using the bathroom, names, or pronouns that aligned with their asserted gender at school. A lack of explicit policies that protected youth who identified as TGD was associated with increased reported victimization, with more than half of students who identified as LGBTQ reporting verbal harassment because of their gender expression. Educators and school administrators play an essential role in advocating for and enforcing such policies. GLSEN found that when students recognized actions to reduce gender-based harassment, both students who identified as transgender and cisgender reported a greater connection to staff and feelings of safety.[91] In another study, schools were open to education regarding gender diversity and were willing to implement policies when they were supported by external agencies, such as medical professionals.[92]

Academic content plays an important role in building a safe school environment as well. The 2015 GLSEN survey revealed that when positive representations of people who identified as LGBTQ were included in the curriculum, students who identified as LGBTQ reported less hostile school environments, less victimization and greater feelings of safety, fewer school absences because of feeling unsafe, greater feelings of connectedness to their school

* For more information regarding state-specific laws, please contact the AAP Division of State Government Affairs at stgov@ aap.org.



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community, and an increased interest in high school graduation and postsecondary education.[91] At the time of this writing,* 8 states had laws that explicitly forbade teachers from even discussing LGBTQ issues.[54]

## MEDICAL EDUCATION

One of the most important ways to promote high-quality health care for youth who identify as TGD and their families is increasing the knowledge base and clinical experience of pediatric providers in providing culturally competent care to such populations, as recommended by the recently released guidelines by the Association of American Medical Colleges.[93] This begins with the medical school curriculum in areas such as human development, sexual health, endocrinology, pediatrics, and psychiatry. In a 2009–2010 survey of US medical schools, it was found that the median number of hours dedicated to LGBTQ health was 5, with one-third of US medical schools reporting no LGBTQ curriculum during the clinical years.[94]

During residency training, there is potential for gender diversity to be emphasized in core rotations, especially in pediatrics, psychiatry, family medicine, and obstetrics and gynecology. Awareness could be promoted through the inclusion of topics relevant to caring for children who identify as TGD in the list of core competencies published by the American Board of Pediatrics, certifying examinations, and relevant study materials. Continuing education and maintenance of certification activities can include topics relevant to TGD populations as well.

* For more information regarding state-specific laws, please contact the AAP Division of State Government Affairs at stgov@ aap.org.

## RECOMMENDATIONS

The AAP works toward all children and adolescents, regardless of gender identity or expression, receiving care to promote optimal physical, mental, and social well-being. Any discrimination based on gender identity or expression, real or perceived, is damaging to the socioemotional health of children, families, and society. In particular, the AAP recommends the following:

1. that youth who identify as TGD have access to comprehensive, gender-affirming, and developmentally appropriate health care that is provided in a safe and inclusive clinical space;
2. that family-based therapy and support be available to recognize and respond to the emotional and mental health needs of parents, caregivers, and siblings of youth who identify as TGD;
3. that electronic health records, billing systems, patient-centered notification systems, and clinical research be designed to respect the asserted gender identity of each patient while maintaining confidentiality and avoiding duplicate charts;
4. that insurance plans offer coverage for health care that is specific to the needs of youth who identify as TGD, including coverage for medical, psychological, and, when indicated, surgical gender-affirming interventions;
5. that provider education, including medical school, residency, and continuing education, integrate core competencies on the emotional and physical health needs and best practices for the care of youth who identify as TGD and their families;
6. that pediatricians have a role in advocating for, educating, and developing liaison relationships with school districts and other community organizations to promote acceptance and inclusion of all children without fear of harassment, exclusion, or bullying because of gender expression;
7. that pediatricians have a role in advocating for policies and laws that protect youth who identify as TGD from discrimination and violence;
8. that the health care workforce protects diversity by offering equal employment opportunities and workplace protections, regardless of gender identity or expression; and
9. that the medical field and federal government prioritize research that is dedicated to improving the quality of evidence-based care for youth who identify as TGD.


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### ABBREVIATIONS

AAP: American Academy of Pediatrics
GACM: gender-affirmative care model
GLSEN: Gay, Lesbian, and Straight Education Network
LGBTQ: lesbian, gay, bisexual, transgender, or questioning
TGD: transgender and gender diverse


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# Exhibit C to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

AMERICAN PSYCHOLOGICAL ASSOCIATION

# APA Policy Statement on Affirming Evidence-Based Inclusive Care for Transgender, Gender Diverse, and Nonbinary Individuals, Addressing Misinformation, and the Role of Psychological Practice and Science

**FEBRUARY 2024**

Consistent with the American Psychological Association's mission to promote the advancement, communication, and application of psychological science and knowledge to benefit society and improve lives, this Policy Statement affirms APA's support for unobstructed access to healthcare and evidence-based clinical care for transgender, gender-diverse, and nonbinary children, adolescents, and adults, and for increased public accessibility to timely and accurate information founded in clinical and psychological science. Evidence-based clinical care, including gender-affirming care, should be noncoercive, adaptive to and centered on the needs of the individual receiving care, and rooted in psychological and clinical science, including recognition of gender diversity as a part of normal human diversity as well as recognition of limits in the current state of scientific knowledge.

Furthermore, this policy statement addresses the spread of misleading and unfounded narratives that mischaracterize gender dysphoria and affirming care, likely resulting in further stigmatization, marginalization, and lack of access to psychological and medical supports for transgender, gender diverse, and nonbinary individuals. Misinformation further creates distress and confusion for families and loved ones of transgender, gender-diverse, and nonbinary individuals, as they make decisions about their healthcare. The primary goal is to encourage psychologists to unite in their support for access to psychological and all appropriate healthcare services and treatment for transgender, gender-diverse, and nonbinary individuals.

## Policy Statement:

**WHEREAS** gender diversity is present throughout the lifespan and has been present throughout history (Gill-Peterson, 2018; Hunt, 2016; Stryker, 2017); and

**WHEREAS** gender-based bias and mistreatment (e.g., discrimination, violence, non-affirmation, or rejection in response to gender diversity) pose significant harm, including risk of suicide, to the well-being of children, adolescents, adults, and families. (Delozier et al., 2020; Kosciw et al., 2022; Puckett et al., 2023; Trevor Project, 2023); and

**WHEREAS** transgender, gender diverse, and nonbinary individuals experiencing systemic discrimination and mistreatment targeting their gender identity or expression, may also face racial, ethnic, socioeconomic, religious, and other forms of discrimination, translated into greater discrimination and psychological distress than their counterparts (Castro-Ramirez et al., 2021; Hendricks & Testa, 2012; Lefevor et al., 2019; Lytle et al., 2016; Turban et al., 2020; van der Miesen et al., 2020 ); and

**WHEREAS** gender-related distress is a complex and nuanced psychological experience, informed by a rapidly evolving basis in new scientific findings and advances, which often requires specialized understanding and expertise (APA, 2015; Coleman et al., 2022); and

**WHEREAS** psychologists often play a vital role in assisting individuals experiencing gender dysphoria and their parents, caregivers, and families, offering valuable insights into their mental health and well-being (APA, 2015; dickey & Puckett, 2023; Hughto et al., 2015); and

**WHEREAS** psychologists can play an important and essential role in facilitating the support for client-led exploration of gender identity, assisting individuals in navigating their unique experiences (APA, 2015; Coleman et al., 2022); and

**WHEREAS** affirming mental health services provided by psychologists can positively contribute to the holistic care of individuals participating in gender-affirming healthcare or experiencing gender dysphoria, gender incongruence, and/or distress associated with discrimination and mistreatment (Anzani et al., 2019; Expósito-Campos et al., 2023; Hembree et al.,2017; Wittlin et al., 2023; World Health Organization, 2022); and

**WHEREAS** legislative efforts to restrict access to care have involved the dissemination of misleading and unfounded narratives (e.g., mischaracterizing gender dysphoria as a manifestation of traumatic stress or neurodivergence, and equating affirming care for transgender, gender-diverse, and nonbinary youth with child abuse), creating a distorted perception of the psychological and

medical support necessary for these youth and creating a hostile environment that adversely affects their mental health and wellbeing (APA, 2023; Ashley, 2023; Hughto et al., 2022; Kremen et al., 2021; McNamara et al., 2022); and

**WHEREAS** such misinformation is widely disseminated through formal and informal networks, yet credible scientific evidence has not been widely disseminated and is not readily accessible to the public, having the potential to further stigmatize and marginalize all transgender, gender-diverse, and nonbinary individuals, hindering their access to indicated and necessary healthcare, worsening existing geographic disparities in healthcare access, and fostering an environment that may lead to discrimination (DuBois et al., 2023; Goldenberg et al., 2020; Weixel & Wildman, 2022); and

**WHEREAS** state bans on gender-affirming care and the imposition of legal penalties on providers engaging in evidence-based care disregard the comprehensive body of psychological and medical research supporting the positive impact of gender-affirming treatments, which include as a standard of care noncoercive, developmentally appropriate support for gender exploration and decision-making in alleviating psychological distress and improving overall well-being for transgender, gender diverse, and nonbinary individuals across the lifespan (Achille et al., 2020; Ashley, 2023; Green et al., 2022; Ramos et al., 2021; Tordoff et al., 2022); and

**WHEREAS** state bans on gender-affirming care disrupt not only the role of providers in offering evidence-based care but also obstruct patient and parental rights in shared decision-making (Clark & Virani, 2021); and

**WHEREAS** the imposition of such bans poses a direct threat to the mental health and emotional well-being of transgender, gender-diverse, and nonbinary youth, exacerbating the already high rates of depression, anxiety, and suicide attempts among this vulnerable population (Abreu et al., 2022a; Abreu et al., 2022b; Hughes et al., 2021; Kidd et al., 2021); and

**WHEREAS** obstructing access to psychological and medical interventions, including gender-affirming care, heightens the risk of negative mental health outcomes among children, adolescents, and adults; (Chen et al., 2023; McGregor et al. 2023; Turban et al., 2020; Turban, et al. 2022; van der Miesen et al., 2020);

**THEREFORE, BE IT RESOLVED** that the American Psychological Association (APA) steadfastly supports evidence-based clinical care for all children, adolescents, and adults inclusive of gender identity and expression; and

**THEREFORE, BE IT RESOLVED** that the APA upholds the rights of all individuals to unbiased health insurance coverage, rejecting discrimination based on gender identity and advocating for the inclusion of gender-affirming care, including psychological care; and

**THEREFORE, BE IT RESOLVED** that the APA underscores the necessity for access to comprehensive, gender-affirming healthcare for transgender, gender-diverse, and nonbinary children, adolescents, and adults; and

**THEREFORE, BE IT RESOLVED** that the APA underscores the importance of an accurate understanding of evidence-based care—highlighting the continuous need for research and expansion of the scientific foundation to further ensure full access to competent and reliable healthcare—s as essential to promoting inclusivity; protecting the rights of transgender, gender-diverse, and nonbinary individuals; and ensuring that they receive the necessary support and full healthcare attention, inclusive of psychological and medical care, in a compassionate and affirming manner; and

**THEREFORE, BE IT RESOLVED** that the APA supports efforts to address and rectify the dissemination of false information to ensure the well-being and dignity of transgender, gender-diverse, and nonbinary individuals; and

**THEREFORE, BE IT RESOLVED** that the APA opposes state bans on gender-affirming care, which are contrary to the principles of evidence-based healthcare, human rights, and social justice, and which should be reconsidered in favor of policies that prioritize the well-being and autonomy of transgender, gender-diverse, and nonbinary individuals; and

**THEREFORE, BE IT RESOLVED** that insurance plans should extend coverage for healthcare services tailored to the developmental needs of children, adolescents, and adults identifying as transgender, gender-diverse, or nonbinary, encompassing both psychological and medical gender-affirming care; and

**THEREFORE, BE IT RESOLVED** that equitable health insurance access is necessary to facilitate essential gender-affirming care, including access to mental health supports; and

**THEREFORE, BE IT RESOLVED** that the APA opposes efforts to obstruct access to evidence-based interventions for children, adolescents, and adults, advocating for inclusive healthcare coverage without gender-based discrimination; and

**THEREFORE, BE IT FURTHER RESOLVED** that the APA emphasizes the importance of psychological and medical care from an intersectional perspective, which takes into consideration the many facets of an individual's experience and provides services that are antidiscriminatory in all areas, including opposing racial, ethnic, socioeconomic, religious, and gender-based discrimination; and

**THEREFORE, BE IT FURTHER RESOLVED** that the APA urges support for policies facilitating access to comprehensive, gender-affirming healthcare for children, adolescents, and adults, recognizing the positive impact on mental health outcomes; and

**THEREFORE, BE IT FURTHER RESOLVED** that the APA encourages insurance providers to offer coverage addressing the healthcare needs of children, adolescents, and adults who identify as transgender, gender diverse, or nonbinary; and

**THEREFORE, BE IT FURTHER RESOLVED** the APA affirms the essential role and legal rights of parents and caregivers in taking action to ensure the well-being of children and adolescents while honoring their expressed gender identity, including involvement in the process of healthcare decision-making, as well as the role of parents, caregivers, and providers in supporting developmentally appropriate youth self-advocacy.

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# Exhibit D to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

# Endocrine Treatment of Gender-Dysphoric/ Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline

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*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.

**Objective:** To update the "Endocrine Treatment of Transsexual Persons: An Endocrine Society Clinical Practice Guideline," published by the Endocrine Society in 2009.

**Participants:** The participants include an Endocrine Society–appointed task force of nine experts, a methodologist, and a medical writer.

**Evidence:** This evidence-based guideline was developed using the Grading of Recommendations, Assessment, Development, and Evaluation approach to describe the strength of recommendations and the quality of evidence. The task force commissioned two systematic reviews and used the best available evidence from other published systematic reviews and individual studies.

**Consensus Process:** Group meetings, conference calls, and e-mail communications enabled consensus. Endocrine Society committees, members and cosponsoring organizations reviewed and commented on preliminary drafts of the guidelines.

**Conclusion:** Gender affirmation is multidisciplinary treatment in which endocrinologists play an important role. Gender-dysphoric/gender-incongruent persons seek and/or are referred to endocrinologists to develop the physical characteristics of the affirmed gender. They require a safe and effective hormone regimen that will (1) suppress endogenous sex hormone secretion determined by the person's genetic/gonadal sex and (2) maintain sex hormone levels within the normal range for the person's affirmed gender. Hormone treatment is not recommended for prepubertal gender-dysphoric/gender-incongruent persons. Those clinicians who recommend gender-affirming endocrine treatments—appropriately trained diagnosing clinicians (required), a mental health provider for adolescents (required) and mental health

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Abbreviations: BMD, bone mineral density; DSD, disorder/difference of sex development; DSM, Diagnostic and Statistical Manual of Mental Disorders; GD, gender dysphoria; GnRH, gonadotropin-releasing hormone; ICD, International Statistical Classification of Diseases and Related Health Problems; MHP, mental health professional; VTE, venous thromboembolism.

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 3 of 36



professional for adults (recommended)—should be knowledgeable about the diagnostic criteria and criteria for gender-affirming treatment, have sufficient training and experience in assessing psychopathology, and be willing to participate in the ongoing care throughout the endocrine transition. We recommend treating gender-dysphoric/gender-incongruent adolescents who have entered puberty at Tanner Stage G2/B2 by suppression with gonadotropin-releasing hormone agonists. Clinicians may add gender-affirming hormones after a multidisciplinary team has confirmed the persistence of gender dysphoria/gender incongruence and sufficient mental capacity to give informed consent to this partially irreversible treatment. Most adolescents have this capacity by age 16 years old. We recognize that there may be compelling reasons to initiate sex hormone treatment prior to age 16 years, although there is minimal published experience treating prior to 13.5 to 14 years of age. For the care of peripubertal youths and older adolescents, we recommend that an expert multidisciplinary team comprised of medical professionals and mental health professionals manage this treatment. The treating physician must confirm the criteria for treatment used by the referring mental health practitioner and collaborate with them in decisions about gender-affirming surgery in older adolescents. For adult gender-dysphoric/gender-incongruent persons, the treating clinicians (collectively) should have expertise in transgender-specific diagnostic criteria, mental health, primary care, hormone treatment, and surgery, as needed by the patient. We suggest maintaining physiologic levels of gender-appropriate hormones and monitoring for known risks and complications. When high doses of sex steroids are required to suppress endogenous sex steroids and/or in advanced age, clinicians may consider surgically removing natal gonads along with reducing sex steroid treatment. Clinicians should monitor both transgender males (female to male) and transgender females (male to female) for reproductive organ cancer risk when surgical removal is incomplete. Additionally, clinicians should persistently monitor adverse effects of sex steroids. For gender-affirming surgeries in adults, the treating physician must collaborate with and confirm the criteria for treatment used by the referring physician. Clinicians should avoid harming individuals (via hormone treatment) who have conditions other than gender dysphoria/gender incongruence and who may not benefit from the physical changes associated with this treatment. (***J Clin Endocrinol Metab*** **102: 3869–3903, 2017)**

## Summary of Recommendations

### 1.0 Evaluation of youth and adults

1.1. We advise that only trained mental health professionals (MHPs) who meet the following criteria should diagnose gender dysphoria (GD)/gender incongruence in adults: (1) competence in using the Diagnostic and Statistical Manual of Mental Disorders (DSM) and/or the International Statistical Classification of Diseases and Related Health Problems (ICD) for diagnostic purposes, (2) the ability to diagnose GD/gender incongruence and make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (3) training in diagnosing psychiatric conditions, (4) the ability to undertake or refer for appropriate treatment, (5) the ability to psychosocially assess the person's understanding, mental health, and social conditions that can impact gender-affirming hormone therapy, and (6) a practice of regularly attending relevant professional meetings. (Ungraded Good Practice Statement)

1.2. We advise that only MHPs who meet the following criteria should diagnose GD/gender incongruence in children and adolescents: (1) training in child and adolescent developmental psychology and psychopathology, (2) competence in using the DSM and/or the ICD for diagnostic purposes, (3) the ability to make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (4) training in diagnosing psychiatric conditions, (5) the ability to undertake or refer for appropriate treatment, (6) the ability to psychosocially assess the person's understanding and social conditions that can impact gender-affirming hormone therapy, (7) a practice of regularly attending relevant professional meetings, and (8) knowledge of the criteria for puberty blocking and gender-affirming hormone treatment in adolescents. (Ungraded Good Practice Statement)

1.3. We advise that decisions regarding the social transition of prepubertal youths with GD/gender incongruence are made with the assistance of an MHP or another experienced professional. (Ungraded Good Practice Statement).

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 4 of 36



1.4. We recommend against puberty blocking and gender-affirming hormone treatment in prepubertal children with GD/gender incongruence. (1 |⊕⊕◯◯)

1.5. We recommend that clinicians inform and counsel all individuals seeking gender-affirming medical treatment regarding options for fertility preservation prior to initiating puberty suppression in adolescents and prior to treating with hormonal therapy of the affirmed gender in both adolescents and adults. (1 |⊕⊕⊕◯)

## 2.0 Treatment of adolescents

2.1. We suggest that adolescents who meet diagnostic criteria for GD/gender incongruence, fulfill criteria for treatment, and are requesting treatment should initially undergo treatment to suppress pubertal development. (2 |⊕⊕◯◯)

2.2. We suggest that clinicians begin pubertal hormone suppression after girls and boys first exhibit physical changes of puberty. (2 |⊕⊕◯◯)

2.3. We recommend that, where indicated, GnRH analogues are used to suppress pubertal hormones. (1 |⊕⊕◯◯)

2.4. In adolescents who request sex hormone treatment (given this is a partly irreversible treatment), we recommend initiating treatment using a gradually increasing dose schedule after a multidisciplinary team of medical and MHPs has confirmed the persistence of GD/gender incongruence and sufficient mental capacity to give informed consent, which most adolescents have by age 16 years. (1 |⊕⊕◯◯).

2.5. We recognize that there may be compelling reasons to initiate sex hormone treatment prior to the age of 16 years in some adolescents with GD/gender incongruence, even though there are minimal published studies of gender-affirming hormone treatments administered before age 13.5 to 14 years. As with the care of adolescents ≥16 years of age, we recommend that an expert multidisciplinary team of medical and MHPs manage this treatment. (1 |⊕◯◯◯)

2.6. We suggest monitoring clinical pubertal development every 3 to 6 months and laboratory parameters every 6 to 12 months during sex hormone treatment. (2 |⊕⊕◯◯)

## 3.0 Hormonal therapy for transgender adults

3.1. We recommend that clinicians confirm the diagnostic criteria of GD/gender incongruence and the criteria for the endocrine phase of gender transition before beginning treatment. (1 |⊕⊕⊕◯)

3.2. We recommend that clinicians evaluate and address medical conditions that can be exacerbated by hormone depletion and treatment with sex hormones of the affirmed gender before beginning treatment. (1 |⊕⊕⊕◯)

3.3. We suggest that clinicians measure hormone levels during treatment to ensure that endogenous sex steroids are suppressed and administered sex steroids are maintained in the normal physiologic range for the affirmed gender. (2 |⊕⊕◯◯)

3.4. We suggest that endocrinologists provide education to transgender individuals undergoing treatment about the onset and time course of physical changes induced by sex hormone treatment. (2 |⊕◯◯◯)

## 4.0 Adverse outcome prevention and long-term care

4.1. We suggest regular clinical evaluation for physical changes and potential adverse changes in response to sex steroid hormones and laboratory monitoring of sex steroid hormone levels every 3 months during the first year of hormone therapy for transgender males and females and then once or twice yearly. (2 |⊕⊕◯◯)

4.2. We suggest periodically monitoring prolactin levels in transgender females treated with estrogens. (2 |⊕⊕◯◯)

4.3. We suggest that clinicians evaluate transgender persons treated with hormones for cardiovascular risk factors using fasting lipid profiles, diabetes screening, and/or other diagnostic tools. (2 |⊕⊕◯◯)

4.4. We recommend that clinicians obtain bone mineral density (BMD) measurements when risk factors for osteoporosis exist, specifically in those who stop sex hormone therapy after gonadectomy. (1 |⊕⊕◯◯)

4.5. We suggest that transgender females with no known increased risk of breast cancer follow breast-screening guidelines recommended for non-transgender females. (2 |⊕⊕◯◯)

4.6. We suggest that transgender females treated with estrogens follow individualized screening according to personal risk for prostatic disease and prostate cancer. (2 |⊕◯◯◯)

4.7. We advise that clinicians determine the medical necessity of including a total hysterectomy and oophorectomy as part of gender-affirming surgery. (Ungraded Good Practice Statement)

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 5 of 36



### 5.0 Surgery for sex reassignment and gender confirmation

5.1. We recommend that a patient pursue genital gender-affirming surgery only after the MHP and the clinician responsible for endocrine transition therapy both agree that surgery is medically necessary and would benefit the patient's overall health and/or well-being. (1 |⊕⊕◯◯)

5.2. We advise that clinicians approve genital gender-affirming surgery only after completion of at least 1 year of consistent and compliant hormone treatment, unless hormone therapy is not desired or medically contraindicated. (Ungraded Good Practice Statement)

5.3. We advise that the clinician responsible for endocrine treatment and the primary care provider ensure appropriate medical clearance of transgender individuals for genital gender-affirming surgery and collaborate with the surgeon regarding hormone use during and after surgery. (Ungraded Good Practice Statement)

5.4. We recommend that clinicians refer hormone-treated transgender individuals for genital surgery when: (1) the individual has had a satisfactory social role change, (2) the individual is satisfied about the hormonal effects, and (3) the individual desires definitive surgical changes. (1 |⊕◯◯◯)

5.5. We suggest that clinicians delay gender-affirming genital surgery involving gonadectomy and/or hysterectomy until the patient is at least 18 years old or legal age of majority in his or her country. (2 |⊕⊕◯◯).

5.6. We suggest that clinicians determine the timing of breast surgery for transgender males based upon the physical and mental health status of the individual. There is insufficient evidence to recommend a specific age requirement. (2 |⊕◯◯◯)

## Changes Since the Previous Guideline

Both the current guideline and the one published in 2009 contain similar sections. Listed here are the sections contained in the current guideline and the corresponding number of recommendations: Introduction, Evaluation of Youth and Adults (5), Treatment of Adolescents (6), Hormonal Therapy for Transgender Adults (4), Adverse Outcomes Prevention and Long-term Care (7), and Surgery for Sex Reassignment and Gender Confirmation (6). The current introduction updates the diagnostic classification of "gender dysphoria/gender incongruence." It also reviews the development of "gender identity" and summarizes its natural development. The section on clinical evaluation of both youth and adults, defines in detail the professional qualifications required of those who diagnose and treat both adolescents and adults. We advise that decisions regarding the social transition of prepubertal youth are made with the assistance of a mental health professional or similarly experienced professional. We recommend against puberty blocking followed by gender-affirming hormone treatment of prepubertal children. Clinicians should inform pubertal children, adolescents, and adults seeking gender-confirming treatment of their options for fertility preservation. Prior to treatment, clinicians should evaluate the presence of medical conditions that may be worsened by hormone depletion and/or treatment. A multidisciplinary team, preferably composed of medical and mental health professionals, should monitor treatments. Clinicians evaluating transgender adults for endocrine treatment should confirm the diagnosis of persistent gender dysphoria/gender incongruence. Physicians should educate transgender persons regarding the time course of steroid-induced physical changes. Treatment should include periodic monitoring of hormone levels and metabolic parameters, as well as assessments of bone density and the impact upon prostate, gonads, and uterus. We also make recommendations for transgender persons who plan genital gender-affirming surgery.

## Method of Development of Evidence-Based Clinical Practice Guidelines

The Clinical Guidelines Subcommittee (CGS) of the Endocrine Society deemed the diagnosis and treatment of individuals with GD/gender incongruence a priority area for revision and appointed a task force to formulate evidence-based recommendations. The task force followed the approach recommended by the Grading of Recommendations, Assessment, Development, and Evaluation group, an international group with expertise in the development and implementation of evidence-based guidelines (1). A detailed description of the grading scheme has been published elsewhere (2). The task force used the best available research evidence to develop the recommendations. The task force also used consistent language and graphical descriptions of both the strength of a recommendation and the quality of evidence. In terms of the strength of the recommendation, strong recommendations use the phrase "we recommend" and the number 1, and weak recommendations use the phrase "we suggest" and the number 2. Cross-filled circles indicate the quality of the evidence, such that ⊕◯◯◯ denotes very low–quality evidence; ⊕⊕◯◯, low quality; ⊕⊕⊕◯, moderate quality; and ⊕⊕⊕⊕, high quality. The task force has confidence that persons who receive care according to the strong recommendations will derive, on average, more benefit than harm. Weak recommendations require more careful consideration of the person's circumstances, values, and preferences to determine the best course of action. Linked to each recommendation is a description of the evidence and the

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values that the task force considered in making the recommendation. In some instances, there are remarks in which the task force offers technical suggestions for testing conditions, dosing, and monitoring. These technical comments reflect the best available evidence applied to a typical person being treated. Often this evidence comes from the unsystematic observations of the task force and their preferences; therefore, one should consider these remarks as suggestions.

In this guideline, the task force made several statements to emphasize the importance of shared decision-making, general preventive care measures, and basic principles of the treatment of transgender persons. They labeled these "Ungraded Good Practice Statement." Direct evidence for these statements was either unavailable or not systematically appraised and considered out of the scope of this guideline. The intention of these statements is to draw attention to these principles.

The Endocrine Society maintains a rigorous conflict-of-interest review process for developing clinical practice guidelines. All task force members must declare any potential conflicts of interest by completing a conflict-of-interest form. The CGS reviews all conflicts of interest before the Society's Council approves the members to participate on the task force and periodically during the development of the guideline. All others participating in the guideline's development must also disclose any conflicts of interest in the matter under study, and most of these participants must be without any conflicts of interest. The CGS and the task force have reviewed all disclosures for this guideline and resolved or managed all identified conflicts of interest.

Conflicts of interest are defined as remuneration in any amount from commercial interests; grants; research support; consulting fees; salary; ownership interests [*e.g.*, stocks and stock options (excluding diversified mutual funds)]; honoraria and other payments for participation in speakers' bureaus, advisory boards, or boards of directors; and all other financial benefits. Completed forms are available through the Endocrine Society office.

The Endocrine Society provided the funding for this guideline; the task force received no funding or remuneration from commercial or other entities.

## Commissioned Systematic Review

The task force commissioned two systematic reviews to support this guideline. The first one aimed to summarize the available evidence on the effect of sex steroid use in transgender individuals on lipids and cardiovascular outcomes. The review identified 29 eligible studies at moderate risk of bias. In transgender males (female to male), sex steroid therapy was associated with a statistically significant increase in serum triglycerides and low-density lipoprotein cholesterol levels. High-density lipoprotein cholesterol levels decreased significantly across all follow-up time periods. In transgender females (male to female), serum triglycerides were significantly higher without any changes in other parameters. Few myocardial infarction, stroke, venous thromboembolism (VTE), and death events were reported. These events were more frequent in transgender females. However, the quality of the evidence was low. The second review summarized the available evidence regarding the effect of sex steroids on bone health in transgender individuals and identified 13 studies. In transgender males, there was no statistically significant difference in the lumbar spine, femoral neck, or total hip BMD at 12 and 24 months compared with baseline values before initiating masculinizing hormone therapy. In transgender females, there was a statistically significant increase in lumbar spine BMD at 12 months and 24 months compared with baseline values before initiation of feminizing hormone therapy. There was minimal information on fracture rates. The quality of evidence was also low.

## Introduction

Throughout recorded history (in the absence of an endocrine disorder) some men and women have experienced confusion and anguish resulting from rigid, forced conformity to sexual dimorphism. In modern history, there have been numerous ongoing biological, psychological, cultural, political, and sociological debates over various aspects of gender variance. The 20th century marked the emergence of a social awakening for men and women with the belief that they are "trapped" in the wrong body (3). Magnus Hirschfeld and Harry Benjamin, among others, pioneered the medical responses to those who sought relief from and a resolution to their profound discomfort. Although the term transsexual became widely known after Benjamin wrote "The Transsexual Phenomenon" (4), it was Hirschfeld who coined the term "transsexual" in 1923 to describe people who want to live a life that corresponds with their experienced gender vs their designated gender (5). Magnus Hirschfeld (6) and others (4, 7) have described other types of trans phenomena besides transsexualism. These early researchers proposed that the gender identity of these people was located somewhere along a unidimensional continuum. This continuum ranged from all male through "something in between" to all female. Yet such a classification does not take into account that people may have gender identities outside this continuum. For instance, some experience themselves as having both a male and female gender identity, whereas others completely renounce any gender classification (8, 9). There are also reports of individuals experiencing a continuous and rapid involuntary alternation between a male and female identity (10) or men who do not experience themselves as men but do not want to live as women (11, 12). In some countries, (*e.g.*, Nepal, Bangladesh, and Australia), these nonmale or nonfemale genders are officially recognized (13). Specific treatment protocols, however, have not yet been developed for these groups.

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 7 of 36



Instead of the term transsexualism, the current classification system of the American Psychiatric Association uses the term gender dysphoria in its diagnosis of persons who are not satisfied with their designated gender (14). The current version of the World Health Organization's ICD-10 still uses the term transsexualism when diagnosing adolescents and adults. However, for the ICD-11, the World Health Organization has proposed using the term "gender incongruence" (15).

Treating persons with GD/gender incongruence (15) was previously limited to relatively ineffective elixirs or creams. However, more effective endocrinology-based treatments became possible with the availability of testosterone in 1935 and diethylstilbestrol in 1938. Reports of individuals with GD/gender incongruence who were treated with hormones and gender-affirming surgery appeared in the press during the second half of the 20th century. The Harry Benjamin International Gender Dysphoria Association was founded in September 1979 and is now called the World Professional Association for Transgender Health (WPATH). WPATH published its first Standards of Care in 1979. These standards have since been regularly updated, providing guidance for treating persons with GD/gender incongruence (16).

Prior to 1975, few peer-reviewed articles were published concerning endocrine treatment of transgender persons. Since then, more than two thousand articles about various aspects of transgender care have appeared.

It is the purpose of this guideline to make detailed recommendations and suggestions, based on existing medical literature and clinical experience, that will enable treating physicians to maximize benefit and minimize risk when caring for individuals diagnosed with GD/gender incongruence.

In the future, we need more rigorous evaluations of the effectiveness and safety of endocrine and surgical protocols. Specifically, endocrine treatment protocols for GD/gender incongruence should include the careful assessment of the following: (1) the effects of prolonged delay of puberty in adolescents on bone health, gonadal function, and the brain (including effects on cognitive, emotional, social, and sexual development); (2) the effects of treatment in adults on sex hormone levels; (3) the requirement for and the effects of progestins and other agents used to suppress endogenous sex steroids during treatment; and (4) the risks and benefits of gender-affirming hormone treatment in older transgender people.

To successfully establish and enact these protocols, a commitment of mental health and endocrine investigators is required to collaborate in long-term, large-scale studies across countries that use the same diagnostic and inclusion criteria, medications, assay methods, and response assessment tools (*e.g.*, the European Network for the Investigation of Gender Incongruence) (17, 18).

Terminology and its use vary and continue to evolve. Table 1 contains the definitions of terms as they are used throughout this guideline.

## Biological Determinants of Gender Identity Development

One's self-awareness as male or female changes gradually during infant life and childhood. This process of cognitive and affective learning evolves with interactions with parents, peers, and environment. A fairly accurate timetable exists outlining the steps in this process (19). Normative psychological literature, however, does not address if and when gender identity becomes crystallized and what factors contribute to the development of a gender identity that is not congruent with the gender of rearing. Results of studies from a variety of biomedical disciplines—genetic, endocrine, and neuroanatomic—support the concept that gender identity and/or gender expression (20) likely reflect a complex interplay of biological, environmental, and cultural factors (21, 22).

With respect to endocrine considerations, studies have failed to find differences in circulating levels of sex steroids between transgender and nontransgender individuals (23). However, studies in individuals with a disorder/difference of sex development (DSD) have informed our understanding of the role that hormones may play in gender identity outcome, even though most persons with GD/gender incongruence do not have a DSD. For example, although most 46,XX adult individuals with virilizing congenital adrenal hyperplasia caused by mutations in *CYP21A2* reported a female gender identity, the prevalence of GD/gender incongruence was much greater in this group than in the general population without a DSD. This supports the concept that there is a role for prenatal/postnatal androgens in gender development (24–26), although some studies indicate that prenatal androgens are more likely to affect gender behavior and sexual orientation rather than gender identity *per se* (27, 28).

Researchers have made similar observations regarding the potential role of androgens in the development of gender identity in other individuals with DSD. For example, a review of two groups of 46,XY persons, each with androgen synthesis deficiencies and female raised, reported transgender male (female-to-male) gender role changes in 56% to 63% and 39% to 64% of patients, respectively (29). Also, in 46,XY female-raised individuals with cloacal

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 8 of 36



**Table 1. Definitions of Terms Used in This Guideline**

*Biological sex, biological male or female:* These terms refer to physical aspects of maleness and femaleness. As these may not be in line with each other (*e.g.*, a person with XY chromosomes may have female-appearing genitalia), the terms biological sex and biological male or female are imprecise and should be avoided.

*Cisgender:* This means not transgender. An alternative way to describe individuals who are not transgender is "non-transgender people."

*Gender-affirming (hormone) treatment:* See "gender reassignment"

*Gender dysphoria:* This is the distress and unease experienced if gender identity and designated gender are not completely congruent (see Table 2). In 2013, the American Psychiatric Association released the fifth edition of the DSM-5, which replaced "gender identity disorder" with "gender dysphoria" and changed the criteria for diagnosis.

*Gender expression:* This refers to external manifestations of gender, expressed through one's name, pronouns, clothing, haircut, behavior, voice, or body characteristics. Typically, transgender people seek to make their gender expression align with their gender identity, rather than their designated gender.

*Gender identity/experienced gender:* This refers to one's internal, deeply held sense of gender. For transgender people, their gender identity does not match their sex designated at birth. Most people have a gender identity of man or woman (or boy or girl). For some people, their gender identity does not fit neatly into one of those two choices. Unlike gender expression (see below), gender identity is not visible to others.

*Gender identity disorder:* This is the term used for GD/gender incongruence in previous versions of DSM (see "gender dysphoria"). The ICD-10 still uses the term for diagnosing child diagnoses, but the upcoming ICD-11 has proposed using "gender incongruence of childhood."

*Gender incongruence:* This is an umbrella term used when the gender identity and/or gender expression differs from what is typically associated with the designated gender. Gender incongruence is also the proposed name of the gender identity–related diagnoses in ICD-11. Not all individuals with gender incongruence have gender dysphoria or seek treatment.

*Gender variance:* See "gender incongruence"

*Gender reassignment:* This refers to the treatment procedure for those who want to adapt their bodies to the experienced gender by means of hormones and/or surgery. This is also called gender-confirming or gender-affirming treatment.

*Gender-reassignment surgery (gender-confirming/gender-affirming surgery):* These terms refer only to the surgical part of gender-confirming/gender-affirming treatment.

*Gender role:* This refers to behaviors, attitudes, and personality traits that a society (in a given culture and historical period) designates as masculine or feminine and/or that society associates with or considers typical of the social role of men or women.

*Sex designated at birth:* This refers to sex assigned at birth, usually based on genital anatomy.

*Sex:* This refers to attributes that characterize biological maleness or femaleness. The best known attributes include the sex-determining genes, the sex chromosomes, the H-Y antigen, the gonads, sex hormones, internal and external genitalia, and secondary sex characteristics.

*Sexual orientation:* This term describes an individual's enduring physical and emotional attraction to another person. Gender identity and sexual orientation are not the same. Irrespective of their gender identity, transgender people may be attracted to women (gynephilic), attracted to men (androphilic), bisexual, asexual, or queer.

*Transgender:* This is an umbrella term for people whose gender identity and/or gender expression differs from what is typically associated with their sex designated at birth. Not all transgender individuals seek treatment.

*Transgender male (also: trans man, female-to-male, transgender male):* This refers to individuals assigned female at birth but who identify and live as men.

*Transgender woman (also: trans woman, male-to female, transgender female):* This refers to individuals assigned male at birth but who identify and live as women.

*Transition:* This refers to the process during which transgender persons change their physical, social, and/or legal characteristics consistent with the affirmed gender identity. Prepubertal children may choose to transition socially.

*Transsexual:* This is an older term that originated in the medical and psychological communities to refer to individuals who have permanently transitioned through medical interventions or desired to do so.

exstrophy and penile agenesis, the occurrence of transgender male changes was significantly more prevalent than in the general population (30, 31). However, the fact that a high percentage of individuals with the same conditions did not change gender suggests that cultural factors may play a role as well.

With respect to genetics and gender identity, several studies have suggested heritability of GD/gender incongruence (32, 33). In particular, a study by Heylens *et al.* (33) demonstrated a 39.1% concordance rate for gender identity disorder (based on the DSM-IV criteria) in 23 monozygotic twin pairs but no concordance in 21 same-sex dizygotic or seven opposite-sex twin pairs. Although numerous investigators have sought to identify specific genes associated with GD/gender incongruence, such studies have been inconsistent and without strong statistical significance (34–38).

Studies focusing on brain structure suggest that the brain phenotypes of people with GD/gender incongruence differ in various ways from control males and females, but that there is not a complete sex reversal in brain structures (39).

In summary, although there is much that is still unknown with respect to gender identity and its expression, compelling studies support the concept that biologic factors, in addition to environmental factors, contribute to this fundamental aspect of human development.

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 9 of 36



## Natural History of Children With GD/Gender Incongruence

With current knowledge, we cannot predict the psychosexual outcome for any specific child. Prospective follow-up studies show that childhood GD/gender incongruence does not invariably persist into adolescence and adulthood (so-called "desisters"). Combining all outcome studies to date, the GD/gender incongruence of a minority of prepubertal children appears to persist in adolescence (20, 40). In adolescence, a significant number of these desisters identify as homosexual or bisexual. It may be that children who only showed some gender nonconforming characteristics have been included in the follow-up studies, because the DSM-IV text revision criteria for a diagnosis were rather broad. However, the persistence of GD/gender incongruence into adolescence is more likely if it had been extreme in childhood (41, 42). With the newer, stricter criteria of the DSM-5 (Table 2), persistence rates may well be different in future studies.

## 1.0 Evaluation of Youth and Adults

Gender-affirming treatment is a multidisciplinary effort. After evaluation, education, and diagnosis, treatment may include mental health care, hormone therapy, and/or surgical therapy. Together with an MHP, hormone-prescribing clinicians should examine the psychosocial impact of the potential changes on people's lives, including mental health, friends, family, jobs, and their role in society. Transgender individuals should be encouraged to experience living in the new gender role and assess whether this improves their quality of life. Although the focus of this guideline is gender-affirming hormone therapy, collaboration with appropriate professionals responsible for each aspect of treatment maximizes a successful outcome.

### *Diagnostic assessment and mental health care*

GD/gender incongruence may be accompanied with psychological or psychiatric problems (43–51). It is therefore necessary that clinicians who prescribe hormones and are involved in diagnosis and psychosocial assessment meet the following criteria: (1) are competent in using the DSM and/or the ICD for diagnostic purposes, (2) are able to diagnose GD/gender incongruence and make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (3) are trained in diagnosing psychiatric conditions, (4) undertake or refer for appropriate treatment, (5) are able to do a psychosocial assessment of the patient's understanding, mental health, and social conditions that can impact gender-affirming hormone therapy, and (6) regularly attend relevant professional meetings.

Because of the psychological vulnerability of many individuals with GD/gender incongruence, it is important that mental health care is available before, during, and sometimes also after transitioning. For children and adolescents, an MHP who has training/experience in child and adolescent gender development (as well as child and adolescent psychopathology) should make the diagnosis, because assessing GD/gender incongruence in children and adolescents is often extremely complex.

During assessment, the clinician obtains information from the individual seeking gender-affirming treatment. In the case

**Table 2. DSM-5 Criteria for Gender Dysphoria in Adolescents and Adults**

A. A marked incongruence between one's experienced/expressed gender and natal gender of at least 6 mo in duration, as manifested by at least two of the following:
   1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics)
   2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics)
   3. A strong desire for the primary and/or secondary sex characteristics of the other gender
   4. A strong desire to be of the other gender (or some alternative gender different from one's designated gender)
   5. A strong desire to be treated as the other gender (or some alternative gender different from one's designated gender)
   6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's designated gender)

B. The condition is associated with clinically significant distress or impairment in social, occupational, or other important areas of functioning.

Specify if:
   1. The condition exists with a disorder of sex development.
   2. The condition is posttransitional, in that the individual has transitioned to full-time living in the desired gender (with or without legalization of gender change) and has undergone (or is preparing to have) at least one sex-related medical procedure or treatment regimen—namely, regular sex hormone treatment or gender reassignment surgery confirming the desired gender (*e.g.*, penectomy, vaginoplasty in natal males; mastectomy or phalloplasty in natal females).

Reference: American Psychiatric Association (14).

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of adolescents, the clinician also obtains information from the parents or guardians regarding various aspects of the child's general and psychosexual development and current functioning. On the basis of this information, the clinician:

- decides whether the individual fulfills criteria for treatment (see Tables 2 and 3) for GD/gender incongruence (DSM-5) or transsexualism (DSM-5 and/or ICD-10);
- informs the individual about the possibilities and limitations of various kinds of treatment (hormonal/surgical and nonhormonal), and if medical treatment is desired, provides correct information to prevent unrealistically high expectations;
- assesses whether medical interventions may result in unfavorable psychological and social outcomes.

In cases in which severe psychopathology, circumstances, or both seriously interfere with the diagnostic work or make satisfactory treatment unlikely, clinicians should assist the adolescent in managing these other issues. Literature on postoperative regret suggests that besides poor quality of surgery, severe psychiatric comorbidity and lack of support may interfere with positive outcomes (52–56).

For adolescents, the diagnostic procedure usually includes a complete psychodiagnostic assessment (57) and an assessment of the decision-making capability of the youth. An evaluation to assess the family's ability to endure stress, give support, and deal with the complexities of the adolescent's situation should be part of the diagnostic phase (58).

### *Social transitioning*

A change in gender expression and role (which may involve living part time or full time in another gender role that is consistent with one's gender identity) may test the person's resolve, the capacity to function in the affirmed gender, and the adequacy of social, economic, and psychological supports. It assists both the individual and the clinician in their judgments about how to proceed (16). During social transitioning, the person's feelings about the social transformation (including coping with the responses of others) is a major focus of the counseling. The optimal timing for social transitioning may differ between individuals. Sometimes people wait until they start gender-affirming hormone treatment to make social transitioning easier, but individuals increasingly start social transitioning long before they receive medically supervised, gender-affirming hormone treatment.

### *Criteria*

Adolescents and adults seeking gender-affirming hormone treatment and surgery should satisfy certain criteria before proceeding (16). Criteria for gender-affirming hormone therapy for adults are in Table 4, and criteria for gender-affirming hormone therapy for adolescents are in Table 5. Follow-up studies in adults meeting these criteria indicate a high satisfaction rate with treatment (59). However, the quality of evidence is usually low. A few follow-up studies on adolescents who fulfilled these criteria also indicated good treatment results (60–63).

## Recommendations for Those Involved in the Gender-Affirming Hormone Treatment of Individuals With GD/Gender Incongruence

1.1. We advise that only trained MHPs who meet the following criteria should diagnose GD/gender incongruence in adults: (1) competence in using the DSM and/or the ICD for diagnostic purposes, (2) the ability to diagnose GD/gender incongruence and make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (3) training in diagnosing psychiatric conditions, (4) the ability to undertake or refer for appropriate treatment, (5) the ability to psychosocially assess the person's understanding, mental health, and social conditions that can impact gender-affirming hormone therapy, and (6) a practice of regularly attending relevant professional meetings. (Ungraded Good Practice Statement)

1.2. We advise that only MHPs who meet the following criteria should diagnose GD/gender incongruence in children and adolescents: (1) training in child and adolescent developmental psychology and psychopathology, (2) competence in using the DSM and/or ICD for diagnostic

**Table 3. ICD-10 Criteria for Transsexualism**

| **Transsexualism (F64.0) has three criteria:** |
|---|
| 1. The desire to live and be accepted as a member of the opposite sex, usually accompanied by the wish to make his or her body as congruent as possible with the preferred sex through surgery and hormone treatments. |
| 2. The transsexual identity has been present persistently for at least 2 y. |
| 3. The disorder is not a symptom of another mental disorder or a genetic, DSD, or chromosomal abnormality. |

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 11 of 36



**Table 4. Criteria for Gender-Affirming Hormone Therapy for Adults**

1. Persistent, well-documented gender dysphoria/gender incongruence
2. The capacity to make a fully informed decision and to consent for treatment
3. The age of majority in a given country (if younger, follow the criteria for adolescents)
4. Mental health concerns, if present, must be reasonably well controlled

Reproduced from World Professional Association for Transgender Health (16).

purposes, (3) the ability to make a distinction between GD/gender incongruence and conditions that have similar features (*e.g.*, body dysmorphic disorder), (4) training in diagnosing psychiatric conditions, (5) the ability to undertake or refer for appropriate treatment, (6) the ability to psychosocially assess the person's understanding and social conditions that can impact gender-affirming hormone therapy, (7) a practice of regularly attending relevant professional meetings, and (8) knowledge of the criteria for puberty blocking and gender-affirming hormone treatment in adolescents. (Ungraded Good Practice Statement)

## Evidence

Individuals with gender identity issues may have psychological or psychiatric problems (43–48, 50, 51, 64, 65). It is therefore necessary that clinicians making the diagnosis are able to make a distinction between GD/gender incongruence and conditions that have similar features. Examples of conditions with similar features are body dysmorphic disorder, body identity integrity disorder (a condition in which individuals have a sense that their anatomical configuration as an able-bodied person is somehow wrong or inappropriate) (66), or certain forms of eunuchism (in which a person is preoccupied with or engages in castration and/or penectomy for

**Table 5. Criteria for Gender-Affirming Hormone Therapy for Adolescents**

**Adolescents are eligible for GnRH agonist treatment if:**

1. A qualified MHP has confirmed that:
- the adolescent has demonstrated a long-lasting and intense pattern of gender nonconformity or gender dysphoria (whether suppressed or expressed),
- gender dysphoria worsened with the onset of puberty,
- any coexisting psychological, medical, or social problems that could interfere with treatment (*e.g.*, that may compromise treatment adherence) have been addressed, such that the adolescent's situation and functioning are stable enough to start treatment,
- the adolescent has sufficient mental capacity to give informed consent to this (reversible) treatment,

2. And the adolescent:
- has been informed of the effects and side effects of treatment (including potential loss of fertility if the individual subsequently continues with sex hormone treatment) and options to preserve fertility,
- has given informed consent and (particularly when the adolescent has not reached the age of legal medical consent, depending on applicable legislation) the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process,

3. And a pediatric endocrinologist or other clinician experienced in pubertal assessment
- agrees with the indication for GnRH agonist treatment,
- has confirmed that puberty has started in the adolescent (Tanner stage ≥G2/B2),
- has confirmed that there are no medical contraindications to GnRH agonist treatment.

**Adolescents are eligible for subsequent sex hormone treatment if:**

1. A qualified MHP has confirmed:
- the persistence of gender dysphoria,
- any coexisting psychological, medical, or social problems that could interfere with treatment (*e.g.*, that may compromise treatment adherence) have been addressed, such that the adolescent's situation and functioning are stable enough to start sex hormone treatment,
- the adolescent has sufficient mental capacity (which most adolescents have by age 16 years) to estimate the consequences of this (partly) irreversible treatment, weigh the benefits and risks, and give informed consent to this (partly) irreversible treatment,

2. And the adolescent:
- has been informed of the (irreversible) effects and side effects of treatment (including potential loss of fertility and options to preserve fertility),
- has given informed consent and (particularly when the adolescent has not reached the age of legal medical consent, depending on applicable legislation) the parents or other caretakers or guardians have consented to the treatment and are involved in supporting the adolescent throughout the treatment process,

3. And a pediatric endocrinologist or other clinician experienced in pubertal induction:
- agrees with the indication for sex hormone treatment,
- has confirmed that there are no medical contraindications to sex hormone treatment.

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reasons that are not gender identity related) (11). Clinicians should also be able to diagnose psychiatric conditions accurately and ensure that these conditions are treated appropriately, particularly when the conditions may complicate treatment, affect the outcome of gender-affirming treatment, or be affected by hormone use.

### Values and preferences

The task force placed a very high value on avoiding harm from hormone treatment in individuals who have conditions other than GD/gender incongruence and who may not benefit from the physical changes associated with this treatment and placed a low value on any potential benefit these persons believe they may derive from hormone treatment. This justifies the good practice statement.

1.3. We advise that decisions regarding the social transition of prepubertal youths with GD/gender incongruence are made with the assistance of an MHP or another experienced professional. (Ungraded Good Practice Statement).

1.4. We recommend against puberty blocking and gender-affirming hormone treatment in prepubertal children with GD/gender incongruence. (1 |⊕⊕◯◯)

### Evidence

In most children diagnosed with GD/gender incongruence, it did not persist into adolescence. The percentages differed among studies, probably dependent on which version of the DSM clinicians used, the patient's age, the recruitment criteria, and perhaps cultural factors. However, the large majority (about 85%) of prepubertal children with a childhood diagnosis did not remain GD/gender incongruent in adolescence (20). If children have completely socially transitioned, they may have great difficulty in returning to the original gender role upon entering puberty (40). Social transition is associated with the persistence of GD/gender incongruence as a child progresses into adolescence. It may be that the presence of GD/gender incongruence in prepubertal children is the earliest sign that a child is destined to be transgender as an adolescent/adult (20). However, social transition (in addition to GD/gender incongruence) has been found to contribute to the likelihood of persistence.

This recommendation, however, does not imply that children should be discouraged from showing gender-variant behaviors or should be punished for exhibiting such behaviors. In individual cases, an early complete social transition may result in a more favorable outcome, but there are currently no criteria to identify the GD/gender-incongruent children to whom this applies. At the present time, clinical experience suggests that persistence of GD/gender incongruence can only be reliably assessed after the first signs of puberty.

### Values and preferences

The task force placed a high value on avoiding harm with gender-affirming hormone therapy in prepubertal children with GD/gender incongruence. This justifies the strong recommendation in the face of low-quality evidence.

1.5. We recommend that clinicians inform and counsel all individuals seeking gender-affirming medical treatment regarding options for fertility preservation prior to initiating puberty suppression in adolescents and prior to treating with hormonal therapy of the affirmed gender in both adolescents and adults. (1 |⊕⊕⊕◯)

### Remarks

Persons considering hormone use for gender affirmation need adequate information about this treatment in general and about fertility effects of hormone treatment in particular to make an informed and balanced decision (67, 68). Because young adolescents may not feel qualified to make decisions about fertility and may not fully understand the potential effects of hormonal interventions, consent and protocol education should include parents, the referring MHP(s), and other members of the adolescent's support group. To our knowledge, there are no formally evaluated decision aids available to assist in the discussion and decision regarding the future fertility of adolescents or adults beginning gender-affirming treatment.

Treating early pubertal youth with GnRH analogs will temporarily impair spermatogenesis and oocyte maturation. Given that an increasing number of transgender youth want to preserve fertility potential, delaying or temporarily discontinuing GnRH analogs to promote gamete maturation is an option. This option is often not preferred, because mature sperm production is associated with later stages of puberty and with the significant development of secondary sex characteristics.

For those designated male at birth with GD/gender incongruence and who are in early puberty, sperm production and the development of the reproductive tract are insufficient for the cryopreservation of sperm. However, prolonged pubertal suppression using GnRH analogs is reversible and clinicians should inform these individuals that sperm production can be initiated following prolonged gonadotropin suppression. This can be accomplished by spontaneous gonadotropin recovery after

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 13 of 36



cessation of GnRH analogs or by gonadotropin treatment and will probably be associated with physical manifestations of testosterone production, as stated above. Note that there are no data in this population concerning the time required for sufficient spermatogenesis to collect enough sperm for later fertility. In males treated for precocious puberty, spermarche was reported 0.7 to 3 years after cessation of GnRH analogs (69). In adult men with gonadotropin deficiency, sperm are noted in seminal fluid by 6 to 12 months of gonadotropin treatment. However, sperm numbers when partners of these patients conceive are far below the "normal range" (70, 71).

In girls, no studies have reported long-term, adverse effects of pubertal suppression on ovarian function after treatment cessation (72, 73). Clinicians should inform adolescents that no data are available regarding either time to spontaneous ovulation after cessation of GnRH analogs or the response to ovulation induction following prolonged gonadotropin suppression.

In males with GD/gender incongruence, when medical treatment is started in a later phase of puberty or in adulthood, spermatogenesis is sufficient for cryopreservation and storage of sperm. *In vitro* spermatogenesis is currently under investigation. Restoration of spermatogenesis after prolonged estrogen treatment has not been studied.

In females with GD/gender incongruence, the effect of prolonged treatment with exogenous testosterone on ovarian function is uncertain. There have been reports of an increased incidence of polycystic ovaries in transgender males, both prior to and as a result of androgen treatment (74–77), although these reports were not confirmed by others (78). Pregnancy has been reported in transgender males who have had prolonged androgen treatment and have discontinued testosterone but have not had genital surgery (79, 80). A reproductive endocrine gynecologist can counsel patients before gender-affirming hormone treatment or surgery regarding potential fertility options (81). Techniques for cryopreservation of oocytes, embryos, and ovarian tissue continue to improve, and oocyte maturation of immature tissue is being studied (82).

## 2.0 Treatment of Adolescents

During the past decade, clinicians have progressively acknowledged the suffering of young adolescents with GD/gender incongruence. In some forms of GD/gender incongruence, psychological interventions may be useful and sufficient. However, for many adolescents with GD/gender incongruence, the pubertal physical changes are unbearable. As early medical intervention may prevent psychological harm, various clinics have decided to start treating young adolescents with GD/gender incongruence with puberty-suppressing medication (a GnRH analog). As compared with starting gender-affirming treatment long after the first phases of puberty, a benefit of pubertal suppression at early puberty may be a better psychological and physical outcome.

In girls, the first physical sign of puberty is the budding of the breasts followed by an increase in breast and fat tissue. Breast development is also associated with the pubertal growth spurt, and menarche occurs ~2 years later. In boys, the first physical change is testicular growth. A testicular volume ≥4 mL is seen as consistent with the initiation of physical puberty. At the beginning of puberty, estradiol and testosterone levels are still low and are best measured in the early morning with an ultrasensitive assay. From a testicular volume of 10 mL, daytime testosterone levels increase, leading to virilization (83). Note that pubic hair and/or axillary hair/odor may not reflect the onset of gonadarche; instead, it may reflect adrenarche alone.

2.1. We suggest that adolescents who meet diagnostic criteria for GD/gender incongruence, fulfill criteria for treatment (Table 5), and are requesting treatment should initially undergo treatment to suppress pubertal development. (2 |⊕⊕◯◯)

2.2. We suggest that clinicians begin pubertal hormone suppression after girls and boys first exhibit physical changes of puberty (Tanner stages G2/B2). (2 |⊕⊕◯◯)

### Evidence

Pubertal suppression can expand the diagnostic phase by a long period, giving the subject more time to explore options and to live in the experienced gender before making a decision to proceed with gender-affirming sex hormone treatments and/or surgery, some of which is irreversible (84, 85). Pubertal suppression is fully reversible, enabling full pubertal development in the natal gender, after cessation of treatment, if appropriate. The experience of full endogenous puberty is an undesirable condition for the GD/gender-incongruent individual and may seriously interfere with healthy psychological functioning and well-being. Treating GD/gender-incongruent adolescents entering puberty with GnRH analogs has been shown to improve psychological functioning in several domains (86).

Another reason to start blocking pubertal hormones early in puberty is that the physical outcome is improved compared with initiating physical transition after puberty has been completed (60, 62). Looking like a man or woman when living as the opposite sex creates difficult

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barriers with enormous life-long disadvantages. We therefore advise starting suppression in early puberty to prevent the irreversible development of undesirable secondary sex characteristics. However, adolescents with GD/gender incongruence should experience the first changes of their endogenous spontaneous puberty, because their emotional reaction to these first physical changes has diagnostic value in establishing the persistence of GD/gender incongruence (85). Thus, Tanner stage 2 is the optimal time to start pubertal suppression. However, pubertal suppression treatment in early puberty will limit the growth of the penis and scrotum, which will have a potential effect on future surgical treatments (87).

Clinicians can also use pubertal suppression in adolescents in later pubertal stages to stop menses in transgender males and prevent facial hair growth in transgender females. However, in contrast to the effects in early pubertal adolescents, physical sex characteristics (such as more advanced breast development in transgender boys and lowering of the voice and outgrowth of the jaw and brow in transgender girls) are not reversible.

### Values and preferences

These recommendations place a high value on avoiding an unsatisfactory physical outcome when secondary sex characteristics have become manifest and irreversible, a higher value on psychological well-being, and a lower value on avoiding potential harm from early pubertal suppression.

### Remarks

Table 6 lists the Tanner stages of breast and male genital development. Careful documentation of hallmarks of pubertal development will ensure precise timing when initiating pubertal suppression once puberty has started. Clinicians can use pubertal LH and sex steroid levels to confirm that puberty has progressed sufficiently before starting pubertal suppression (88). Reference ranges for sex steroids by Tanner stage may vary depending on the assay used. Ultrasensitive sex steroid and gonadotropin assays will help clinicians document early pubertal changes.

Irreversible and, for GD/gender-incongruent adolescents, undesirable sex characteristics in female puberty are breasts, female body habitus, and, in some cases, relative short stature. In male puberty, they are a prominent Adam's apple; low voice; male bone configuration, such as a large jaw, big feet and hands, and tall stature; and male hair pattern on the face and extremities.

2.3. We recommend that, where indicated, GnRH analogues are used to suppress pubertal hormones. (1 l⊕⊕◯◯)

### Evidence

Clinicians can suppress pubertal development and gonadal function most effectively via gonadotropin suppression using GnRH analogs. GnRH analogs are long-acting agonists that suppress gonadotropins by GnRH receptor desensitization after an initial increase of gonadotropins during ~10 days after the first and (to a lesser degree) the second injection (89). Antagonists immediately suppress pituitary gonadotropin secretion (90, 91). Long-acting GnRH analogs are the currently preferred treatment option. Clinicians may consider long-acting GnRH antagonists when evidence on their safety and efficacy in adolescents becomes available.

During GnRH analog treatment, slight development of secondary sex characteristics may regress, and in a later phase of pubertal development, it will stop. In girls, breast tissue will become atrophic, and menses will stop. In boys, virilization will stop, and testicular volume may decrease (92).

An advantage of using GnRH analogs is the reversibility of the intervention. If, after extensive exploration of his/her transition wish, the individual no longer desires transition, they can discontinue pubertal suppression. In subjects with

**Table 6. Tanner Stages of Breast Development and Male External Genitalia**

The description of Tanner stages for breast development:
1. Prepubertal
2. Breast and papilla elevated as small mound; areolar diameter increased
3. Breast and areola enlarged, no contour separation
4. Areola and papilla form secondary mound
5. Mature; nipple projects, areola part of general breast contour

For penis and testes:
1. Prepubertal, testicular volume <4 mL
2. Slight enlargement of penis; enlarged scrotum, pink, texture altered, testes 4–6 mL
3. Penis longer, testes larger (8–12 mL)
4. Penis and glans larger, including increase in breadth; testes larger (12–15 mL), scrotum dark
5. Penis adult size; testicular volume > 15 ml

Adapted from Lawrence (56).

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precocious puberty, spontaneous pubertal development has been shown to resume after patients discontinue taking GnRH analogs (93).

Recommendations 2.1 to 2.3 are supported by a prospective follow-up study from The Netherlands. This report assessed mental health outcomes in 55 transgender adolescents/young adults (22 transgender females and 33 transgender males) at three time points: (1) before the start of GnRH agonist (average age of 14.8 years at start of treatment), (2) at initiation of gender-affirming hormones (average age of 16.7 years at start of treatment), and (3) 1 year after "gender-reassignment surgery" (average age of 20.7 years) (63). Despite a decrease in depression and an improvement in general mental health functioning, GD/gender incongruence persisted through pubertal suppression, as previously reported (86). However, following sex hormone treatment and gender-reassignment surgery, GD/gender incongruence was resolved and psychological functioning steadily improved (63). Furthermore, well-being was similar to or better than that reported by age-matched young adults from the general population, and none of the study participants regretted treatment. This study represents the first long-term follow-up of individuals managed according to currently existing clinical practice guidelines for transgender youth, and it underscores the benefit of the multidisciplinary approach pioneered in The Netherlands; however, further studies are needed.

### Side effects

The primary risks of pubertal suppression in GD/gender-incongruent adolescents may include adverse effects on bone mineralization (which can theoretically be reversed with sex hormone treatment), compromised fertility if the person subsequently is treated with sex hormones, and unknown effects on brain development. Few data are available on the effect of GnRH analogs on BMD in adolescents with GD/gender incongruence. Initial data in GD/gender-incongruent subjects demonstrated no change of absolute areal BMD during 2 years of GnRH analog therapy but a decrease in BMD *z* scores (85). A recent study also suggested suboptimal bone mineral accrual during GnRH analog treatment. The study reported a decrease in areal BMD *z* scores and of bone mineral apparent density *z* scores (which takes the size of the bone into account) in 19 transgender males treated with GnRH analogs from a mean age of 15.0 years (standard deviation = 2.0 years) for a median duration of 1.5 years (0.3 to 5.2 years) and in 15 transgender females treated from 14.9 (±1.9) years for 1.3 years (0.5 to 3.8 years), although not all changes were statistically significant (94). There was incomplete catch-up at age 22 years after sex hormone treatment from age 16.6 (±1.4) years for a median duration of 5.8 years (3.0 to 8.0 years) in transgender females and from age 16.4 (±2.3) years for 5.4 years (2.8 to 7.8 years) in transgender males. Little is known about more prolonged use of GnRH analogs. Researchers reported normal BMD *z* scores at age 35 years in one individual who used GnRH analogs from age 13.7 years until age 18.6 years before initiating sex hormone treatment (65).

Additional data are available from individuals with late puberty or GnRH analog treatment of other indications. Some studies reported that men with constitutionally delayed puberty have decreased BMD in adulthood (95). However, other studies reported that these men have normal BMD (96, 97). Treating adults with GnRH analogs results in a decrease of BMD (98). In children with central precocious puberty, treatment with GnRH analogs has been found to result in a decrease of BMD during treatment by some (99) but not others (100). Studies have reported normal BMD after discontinuing therapy (69, 72, 73, 101, 102). In adolescents treated with growth hormone who are small for gestational age and have normal pubertal timing, 2-year GnRH analog treatments did not adversely affect BMD (103). Calcium supplementation may be beneficial in optimizing bone health in GnRH analog–treated individuals (104). There are no studies of vitamin D supplementation in this context, but clinicians should offer supplements to vitamin D–deficient adolescents. Physical activity, especially during growth, is important for bone mass in healthy individuals (103) and is therefore likely to be beneficial for bone health in GnRH analog–treated subjects.

GnRH analogs did not induce a change in body mass index standard deviation score in GD/gender-incongruent adolescents (94) but caused an increase in fat mass and decrease in lean body mass percentage (92). Studies in girls treated for precocious puberty also reported a stable body mass index standard deviation score during treatment (72) and body mass index and body composition comparable to controls after treatment (73).

Arterial hypertension has been reported as an adverse effect in a few girls treated with GnRH analogs for precocious/early puberty (105, 106). Blood pressure monitoring before and during treatment is recommended.

Individuals may also experience hot flashes, fatigue, and mood alterations as a consequence of pubertal suppression. There is no consensus on treatment of these side effects in this context.

It is recommended that any use of pubertal blockers (and subsequent use of sex hormones, as detailed below) include a discussion about implications for fertility (see recommendation 1.3). Transgender adolescents may

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want to preserve fertility, which may be otherwise compromised if puberty is suppressed at an early stage and the individual completes phenotypic transition with the use of sex hormones.

Limited data are available regarding the effects of GnRH analogs on brain development. A single cross-sectional study demonstrated no compromise of executive function (107), but animal data suggest there may be an effect of GnRH analogs on cognitive function (108).

### Values and preferences

Our recommendation of GnRH analogs places a higher value on the superior efficacy, safety, and reversibility of the pubertal hormone suppression achieved (as compared with the alternatives) and a relatively lower value on limiting the cost of therapy. Of the available alternatives, depot and oral progestin preparations are effective. Experience with this treatment dates back prior to the emergence of GnRH analogs for treating precocious puberty in papers from the 1960s and early 1970s (109–112). These compounds are usually safe, but some side effects have been reported (113–115). Only two recent studies involved transgender youth (116, 117). One of these studies described the use of oral lynestrenol monotherapy followed by the addition of testosterone treatment in transgender boys who were at Tanner stage B4 or further at the start of treatment (117). They found lynestrenol safe, but gonadotropins were not fully suppressed. The study reported metrorrhagia in approximately half of the individuals, mainly in the first 6 months. Acne, headache, hot flashes, and fatigue were other frequent side effects. Another progestin that has been studied in the United States is medroxyprogesterone. This agent is not as effective as GnRH analogs in lowering endogenous sex hormones either and may be associated with other side effects (116). Progestin preparations may be an acceptable treatment for persons without access to GnRH analogs or with a needle phobia. If GnRH analog treatment is not available (insurance denial, prohibitive cost, or other reasons), postpubertal, transgender female adolescents may be treated with an antiandrogen that directly suppresses androgen synthesis or action (see adult section).

### Remarks

Measurements of gonadotropin and sex steroid levels give precise information about gonadal axis suppression, although there is insufficient evidence for any specific short-term monitoring scheme in children treated with GnRH analogs (88). If the gonadal axis is not completely suppressed—as evidenced by (for example) menses, erections, or progressive hair growth—the interval of GnRH analog treatment can be shortened or the dose increased. During treatment, adolescents should be monitored for negative effects of delaying puberty, including a halted growth spurt and impaired bone mineral accretion. Table 7 illustrates a suggested clinical protocol.

Anthropometric measurements and X-rays of the left hand to monitor bone age are informative for evaluating growth. To assess BMD, clinicians can perform dual-energy X-ray absorptiometry scans.

2.4. In adolescents who request sex hormone treatment (given this is a partly irreversible treatment), we recommend initiating treatment using a gradually increasing dose schedule (see Table 8) after a multidisciplinary team of medical and MHPs has confirmed the persistence of GD/gender incongruence and sufficient mental capacity to give informed consent, which most adolescents have by age 16 years (Table 5). (1 |⊕⊕◯◯)

2.5. We recognize that there may be compelling reasons to initiate sex hormone treatment prior to the age of 16 years in some adolescents with GD/gender incongruence, even though there are minimal published studies of gender-affirming hormone treatments administered before age 13.5 to 14 years. As with the care of adolescents ≥16 years of age, we recommend that an expert multidisciplinary team of medical and MHPs manage this treatment. (1 |⊕◯◯◯)

2.6. We suggest monitoring clinical pubertal development every 3 to 6 months and laboratory parameters every 6 to 12 months during sex hormone treatment (Table 9). (2 |⊕⊕◯◯)

**Table 7. Baseline and Follow-Up Protocol During Suppression of Puberty**

| |
|---|
| Every 3–6 mo |
| Anthropometry: height, weight, sitting height, blood pressure, Tanner stages |
| Every 6–12 mo |
| Laboratory: LH, FSH, E2/T, 25OH vitamin D |
| Every 1–2 y |
| Bone density using DXA |
| Bone age on X-ray of the left hand (if clinically indicated) |

Adapted from Hembree *et al.* (118).

Abbreviations: DXA, dual-energy X-ray absorptiometry; E2, estradiol; FSH, follicle stimulating hormone; LH, luteinizing hormone; T, testosterone;

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 17 of 36



**Table 8. Protocol Induction of Puberty**

Induction of female puberty with oral 17$\beta$-estradiol, increasing the dose every 6 mo:
- 5 μg/kg/d
- 10 μg/kg/d
- 15 μg/kg/d
- 20 μg/kg/d
- Adult dose = 2–6 mg/d
- *In postpubertal transgender female adolescents, the dose of 17β-estradiol can be increased more rapidly:*
  - 1 mg/d for 6 mo
  - 2 mg/d

Induction of female puberty with transdermal 17$\beta$-estradiol, increasing the dose every 6 mo (new patch is placed every 3.5 d):
- 6.25–12.5 μg/24 h (cut 25-μg patch into quarters, then halves)
- 25 μg/24 h
- 37.5 μg/24 h
- Adult dose = 50–200 μg/24 h
- *For alternatives once at adult dose, see Table 11.*
- *Adjust maintenance dose to mimic physiological estradiol levels (see Table 15).*

Induction of male puberty with testosterone esters increasing the dose every 6 mo (IM or SC):
- 25 mg/m$^2$/2 wk (or alternatively, half this dose weekly, or double the dose every 4 wk)
- 50 mg/m$^2$/2 wk
- 75 mg/m$^2$/2 wk
- 100 mg/m$^2$/2 wk
- Adult dose = 100–200 mg every 2 wk
- *In postpubertal transgender male adolescents the dose of testosterone esters can be increased more rapidly:*
  - 75 mg/2 wk for 6 mo
  - 125 mg/2 wk
- *For alternatives once at adult dose, see Table 11.*
- *Adjust maintenance dose to mimic physiological testosterone levels (see Table 14).*

Adapted from Hembree *et al.* (118).

Abbreviations: IM, intramuscularly; SC, subcutaneously.

## Evidence

Adolescents develop competence in decision making at their own pace. Ideally, the supervising medical professionals should individually assess this competence, although no objective tools to make such an assessment are currently available.

Many adolescents have achieved a reasonable level of competence by age 15 to 16 years (119), and in many countries 16-year-olds are legally competent with regard to medical decision making (120). However, others believe that although some capacities are generally achieved before age 16 years, other abilities (such as good risk assessment) do not develop until well after 18 years (121). They suggest that health care procedures should be divided along a matrix of relative risk, so that younger adolescents can be allowed to decide about low-risk procedures, such as most diagnostic tests and common therapies, but not about high-risk procedures, such as most surgical procedures (121).

Currently available data from transgender adolescents support treatment with sex hormones starting at age 16 years (63, 122). However, some patients may incur potential risks by waiting until age 16 years. These include the potential risk to bone health if puberty is suppressed

**Table 9. Baseline and Follow-up Protocol During Induction of Puberty**

Every 3–6 mo
- •Anthropometry: height, weight, sitting height, blood pressure, Tanner stages

Every 6–12 mo
- •In transgender males: hemoglobin/hematocrit, lipids, testosterone, 25OH vitamin D
- •In transgender females: prolactin, estradiol, 25OH vitamin D

Every 1–2 y
- •BMD using DXA
- •Bone age on X-ray of the left hand (if clinically indicated)

*BMD should be monitored into adulthood (until the age of 25–30 y or until peak bone mass has been reached).*
*For recommendations on monitoring once pubertal induction has been completed, see Tables 14 and 15.*

Adapted from Hembree *et al.* (118).

Abbreviation: DXA, dual-energy X-ray absorptiometry.

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for 6 to 7 years before initiating sex hormones (*e.g.*, if someone reached Tanner stage 2 at age 9-10 years old). Additionally, there may be concerns about inappropriate height and potential harm to mental health (emotional and social isolation) if initiation of secondary sex characteristics must wait until the person has reached 16 years of age. However, only minimal data supporting earlier use of gender-affirming hormones in transgender adolescents currently exist (63). Clearly, long-term studies are needed to determine the optimal age of sex hormone treatment in GD/gender-incongruent adolescents.

The MHP who has followed the adolescent during GnRH analog treatment plays an essential role in assessing whether the adolescent is eligible to start sex hormone therapy and capable of consenting to this treatment (Table 5). Support of the family/environment is essential. Prior to the start of sex hormones, clinicians should discuss the implications for fertility (see recommendation 1.5). Throughout pubertal induction, an MHP and a pediatric endocrinologist (or other clinician competent in the evaluation and induction of pubertal development) should monitor the adolescent. In addition to monitoring therapy, it is also important to pay attention to general adolescent health issues, including healthy life style choices, such as not smoking, contraception, and appropriate vaccinations (*e.g.*, human papillomavirus).

For the induction of puberty, clinicians can use a similar dose scheme for hypogonadal adolescents with GD/gender incongruence as they use in other individuals with hypogonadism, carefully monitoring for desired and undesired effects (Table 8). In transgender female adolescents, transdermal 17$\beta$-estradiol may be an alternative for oral 17$\beta$-estradiol. It is increasingly used for pubertal induction in hypogonadal females. However, the absence of low-dose estrogen patches may be a problem. As a result, individuals may need to cut patches to size themselves to achieve appropriate dosing (123). In transgender male adolescents, clinicians can give testosterone injections intramuscularly or subcutaneously (124, 125).

When puberty is initiated with a gradually increasing schedule of sex steroid doses, the initial levels will not be high enough to suppress endogenous sex steroid secretion. Gonadotropin secretion and endogenous production of testosterone may resume and interfere with the effectiveness of estrogen treatment, in transgender female adolescents (126, 127). Therefore, continuation of GnRH analog treatment is advised until gonadectomy. Given that GD/gender-incongruent adolescents may opt not to have gonadectomy, long-term studies are necessary to examine the potential risks of prolonged GnRH analog treatment. Alternatively, in transgender male adolescents, GnRH analog treatment can be discontinued once an adult dose of testosterone has been reached and the individual is well virilized. If uterine bleeding occurs, a progestin can be added. However, the combined use of a GnRH analog (for ovarian suppression) and testosterone may enable phenotypic transition with a lower dose of testosterone in comparison with testosterone alone. If there is a wish or need to discontinue GnRH analog treatment in transgender female adolescents, they may be treated with an antiandrogen that directly suppresses androgen synthesis or action (see section 3.0 "Hormonal Therapy for Transgender Adults").

### Values and preferences

The recommendation to initiate pubertal induction only when the individual has sufficient mental capacity (roughly age 16 years) to give informed consent for this partly irreversible treatment places a higher value on the ability of the adolescent to fully understand and oversee the partially irreversible consequences of sex hormone treatment and to give informed consent. It places a lower value on the possible negative effects of delayed puberty. We may not currently have the means to weigh adequately the potential benefits of waiting until around age 16 years to initiate sex hormones vs the potential risks/harm to BMD and the sense of social isolation from having the timing of puberty be so out of sync with peers (128).

### Remarks

Before starting sex hormone treatment, effects on fertility and options for fertility preservation should be discussed. Adult height may be a concern in transgender adolescents. In a transgender female adolescent, clinicians may consider higher doses of estrogen or a more rapid tempo of dose escalation during pubertal induction. There are no established treatments yet to augment adult height in a transgender male adolescent with open epiphyses during pubertal induction. It is not uncommon for transgender adolescents to present for clinical services after having completed or nearly completed puberty. In such cases, induction of puberty with sex hormones can be done more rapidly (see Table 8). Additionally, an adult dose of testosterone in transgender male adolescents may suffice to suppress the gonadal axis without the need to use a separate agent. At the appropriate time, the multidisciplinary team should adequately prepare the adolescent for transition to adult care.

## 3.0 Hormonal Therapy for Transgender Adults

The two major goals of hormonal therapy are (1) to reduce endogenous sex hormone levels, and thus reduce

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the secondary sex characteristics of the individual's designated gender, and (2) to replace endogenous sex hormone levels consistent with the individual's gender identity by using the principles of hormone replacement treatment of hypogonadal patients. The timing of these two goals and the age at which to begin treatment with the sex hormones of the chosen gender is codetermined in collaboration with both the person pursuing transition and the health care providers. The treatment team should include a medical provider knowledgeable in transgender hormone therapy, an MHP knowledgeable in GD/gender incongruence and the mental health concerns of transition, and a primary care provider able to provide care appropriate for transgender individuals. The physical changes induced by this sex hormone transition are usually accompanied by an improvement in mental well-being (129, 130).

3.1. We recommend that clinicians confirm the diagnostic criteria of GD/gender incongruence and the criteria for the endocrine phase of gender transition before beginning treatment. (1 |⊕⊕⊕◯)

3.2. We recommend that clinicians evaluate and address medical conditions that can be exacerbated by hormone depletion and treatment with sex hormones of the affirmed gender before beginning treatment (Table 10). (1 |⊕⊕⊕◯)

3.3. We suggest that clinicians measure hormone levels during treatment to ensure that endogenous sex steroids are suppressed and administered sex steroids are maintained in the normal physiologic range for the affirmed gender. (2 |⊕⊕◯◯)

### Evidence

It is the responsibility of the treating clinician to confirm that the person fulfills criteria for treatment. The treating clinician should become familiar with the terms and criteria presented in Tables 1–5 and take a thorough history from the patient in collaboration with the other members of the treatment team. The treating clinician must ensure that the desire for transition is appropriate; the consequences, risks, and benefits of treatment are well understood; and the desire for transition persists. They also need to discuss fertility preservation options (see recommendation 1.3) (67, 68).

#### *Transgender males*

Clinical studies have demonstrated the efficacy of several different androgen preparations to induce masculinization in transgender males (Appendix A) (113, 114, 131–134). Regimens to change secondary sex characteristics follow the general principle of hormone replacement treatment of male hypogonadism (135). Clinicians can use either parenteral or transdermal preparations to achieve testosterone values in the normal male range (this is dependent on the specific assay, but is typically 320 to 1000 ng/dL) (Table 11) (136). Sustained supraphysiologic levels of testosterone increase the risk of adverse reactions (see section 4.0 "Adverse Outcome Prevention and Long-Term Care") and should be avoided.

Similar to androgen therapy in hypogonadal men, testosterone treatment in transgender males results in increased muscle mass and decreased fat mass, increased facial hair and acne, male pattern baldness in those genetically predisposed, and increased sexual desire (137).

**Table 10. Medical Risks Associated With Sex Hormone Therapy**

| |
|---|
| Transgender female: estrogen |
| Very high risk of adverse outcomes: |
| •Thromboembolic disease |
| Moderate risk of adverse outcomes: |
| •Macroprolactinoma |
| •Breast cancer |
| •Coronary artery disease |
| •Cerebrovascular disease |
| •Cholelithiasis |
| •Hypertriglyceridemia |
| Transgender male: testosterone |
| Very high risk of adverse outcomes: |
| •Erythrocytosis (hematocrit > 50%) |
| Moderate risk of adverse outcomes: |
| •Severe liver dysfunction (transaminases > threefold upper limit of normal) |
| •Coronary artery disease |
| •Cerebrovascular disease |
| •Hypertension |
| •Breast or uterine cancer |

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 20 of 36



**Table 11. Hormone Regimens in Transgender Persons**

| | |
|---|---|
| Transgender females[a] | |
| Estrogen | |
| Oral | |
| Estradiol | 2.0–6.0 mg/d |
| Transdermal | |
| Estradiol transdermal patch (New patch placed every 3–5 d) | 0.025–0.2 mg/d |
| Parenteral | |
| Estradiol valerate or cypionate | 5–30 mg IM every 2 wk<br>2–10 mg IM every week |
| Anti-androgens | |
| Spironolactone | 100–300 mg/d |
| Cyproterone acetate[b] | 25–50 mg/d |
| GnRH agonist | 3.75 mg SQ (SC) monthly<br>11.25 mg SQ (SC) 3-monthly |
| Transgender males | |
| Testosterone | |
| Parenteral testosterone | |
| Testosterone enanthate or cypionate | 100–200 mg SQ (IM) every 2 wk or SQ (SC) 50% per week |
| Testosterone undecanoate[c] | 1000 mg every 12 wk |
| Transdermal testosterone | |
| Testosterone gel 1.6%[d] | 50–100 mg/d |
| Testosterone transdermal patch | 2.5–7.5 mg/d |

Abbreviations: IM, intramuscularly; SQ, sequentially; SC, subcutaneously.

[a]Estrogens used with or without antiandrogens or GnRH agonist.

[b]Not available in the United States.

[c]One thousand milligrams initially followed by an injection at 6 wk then at 12-wk intervals.

[d]Avoid cutaneous transfer to other individuals.

In transgender males, testosterone will result in clitoromegaly, temporary or permanent decreased fertility, deepening of the voice, cessation of menses (usually), and a significant increase in body hair, particularly on the face, chest, and abdomen. Cessation of menses may occur within a few months with testosterone treatment alone, although high doses of testosterone may be required. If uterine bleeding continues, clinicians may consider the addition of a progestational agent or endometrial ablation (138). Clinicians may also administer GnRH analogs or depot medroxyprogesterone to stop menses prior to testosterone treatment.

### *Transgender females*

The hormone regimen for transgender females is more complex than the transgender male regimen (Appendix B). Treatment with physiologic doses of estrogen alone is insufficient to suppress testosterone levels into the normal range for females (139). Most published clinical studies report the need for adjunctive therapy to achieve testosterone levels in the female range (21, 113, 114, 132–134, 139, 140).

Multiple adjunctive medications are available, such as progestins with antiandrogen activity and GnRH agonists (141). Spironolactone works by directly blocking androgens during their interaction with the androgen receptor (114, 133, 142). It may also have estrogenic activity (143). Cyproterone acetate, a progestational compound with antiandrogenic properties (113, 132, 144), is widely used in Europe. 5$\alpha$-Reductase inhibitors do not reduce testosterone levels and have adverse effects (145).

Dittrich *et al.* (141) reported that monthly doses of the GnRH agonist goserelin acetate in combination with estrogen were effective in reducing testosterone levels with a low incidence of adverse reactions in 60 transgender females. Leuprolide and transdermal estrogen were as effective as cyproterone and transdermal estrogen in a comparative retrospective study (146).

Patients can take estrogen as oral conjugated estrogens, oral 17$\beta$-estradiol, or transdermal 17$\beta$-estradiol. Among estrogen options, the increased risk of thromboembolic events associated with estrogens in general seems most concerning with ethinyl estradiol specifically (134, 140, 141), which is why we specifically suggest that it not be used in any transgender treatment plan. Data distinguishing among other estrogen options are less well established although there is some thought that oral routes of administration are more thrombogenic due to the "first pass effect" than are transdermal and parenteral routes, and that the risk of thromboembolic events is dose-dependent. Injectable estrogen and sublingual

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estrogen may benefit from avoiding the first pass effect, but they can result in more rapid peaks with greater overall periodicity and thus are more difficult to monitor (147, 148). However, there are no data demonstrating that increased periodicity is harmful otherwise.

Clinicians can use serum estradiol levels to monitor oral, transdermal, and intramuscular estradiol. Blood tests cannot monitor conjugated estrogens or synthetic estrogen use. Clinicians should measure serum estradiol and serum testosterone and maintain them at the level for premenopausal females (100 to 200 pg/mL and <50 ng/dL, respectively). The transdermal preparations and injectable estradiol cypionate or valerate preparations may confer an advantage in older transgender females who may be at higher risk for thromboembolic disease (149).

### Values

Our recommendation to maintain levels of gender-affirming hormones in the normal adult range places a high value on the avoidance of the long-term complications of pharmacologic doses. Those patients receiving endocrine treatment who have relative contraindications to hormones should have an in-depth discussion with their physician to balance the risks and benefits of therapy.

### Remarks

Clinicians should inform all endocrine-treated individuals of all risks and benefits of gender-affirming hormones prior to initiating therapy. Clinicians should strongly encourage tobacco use cessation in transgender females to avoid increased risk of VTE and cardiovascular complications. We strongly discourage the unsupervised use of hormone therapy (150).

Not all individuals with GD/gender incongruence seek treatment as described (*e.g.*, male-to-eunuchs and individuals seeking partial transition). Tailoring current protocols to the individual may be done within the context of accepted safety guidelines using a multidisciplinary approach including mental health. No evidence-based protocols are available for these groups (151). We need prospective studies to better understand treatment options for these persons.

3.4. We suggest that endocrinologists provide education to transgender individuals undergoing treatment about the onset and time course of physical changes induced by sex hormone treatment. (2 |⊕○○○)

### Evidence

#### *Transgender males*

Physical changes that are expected to occur during the first 1 to 6 months of testosterone therapy include cessation of menses, increased sexual desire, increased facial and body hair, increased oiliness of skin, increased muscle, and redistribution of fat mass. Changes that occur within the first year of testosterone therapy include deepening of the voice (152, 153), clitoromegaly, and male pattern hair loss (in some cases) (114, 144, 154, 155) (Table 12).

#### *Transgender females*

Physical changes that may occur in transgender females in the first 3 to 12 months of estrogen and antiandrogen therapy include decreased sexual desire, decreased spontaneous erections, decreased facial and body hair (usually mild), decreased oiliness of skin, increased breast tissue growth, and redistribution of fat mass (114, 139, 149, 154, 155, 161) (Table 13). Breast development is generally maximal at 2 years after initiating hormones (114, 139, 149, 155). Over a long period of time, the prostate gland and testicles will undergo atrophy.

Although the time course of breast development in transgender females has been studied (150), precise information about other changes induced by sex hormones is lacking (141). There is a great deal of variability among individuals, as evidenced during pubertal development. We all know that a major concern for transgender females is breast development. If we work with estrogens, the result will be often not what the transgender female expects.

Alternatively, there are transgender females who report an anecdotal improved breast development, mood, or sexual desire with the use of progestogens. However, there have been no well-designed studies of the role of progestogens in feminizing hormone regimens, so the question is still open.

Our knowledge concerning the natural history and effects of different cross-sex hormone therapies on breast

**Table 12. Masculinizing Effects in Transgender Males**

| Effect | Onset | Maximum |
|---|---|---|
| Skin oiliness/acne | 1–6 mo | 1–2 y |
| Facial/body hair growth | 6–12 mo | 4–5 y |
| Scalp hair loss | 6–12 mo | —[a] |
| Increased muscle mass/strength | 6–12 mo | 2–5 y |
| Fat redistribution | 1–6 mo | 2–5 y |
| Cessation of menses | 1–6 mo | —[b] |
| Clitoral enlargement | 1–6 mo | 1–2 y |
| Vaginal atrophy | 1–6 mo | 1–2 y |
| Deepening of voice | 6–12 mo | 1–2 y |

Estimates represent clinical observations: Toorians *et al.* (149), Asscheman *et al.* (156), Gooren *et al.* (157), Wierckx *et al.* (158).

[a] Prevention and treatment as recommended for biological men.

[b] Menorrhagia requires diagnosis and treatment by a gynecologist.

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**Table 13. Feminizing Effects in Transgender Females**

| Effect | Onset | Maximum |
|---|---|---|
| Redistribution of body fat | 3–6 mo | 2–3 y |
| Decrease in muscle mass and strength | 3–6 mo | 1–2 y |
| Softening of skin/decreased oiliness | 3–6 mo | Unknown |
| Decreased sexual desire | 1–3 mo | 3–6 mo |
| Decreased spontaneous erections | 1–3 mo | 3–6 mo |
| Male sexual dysfunction | Variable | Variable |
| Breast growth | 3–6 mo | 2–3 y |
| Decreased testicular volume | 3–6 mo | 2–3 y |
| Decreased sperm production | Unknown | >3 y |
| Decreased terminal hair growth | 6–12 mo | >3 y[a] |
| Scalp hair | Variable | —[b] |
| Voice changes | None | —[c] |

Estimates represent clinical observations: Toorians *et al.* (149), Asscheman *et al.* (156), Gooren *et al.* (157).

[a]Complete removal of male sexual hair requires electrolysis or laser treatment or both.

[b]Familial scalp hair loss may occur if estrogens are stopped.

[c]Treatment by speech pathologists for voice training is most effective.

development in transgender females is extremely sparse and based on the low quality of evidence. Current evidence does not indicate that progestogens enhance breast development in transgender females, nor does evidence prove the absence of such an effect. This prevents us from drawing any firm conclusion at this moment and demonstrates the need for further research to clarify these important clinical questions (162).

### Values and preferences

Transgender persons have very high expectations regarding the physical changes of hormone treatment and are aware that body changes can be enhanced by surgical procedures (*e.g.*, breast, face, and body habitus). Clear expectations for the extent and timing of sex hormone–induced changes may prevent the potential harm and expense of unnecessary procedures.

## 4.0 Adverse Outcome Prevention and Long-Term Care

Hormone therapy for transgender males and females confers many of the same risks associated with sex hormone replacement therapy in nontransgender persons. The risks arise from and are worsened by inadvertent or intentional use of supraphysiologic doses of sex hormones, as well as use of inadequate doses of sex hormones to maintain normal physiology (131, 139).

4.1. We suggest regular clinical evaluation for physical changes and potential adverse changes in response to sex steroid hormones and laboratory monitoring of sex steroid hormone levels every 3 months during the first year of hormone therapy for transgender males and females and then once or twice yearly. (2 |⊕⊕◯◯)

### Evidence

Pretreatment screening and appropriate regular medical monitoring are recommended for both transgender males and females during the endocrine transition and periodically thereafter (26, 155). Clinicians should monitor weight and blood pressure, conduct physical exams, and assess routine health questions, such as tobacco use, symptoms of depression, and risk of adverse events such as deep vein thrombosis/pulmonary embolism and other adverse effects of sex steroids.

#### *Transgender males*

Table 14 contains a standard monitoring plan for transgender males on testosterone therapy (154, 159). Key issues include maintaining testosterone levels in the physiologic normal male range and avoiding adverse events resulting from excess testosterone therapy, particularly erythrocytosis, sleep apnea, hypertension, excessive weight gain, salt retention, lipid changes, and excessive or cystic acne (135).

Because oral 17-alkylated testosterone is not recommended, serious hepatic toxicity is not anticipated with parenteral or transdermal testosterone use (163, 164). Past concerns regarding liver toxicity with testosterone have been alleviated with subsequent reports that indicate the risk of serious liver disease is minimal (144, 165, 166).

#### *Transgender females*

Table 15 contains a standard monitoring plan for transgender females on estrogens, gonadotropin suppression, or antiandrogens (160). Key issues include avoiding supraphysiologic doses or blood levels of estrogen that may lead to increased risk for thromboembolic disease, liver dysfunction, and hypertension. Clinicians should monitor serum estradiol levels using laboratories participating in external quality control, as measurements of estradiol in blood can be very challenging (167).

VTE may be a serious complication. A study reported a 20-fold increase in venous thromboembolic disease in a large cohort of Dutch transgender subjects (161). This increase may have been associated with the use of the synthetic estrogen, ethinyl estradiol (149). The incidence decreased when clinicians stopped administering ethinyl estradiol (161). Thus, the use of synthetic estrogens and conjugated estrogens is undesirable because of the inability to regulate doses by measuring serum levels and the risk of thromboembolic disease. In a German gender clinic, deep vein thrombosis occurred in 1 of 60 of transgender females treated with a GnRH analog and oral

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 23 of 36



**Table 14. Monitoring of Transgender Persons on Gender-Affirming Hormone Therapy: Transgender Male**

1. Evaluate patient every 3 mo in the first year and then one to two times per year to monitor for appropriate signs of virilization and for development of adverse reactions.
2. Measure serum testosterone every 3 mo until levels are in the normal physiologic male range:[a]
   a. For testosterone enanthate/cypionate injections, the testosterone level should be measured midway between injections. The target level is 400–700 ng/dL to 400 ng/dL. Alternatively, measure peak and trough levels to ensure levels remain in the normal male range.
   b. For parenteral testosterone undecanoate, testosterone should be measured just before the following injection. If the level is <400 ng/dL, adjust dosing interval.
   c. For transdermal testosterone, the testosterone level can be measured no sooner than after 1 wk of daily application (at least 2 h after application).
3. Measure hematocrit or hemoglobin at baseline and every 3 mo for the first year and then one to two times a year. Monitor weight, blood pressure, and lipids at regular intervals.
4. Screening for osteoporosis should be conducted in those who stop testosterone treatment, are not compliant with hormone therapy, or who develop risks for bone loss.
5. If cervical tissue is present, monitoring as recommended by the American College of Obstetricians and Gynecologists.
6. Ovariectomy can be considered after completion of hormone transition.
7. Conduct sub- and periareolar annual breast examinations if mastectomy performed. If mastectomy is not performed, then consider mammograms as recommended by the American Cancer Society.

[a] Adapted from Lapauw *et al.* (154) and Ott *et al.* (159).

estradiol (141). The patient who developed a deep vein thrombosis was found to have a homozygous C677 T mutation in the methylenetetrahydrofolate reductase gene. In an Austrian gender clinic, administering gender-affirming hormones to 162 transgender females and 89 transgender males was not associated with VTE, despite an 8.0% and 5.6% incidence of thrombophilia (159). A more recent multinational study reported only 10 cases of VTE from a cohort of 1073 subjects (168). Thrombophilia screening of transgender persons initiating hormone treatment should be restricted to those with a personal or family history of VTE (159). Monitoring D-dimer levels during treatment is not recommended (169).

4.2. We suggest periodically monitoring prolactin levels in transgender females treated with estrogens. (2 l⊕⊕◯◯)

## Evidence

Estrogen therapy can increase the growth of pituitary lactrotroph cells. There have been several reports of prolactinomas occurring after long-term, high-dose estrogen therapy (170–173). Up to 20% of transgender females treated with estrogens may have elevations in prolactin levels associated with enlargement of the pituitary gland (156). In most cases, the serum prolactin levels will return to the normal range with a reduction or discontinuation of the estrogen therapy or discontinuation of cyproterone acetate (157, 174, 175).

The onset and time course of hyperprolactinemia during estrogen treatment are not known. Clinicians should measure prolactin levels at baseline and then at least annually during the transition period and every 2 years thereafter. Given that only a few case studies reported prolactinomas, and prolactinomas were not reported in large cohorts of estrogen-treated persons, the risk is likely to be very low. Because the major presenting findings of microprolactinomas (hypogonadism and sometimes gynecomastia) are not apparent in transgender females, clinicians may perform radiologic examinations of the pituitary in those patients whose prolactin levels persistently increase despite stable or reduced estrogen levels. Some transgender individuals receive psychotropic medications that can increase prolactin levels (174).

**Table 15. Monitoring of Transgender Persons on Gender-Affirming Hormone Therapy: Transgender Female**

1. Evaluate patient every 3 mo in the first year and then one to two times per year to monitor for appropriate signs of feminization and for development of adverse reactions.
2. Measure serum testosterone and estradiol every 3 mo.
   a. Serum testosterone levels should be <50 ng/dL.
   b. Serum estradiol should not exceed the peak physiologic range: 100–200 pg/mL.
3. For individuals on spironolactone, serum electrolytes, particularly potassium, should be monitored every 3 mo in the first year and annually thereafter.
4. Routine cancer screening is recommended, as in nontransgender individuals (all tissues present).
5. Consider BMD testing at baseline (160). In individuals at low risk, screening for osteoporosis should be conducted at age 60 years or in those who are not compliant with hormone therapy.

This table presents strong recommendations and does not include lower level recommendations.

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4.3. We suggest that clinicians evaluate transgender persons treated with hormones for cardiovascular risk factors using fasting lipid profiles, diabetes screening, and/or other diagnostic tools. (2 ⊕⊕◯◯)

## Evidence

### *Transgender males*

Administering testosterone to transgender males results in a more atherogenic lipid profile with lowered high-density lipoprotein cholesterol and higher triglyceride and low-density lipoprotein cholesterol values (176–179). Studies of the effect of testosterone on insulin sensitivity have mixed results (178, 180). A randomized, open-label uncontrolled safety study of transgender males treated with testosterone undecanoate demonstrated no insulin resistance after 1 year (181, 182). Numerous studies have demonstrated the effects of sex hormone treatment on the cardiovascular system (160, 179, 183, 184). Long-term studies from The Netherlands found no increased risk for cardiovascular mortality (161). Likewise, a meta-analysis of 19 randomized trials in nontransgender males on testosterone replacement showed no increased incidence of cardiovascular events (185). A systematic review of the literature found that data were insufficient (due to very low–quality evidence) to allow a meaningful assessment of patient-important outcomes, such as death, stroke, myocardial infarction, or VTE in transgender males (176). Future research is needed to ascertain the potential harm of hormonal therapies (176). Clinicians should manage cardiovascular risk factors as they emerge according to established guidelines (186).

### *Transgender females*

A prospective study of transgender females found favorable changes in lipid parameters with increased high-density lipoprotein and decreased low-density lipoprotein concentrations (178). However, increased weight, blood pressure, and markers of insulin resistance attenuated these favorable lipid changes. In a meta-analysis, only serum triglycerides were higher at ≥24 months without changes in other parameters (187). The largest cohort of transgender females (mean age 41 years, followed for a mean of 10 years) showed no increase in cardiovascular mortality despite a 32% rate of tobacco use (161).

Thus, there is limited evidence to determine whether estrogen is protective or detrimental on lipid and glucose metabolism in transgender females (176). With aging, there is usually an increase of body weight. Therefore, as with nontransgender individuals, clinicians should monitor and manage glucose and lipid metabolism and blood pressure regularly according to established guidelines (186).

4.4. We recommend that clinicians obtain BMD measurements when risk factors for osteoporosis exist, specifically in those who stop sex hormone therapy after gonadectomy. (1 ⊕⊕◯◯)

## Evidence

### *Transgender males*

Baseline bone mineral measurements in transgender males are generally in the expected range for their pretreatment gender (188). However, adequate dosing of testosterone is important to maintain bone mass in transgender males (189, 190). In one study (190), serum LH levels were inversely related to BMD, suggesting that low levels of sex hormones were associated with bone loss. Thus, LH levels in the normal range may serve as an indicator of the adequacy of sex steroid administration to preserve bone mass. The protective effect of testosterone may be mediated by peripheral conversion to estradiol, both systemically and locally in the bone.

### *Transgender females*

A baseline study of BMD reported T scores less than −2.5 in 16% of transgender females (191). In aging males, studies suggest that serum estradiol more positively correlates with BMD than does testosterone (192, 193) and is more important for peak bone mass (194). Estrogen preserves BMD in transgender females who continue on estrogen and antiandrogen therapies (188, 190, 191, 195, 196).

Fracture data in transgender males and females are not available. Transgender persons who have undergone gonadectomy may choose not to continue consistent sex steroid treatment after hormonal and surgical sex reassignment, thereby becoming at risk for bone loss. There have been no studies to determine whether clinicians should use the sex assigned at birth or affirmed gender for assessing osteoporosis (*e.g.*, when using the FRAX tool). Although some researchers use the sex assigned at birth (with the assumption that bone mass has usually peaked for transgender people who initiate hormones in early adulthood), this should be assessed on a case-by-case basis until there are more data available. This assumption will be further complicated by the increasing prevalence of transgender people who undergo hormonal transition at a pubertal age or soon after puberty. Sex for comparison within risk assessment tools may be based on the age at which hormones were initiated and the length of exposure to hormones. In some cases, it may be

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reasonable to assess risk using both the male and female calculators and using an intermediate value. Because all subjects underwent normal pubertal development, with known effects on bone size, reference values for birth sex were used for all participants (154).

4.5. We suggest that transgender females with no known increased risk of breast cancer follow breast-screening guidelines recommended for those designated female at birth. (2 ⊕⊕◯◯)

4.6. We suggest that transgender females treated with estrogens follow individualized screening according to personal risk for prostatic disease and prostate cancer. (2 ⊕◯◯◯)

### Evidence

Studies have reported a few cases of breast cancer in transgender females (197–200). A Dutch study of 1800 transgender females followed for a mean of 15 years (range of 1 30 years) found one case of breast cancer. The Women's Health Initiative study reported that females taking conjugated equine estrogen without progesterone for 7 years did not have an increased risk of breast cancer as compared with females taking placebo (137).

In transgender males, a large retrospective study conducted at the U.S. Veterans Affairs medical health system identified seven breast cancers (194). The authors reported that this was not above the expected rate of breast cancers in cisgender females in this cohort. Furthermore, they did report one breast cancer that developed in a transgender male patient after mastectomy, supporting the fact that breast cancer can occur even after mastectomy. Indeed, there have been case reports of breast cancer developing in subareolar tissue in transgender males, which occurred after mastectomy (201, 202).

Women with primary hypogonadism (Turner syndrome) treated with estrogen replacement exhibited a significantly decreased incidence of breast cancer as compared with national standardized incidence ratios (203, 204). These studies suggest that estrogen therapy does not increase the risk of breast cancer in the short term (<20 to 30 years). We need long-term studies to determine the actual risk, as well as the role of screening mammograms. Regular examinations and gynecologic advice should determine monitoring for breast cancer.

Prostate cancer is very rare before the age of 40, especially with androgen deprivation therapy (205). Childhood or pubertal castration results in regression of the prostate and adult castration reverses benign prostate hypertrophy (206). Although van Kesteren *et al.* (207) reported that estrogen therapy does not induce hypertrophy or premalignant changes in the prostates of transgender females, studies have reported cases of benign prostatic hyperplasia in transgender females treated with estrogens for 20 to 25 years (208, 209). Studies have also reported a few cases of prostate carcinoma in transgender females (210–214).

Transgender females may feel uncomfortable scheduling regular prostate examinations. Gynecologists are not trained to screen for prostate cancer or to monitor prostate growth. Thus, it may be reasonable for transgender females who transitioned after age 20 years to have annual screening digital rectal examinations after age 50 years and prostate-specific antigen tests consistent with U.S. Preventive Services Task Force Guidelines (215).

4.7. We advise that clinicians determine the medical necessity of including a total hysterectomy and oophorectomy as part of gender-affirming surgery. (Ungraded Good Practice Statement)

### Evidence

Although aromatization of testosterone to estradiol in transgender males has been suggested as a risk factor for endometrial cancer (216), no cases have been reported. When transgender males undergo hysterectomy, the uterus is small and there is endometrial atrophy (217, 218). Studies have reported cases of ovarian cancer (219, 220). Although there is limited evidence for increased risk of reproductive tract cancers in transgender males, health care providers should determine the medical necessity of a laparoscopic total hysterectomy as part of a gender-affirming surgery to prevent reproductive tract cancer (221).

### Values

Given the discomfort that transgender males experience accessing gynecologic care, our recommendation for the medical necessity of total hysterectomy and oophorectomy places a high value on eliminating the risks of female reproductive tract disease and cancer and a lower value on avoiding the risks of these surgical procedures (related to the surgery and to the potential undesirable health consequences of oophorectomy) and their associated costs.

### Remarks

The sexual orientation and type of sexual practices will determine the need and types of gynecologic care required following transition. Additionally, in certain countries, the approval required to change the sex in a birth certificate for transgender males may be dependent on having a complete hysterectomy. Clinicians should help patients research nonmedical administrative criteria and

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provide counseling. If individuals decide not to undergo hysterectomy, screening for cervical cancer is the same as all other females.

## 5.0 Surgery for Sex Reassignment and Gender Confirmation

For many transgender adults, genital gender-affirming surgery may be the necessary step toward achieving their ultimate goal of living successfully in their desired gender role. The type of surgery falls into two main categories: (1) those that directly affect fertility and (2) those that do not. Those that change fertility (previously called sex reassignment surgery) include genital surgery to remove the penis and gonads in the male and removal of the uterus and gonads in the female. The surgeries that effect fertility are often governed by the legal system of the state or country in which they are performed. Other gender-conforming surgeries that do not directly affect fertility are not so tightly governed.

Gender-affirming surgical techniques have improved markedly during the past 10 years. Reconstructive genital surgery that preserves neurologic sensation is now the standard. The satisfaction rate with surgical reassignment of sex is now very high (187). Additionally, the mental health of the individual seems to be improved by participating in a treatment program that defines a pathway of gender-affirming treatment that includes hormones and surgery (130, 144) (Table 16).

Surgery that affects fertility is irreversible. The World Professional Association for Transgender Health Standards of Care (222) emphasizes that the "threshold of 18 should not be seen as an indication in itself for active intervention." If the social transition has not been satisfactory, if the person is not satisfied with or is ambivalent about the effects of sex hormone treatment, or if the person is ambivalent about surgery then the individual should not be referred for surgery (223, 224).

Gender-affirming genital surgeries for transgender females that affect fertility include gonadectomy, penectomy, and creation of a neovagina (225, 226). Surgeons often invert the skin of the penis to form the wall of the vagina, and several literatures reviews have reported on outcomes (227). Sometimes there is inadequate tissue to form a full neovagina, so clinicians have revisited using intestine and found it to be successful (87, 228, 229). Some newer vaginoplasty techniques may involve autologuous oral epithelial cells (230, 231).

The scrotum becomes the labia majora. Surgeons use reconstructive surgery to fashion the clitoris and its hood, preserving the neurovascular bundle at the tip of the penis as the neurosensory supply to the clitoris. Some surgeons are also creating a sensate pedicled-spot adding a G spot to the neovagina to increase sensation (232). Most recently, plastic surgeons have developed techniques to fashion labia minora. To further complete the feminization, uterine transplants have been proposed and even attempted (233).

Neovaginal prolapse, rectovaginal fistula, delayed healing, vaginal stenosis, and other complications do sometimes occur (234, 235). Clinicians should strongly remind the transgender person to use their dilators to maintain the depth and width of the vagina throughout the postoperative period. Genital sexual responsivity and other aspects of sexual function are usually preserved following genital gender-affirming surgery (236, 237).

Ancillary surgeries for more feminine or masculine appearance are not within the scope of this guideline. Voice therapy by a speech language pathologist is available to transform speech patterns to the affirmed gender (148). Spontaneous voice deepening occurs during testosterone treatment of transgender males (152, 238). No studies have compared the effectiveness of speech therapy, laryngeal surgery, or combined treatment.

Breast surgery is a good example of gender-confirming surgery that does not affect fertility. In all females, breast size exhibits a very broad spectrum. For transgender females to make the best informed decision, clinicians should delay breast augmentation surgery until the patient has completed at least 2 years of estrogen therapy, because the breasts continue to grow during that time (141, 155).

Another major procedure is the removal of facial and masculine-appearing body hair using either electrolysis or

**Table 16. Criteria for Gender-Affirming Surgery, Which Affects Fertility**

1. Persistent, well-documented gender dysphoria
2. Legal age of majority in the given country
3. Having continuously and responsibly used gender-affirming hormones for 12 mo (if there is no medical contraindication to receiving such therapy)
4. Successful continuous full-time living in the new gender role for 12 mo
5. If significant medical or mental health concerns are present, they must be well controlled
6. Demonstrable knowledge of all practical aspects of surgery (*e.g.*, cost, required lengths of hospitalizations, likely complications, postsurgical rehabilitation)

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Case 1:26-cv-00803-SM-TSM Document 7-10 Filed 10/01/26 Page 27 of 36



laser treatments. Other feminizing surgeries, such as that to feminize the face, are now becoming more popular (239–241).

In transgender males, clinicians usually delay gender-affirming genital surgeries until after a few years of androgen therapy. Those surgeries that affect fertility in this group include oophorectomy, vaginectomy, and complete hysterectomy. Surgeons can safely perform them vaginally with laparoscopy. These are sometimes done in conjunction with the creation of a neopenis. The cosmetic appearance of a neopenis is now very good, but the surgery is multistage and very expensive (242, 243). Radial forearm flap seems to be the most satisfactory procedure (228, 244). Other flaps also exist (245). Surgeons can make neopenile erections possible by reinervation of the flap and subsequent contraction of the muscle, leading to stiffening of the neopenis (246, 247), but results are inconsistent (248). Surgeons can also stiffen the penis by imbedding some mechanical device (*e.g.*, a rod or some inflatable apparatus) (249, 250). Because of these limitations, the creation of a neopenis has often been less than satisfactory. Recently, penis transplants are being proposed (233).

In fact, most transgender males do not have any external genital surgery because of the lack of access, high cost, and significant potential complications. Some choose a metaoidioplasty that brings forward the clitoris, thereby allowing them to void in a standing position without wetting themselves (251, 252). Surgeons can create the scrotum from the labia majora with good cosmetic effect and can implant testicular prostheses (253).

The most important masculinizing surgery for the transgender male is mastectomy, and it does not affect fertility. Breast size only partially regresses with androgen therapy (155). In adults, discussions about mastectomy usually take place after androgen therapy has started. Because some transgender male adolescents present after significant breast development has occurred, they may also consider mastectomy 2 years after they begin androgen therapy and before age 18 years. Clinicians should individualize treatment based on the physical and mental health status of the individual. There are now newer approaches to mastectomy with better outcomes (254, 255). These often involve chest contouring (256). Mastectomy is often necessary for living comfortably in the new gender (256).

5.1. We recommend that a patient pursue genital gender-affirming surgery only after the MHP and the clinician responsible for endocrine transition therapy both agree that surgery is medically necessary and would benefit the patient's overall health and/or well-being. (1 ⊕⊕◯◯)

5.2. We advise that clinicians approve genital gender-affirming surgery only after completion of at least 1 year of consistent and compliant hormone treatment, unless hormone therapy is not desired or medically contraindicated. (Ungraded Good Practice Statement)

5.3. We advise that the clinician responsible for endocrine treatment and the primary care provider ensure appropriate medical clearance of transgender individuals for genital gender-affirming surgery and collaborate with the surgeon regarding hormone use during and after surgery. (Ungraded Good Practice Statement)

5.4. We recommend that clinicians refer hormone-treated transgender individuals for genital surgery when: (1) the individual has had a satisfactory social role change, (2) the individual is satisfied about the hormonal effects, and (3) the individual desires definitive surgical changes. (1 ⊕◯◯◯)

5.5. We suggest that clinicians delay gender-affirming genital surgery involving gonadectomy and/or hysterectomy until the patient is at least 18 years old or legal age of majority in his or her country. (2 ⊕⊕◯◯).

5.6. We suggest that clinicians determine the timing of breast surgery for transgender males based upon the physical and mental health status of the individual. There is insufficient evidence to recommend a specific age requirement. (2 ⊕◯◯◯)

## Evidence

Owing to the lack of controlled studies, incomplete follow-up, and lack of valid assessment measures, evaluating various surgical approaches and techniques is difficult. However, one systematic review including a large numbers of studies reported satisfactory cosmetic and functional results for vaginoplasty/neovagina construction (257). For transgender males, the outcomes are less certain. However, the problems are now better understood (258). Several postoperative studies report significant long-term psychological and psychiatric pathology (259–261). One study showed satisfaction with breasts, genitals, and femininity increased significantly and showed the importance of surgical treatment as a key therapeutic option for transgender females (262). Another analysis demonstrated that, despite the young average age at death following surgery and the relatively larger number of individuals with somatic morbidity, the study does not allow for determination of

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causal relationships between, for example, specific types of hormonal or surgical treatment received and somatic morbidity and mortality (263). Reversal surgery in regretful male-to-female transsexuals after sexual reassignment surgery represents a complex, multistage procedure with satisfactory outcomes. Further insight into the characteristics of persons who regret their decision postoperatively would facilitate better future selection of applicants eligible for sexual reassignment surgery. We need more studies with appropriate controls that examine long-term quality of life, psychosocial outcomes, and psychiatric outcomes to determine the long-term benefits of surgical treatment.

When a transgender individual decides to have gender-affirming surgery, both the hormone prescribing clinician and the MHP must certify that the patient satisfies criteria for gender-affirming surgery (Table 16).

There is some concern that estrogen therapy may cause an increased risk for venous thrombosis during or following surgery (176). For this reason, the surgeon and the hormone-prescribing clinician should collaborate in making a decision about the use of hormones before and following surgery. One study suggests that preoperative factors (such as compliance) are less important for patient satisfaction than are the physical postoperative results (56). However, other studies and clinical experience dictate that individuals who do not follow medical instructions and do not work with their physicians toward a common goal do not achieve treatment goals (264) and experience higher rates of postoperative infections and other complications (265, 266). It is also important that the person requesting surgery feels comfortable with the anatomical changes that have occurred during hormone therapy. Dissatisfaction with social and physical outcomes during the hormone transition may be a contraindication to surgery (223).

An endocrinologist or experienced medical provider should monitor transgender individuals after surgery. Those who undergo gonadectomy will require hormone replacement therapy, surveillance, or both to prevent adverse effects of chronic hormone deficiency.

## Financial Disclosures of the Task Force*

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# Exhibit E to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

OUT NEWS

# At least 21 hospitals have ended or restricted trans care for minors since January

The disruptions follow multiple efforts by the Trump administration to block such care for patients younger than 19.




Protesters demonstrate on July 3 against the planned closure of the trans youth clinic at Children's Hospital Los Angeles.
Jae C. Hong / AP

Aug. 24, 2025, 7:00 AM EDT

**By Jo Yurcaba**

More than 20 hospitals and health systems have temporarily or indefinitely rolled back transgender care for minors and some young adults this year amid threats of federal investigations and cuts to government funding, an NBC News analysis found.

Twelve hospitals have announced they have discontinued or will discontinue puberty blockers and hormone therapy for trans patients younger than 19. Four announced they are no longer

providing transition-related surgeries to those patients; one said it discontinued gender-affirming care for teens; and four said they temporarily stopped transgender care for those under 19 after an executive order from President Donald Trump in January but resumed after a judge blocked part of the order in March.

In addition to those 21 hospitals, another five have removed webpages dedicated to trans care for minors from their websites this year – one said it is still providing trans care to minors, one would only say it continues "to comply with applicable state and federal laws and regulations," and three did not respond to requests for comment. And separately, a health center in Iowa stopped providing hormone therapy to trans adults due to a Trump order that prohibits federal funds from being used to "promote gender ideology," the Iowa Capital Dispatch reported.

The changes have come as hospitals attempt to comply with state laws, which in many instances prohibit discriminating against trans people in medical care, as well as federal guidance, which in recent months has threatened to revoke hospitals' federal funding or charge them with civil or criminal penalties if they continue to provide trans care to patients younger than 19.




— A testosterone prescription used for gender-affirming care in 2023.

Rory Doyle for The Washington Post via Getty Images file

Patients and families affected by these changes in care have described the effects as devastating.

One Florida mom, who asked that her name not be published due to fears that she could face harassment or be targeted by the federal government, recently bought one-way tickets to Berlin so she and her 15-year-old trans daughter could move there next month. The mom has acquired a language-learning visa, and her daughter will be able to live with her because she is a minor.

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When her daughter first sought access to transition care, Florida Gov. Ron DeSantis' administration and state Republican legislators were trying to ban it, so in September 2021, the teen and her dad started driving 11 hours to Alabama every few months so she could access care at the University of Alabama's gender clinic. Then, in August 2023, a court allowed a care ban to take effect in Alabama. Last July, they began flying to Washington, D.C., to receive care at Children's National Hospital.

Last month, the hospital announced in a message on its website that "in light of escalating legal and regulatory risks to Children's National, our providers, and the families we serve, we will be discontinuing the prescription of gender-affirming medications" effective Aug. 30.

The mom said even if she could find another doctor in the U.S. for her daughter, she fears the family might have just one visit "before the government steps in again."

"Where can we go?" she said. "Growing up, we were always told that America is the greatest country in the world, and now we're having to flee so that my child can get the health care she needs, and for our safety."

## 'These threats are no longer theoretical'

Since 2021, 27 states have enacted measures prohibiting access to puberty blockers, hormone therapy and/or surgeries for trans minors as part of a wider effort to restrict trans rights.

Supporters of the legislation say the care has not been adequately studied, can have harmful long-term effects and that minors cannot actually consent to it. However, doctors who treat trans youth say puberty blockers and hormone therapy have been provided to minors who are not trans for decades to treat other conditions, such as precocious puberty. In addition, nearly all major medical associations in the United States support access to transition-related care for minors and oppose restrictions on it, with the American Medical Association calling government restrictions "a dangerous intrusion into the practice of medicine."

A study published earlier this year in JAMA Pediatrics found that less than 0.1% of adolescents in the U.S. with private insurance in the United States are trans and are prescribed puberty blockers or gender-affirming hormones. A 2024 study published by the Harvard T.H. Chan School of Public Health found that the rate of teens ages 15 to 17 undergoing gender-affirming surgery was 2.1 per 100,000.

The remaining states where care is legal – particularly California, Colorado, Oregon, Illinois, Washington, Connecticut and Pennsylvania – have seen an influx of out-of-state patients, with some parents of trans minors even relocating their families to those states to maintain care for their kids.

Parents of trans youths have seen those states – and hospitals such as the Children's Hospital Los Angeles, which is home to one of the nation's oldest gender clinics – as safe havens.




— An emergency room nurse at Children's Hospital Los Angeles shows a lanyard decorated with pronoun pins and buttons a protest against the closure of the hospital's trans youth clinic on July 3. Jae C. Hong / AP

However, in January, the Trump administration began targeting providers of trans care, including an executive order that sought to bar federal funding from going to medical schools and hospitals that provide such care to people younger than 19. In March, a federal judge blocked that part of the order, and some hospitals resumed treatments.

But then, in April, Attorney General Pam Bondi issued a memo that said the Justice Department would investigate doctors who provide transition care to minors under existing laws, including laws against genital mutilation. In July, the DOJ sent subpoenas to more than 20 doctors and clinics that provide such care. A subpoena sent to the Children's Hospital of Philadelphia, which was made public Monday as part of a legal filing attempting to block the investigations, requested the names, birth dates, Social Security numbers, addresses and parent/guardian information of all patients who were prescribed puberty blockers or hormone therapy.

The Department of Health and Human Services, the Centers for Medicare and Medicaid Services, the FBI and the Federal Trade Commission have also taken action to restrict care, both for minors and adults.

Children's Hospital Los Angeles mentioned all of these actions and more in a June 12 letter to hospital staff detailing its decision to close the Center for Transyouth Health and Development, which has been running for three decades, effective July 22.

The letter, which a spokesperson for the hospital shared with NBC News, described an HHS review published in May "dismissing current evidence-based care protocols and standards of care while promoting alternative best practices for the treatment of pediatric gender dysphoria." The HHS review "included dozens of references to CHLA and the Center for Transyouth Health and Development," the letter said.

"Taken together, the Attorney General memo, HHS review, and the recent solicitation of tips from the FBI to report hospitals and providers of [gender-affirming care] strongly signal this Administration's intent to take swift and decisive action, both criminal and civil, against any entity it views as being in violation of the executive order," this hospital's leadership wrote. "These threats are no longer theoretical. The federal government has already cut off hundreds of millions of dollars from U.S. academic and research institutions for noncompliance with executive orders, often with little to no warning."

Earlier this month, more than a dozen states, led by New York Attorney General Letitia James, sued the Trump administration to block investigations into doctors and hospitals who provide gender-affirming care to minors.

The complaint argued that the federal government was trying to institute a national ban on such care when Congress has not passed one, violating the 10th Amendment by trying to usurp the power of states that have not passed bans. It also argued that hospitals were being forced to either defy the federal threats or comply and violate state laws against discrimination in medical care.

Taylor Rogers, a White House spokesperson, said in a statement at the time that Americans support Trump's efforts to stop "the despicable mutilation and chemical castration of children," using inflammatory language to describe transition care.

"The President has the lawful authority to protect America's vulnerable children through executive action, and the Administration looks forward to ultimate victory on this issue," Rogers said.




— Protesters in Fort Lauderdale, Fla., in 2023. Jose A. Iglesias / Miami Herald via Getty Images file

Robin Maril, an assistant professor of constitutional law at Oregon's Willamette University, said the Trump administration is attempting to restrict access to transition care through guidance issued by regulatory agencies. That guidance tells doctors and hospitals "exactly how the government is going to go after them," Maril said.

Hospitals are weighing losing all federal funding, which could force them to close, Maril said, or standing up to the Trump administration.

“To stand up to the Trump administration at this point would result in kids losing care for all sorts of things,” Maril said.

## ‘That’s just not fair’

The climate created by the administration’s policies, the investigations and the legal battles have been surreal for Dr. Kade Goepferd, the chief education officer at Children’s Minnesota and a pediatrician in the hospital’s Gender Health Program, which has not ceased or paused trans care for minors.

Goepferd, who uses they/them pronouns, said their patients’ parents are scared, and the kids don’t understand why their friends can access any health care when needed, but they might not be able to access this specific type of care because they’re trans.

“They feel very singled out,” Goepferd said. “The teenagers feel a lot of hopelessness. The younger kids feel a lot of fear for what their future may or may not be like.”

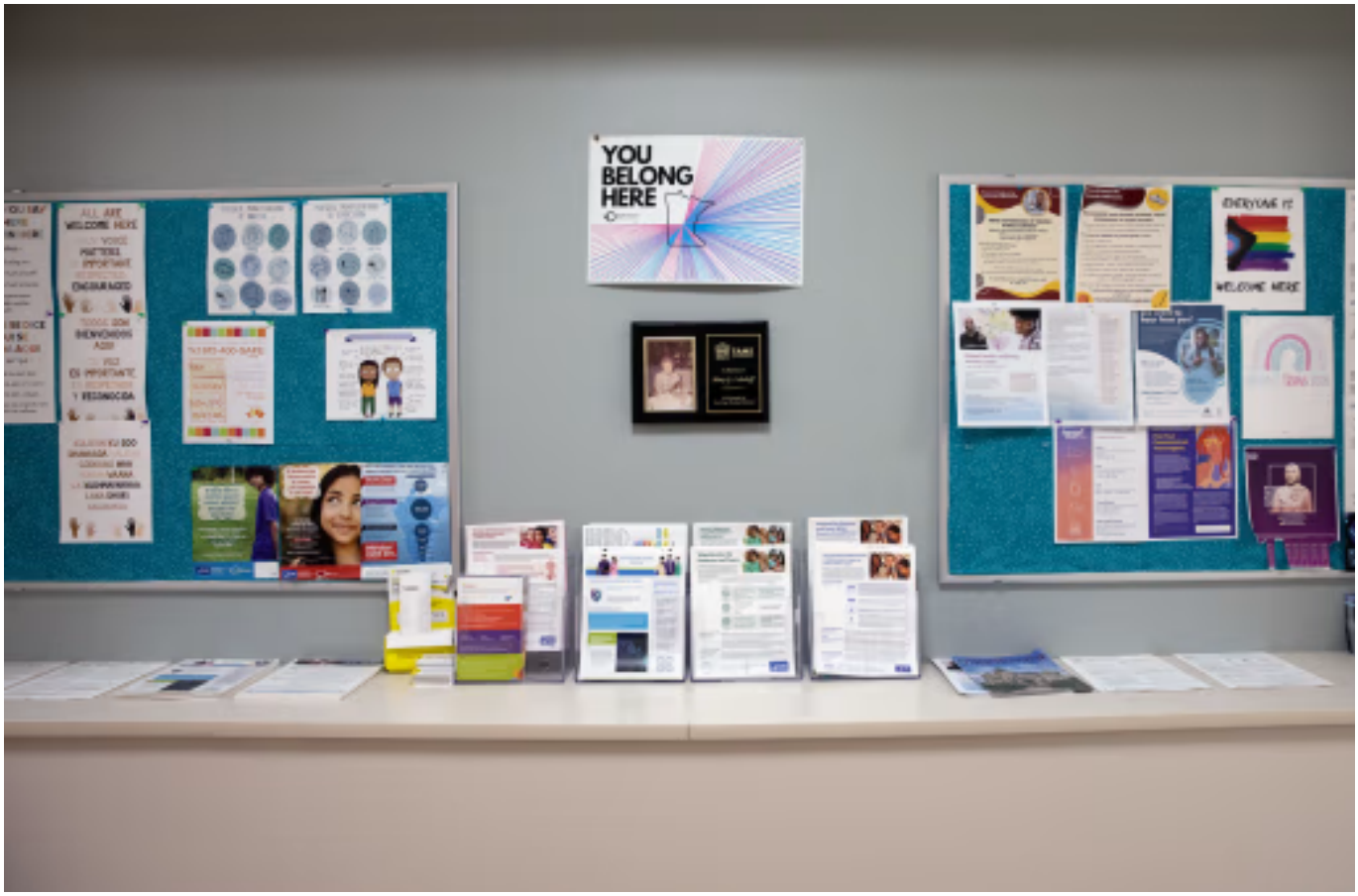


— Dr. Kade Goepferd. Sarah Wilmer for NBC News

Goepferd said they have several patients who have moved or plan to move out of the country due to the increasingly restrictive care landscape for trans youth, and the number of out-of-state patients they see has increased over the last few years. The clinic's waitlist for a first appointment is about six months.

They said one of their greatest concerns "is that we are tying the ability of transgender young people to access care they need, and the ability of their parents to make medical decisions for them, to the general public's ability to understand who they are and what their medical care is."

"That's just not fair," they said. "We don't do that with other areas of medicine. We rely on medical guidelines and expertise to make decisions. So we're treating essential health care for transgender youth as exceptional in some way, and what I wish people knew more than anything is that it is not. I provide this type of health care the same way I provide any other type of health care."




— The waiting room at the Children's Minnesota Specialty Center, where Dr. Kate Goepferd's Gender Health Program is loc
Sarah Wilmer for NBC News

As for the Florida mom, she said that as soon as her daughter could talk she would point to Daphne in the cartoon "Scooby Doo" and say, "I that girl." A psychiatrist said the child was "persistent, insistent and consistent" in her gender for years, and they have supported her and spent at least $7,500 on travel to access care in other states.

But now, she said, it feels like they're out of options, and she'll be flying to Berlin with her daughter in September and leaving her three other children in the States with their dad.

"It was like a nice fantasy that I would live in Europe one day, but then it became this absolute necessity, and I have to leave my other kids, and I don't even know how to explain how fearful I feel and how heartbreaking this is," she said.



Jo Yurcaba

Jo Yurcaba is a reporter for NBC News.

Brooke Sopelsa contributed.

# Exhibit F to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

DEPARTMENT OF HEALTH & HUMAN SERVICES
Centers for Medicare & Medicaid Services
7500 Security Boulevard, Mail Stop S2-26-12
Baltimore, Maryland 21244-1850

CENTERS FOR MEDICARE & MEDICAID SERVICES
CENTER FOR MEDICAID & CHIP SERVICES

RE: Puberty blockers, cross-sex hormones, and surgery related to gender dysphoria

April 11, 2025

Dear State Medicaid Director:

The purpose of this letter is to ensure that state Medicaid agencies are aware of growing evidence regarding certain procedures offered to children, and to remind states of their responsibility to ensure that Medicaid payments are consistent with quality of care and that covered services are provided in a manner consistent with the best interest of recipients.

In recent years, medical interventions for gender dysphoria in children have proliferated. These interventions include surgical procedures that attempt to transform an individual's physical appearance to align with an identity that differs from his or her sex or that attempt, for purposes of treating gender dysphoria, to alter or remove an individual's sexual organs to minimize or destroy their natural biological functions. These interventions also include the use of puberty blockers, including GnRH agonists and other interventions, to delay the onset or progression of normally timed puberty for purposes of treating gender dysphoria, as well as the use of sex hormones, such as estrogen, progesterone, or testosterone, and androgen blockers to align an individual's physical appearance with an identity that differs from his or her sex.

For example, one study estimated in 2023 that nearly 3,700 children with gender dysphoria between the ages of 12 to 18 from 2016-2020 underwent surgical procedures, including over 3,200 children who had breast or chest surgery and over 400 children who had genital surgery resulting in permanent alterations to reproductive organs and impaired sexual function.[1] Another study found that between 2017 to 2021, more than 100,000 children ages 6 to 17 were diagnosed with gender dysphoria and, of that group, more than 17,000 started taking puberty blockers or hormonal therapy.[2] A database composed of claims data estimated that nearly 14,000 minors underwent such treatments between 2019 and 2023.[3]

Initiated with an underdeveloped body of evidence, these interventions lack reliable evidence of long-term benefits for minors, and for some children, these interventions are now known to cause long-term and irreparable harm.

Several developed countries have recently diverged from the U.S. in the way they treat gender dysphoria in children. The United Kingdom, Sweden, and Finland have recently issued restrictions on the medical interventions for children, including the use of puberty blockers and hormone treatments, and now recommend exploratory psychotherapy as a first line of treatment and reserve hormonal interventions

[1] Wright, J.D., Chen, L., Suzuki, Y., et al., "National Estimates of Gender-Affirming Surgery in the US," *Jama Network Open. August 23, 2023, 6(8),* https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2808707.
[2] Respaut R. & Terhune, C., "Putting numbers on the rise in children seeking gender care," *Reuters*, October 6, 2022, https://www.reuters.com/investigates/special-report/usa-transyouth-data/.
[3] Do No Harm, "Stop the Harm Database," https://stoptheharmdatabase.com/about/. Accessed March 4, 2025.

only for exceptional cases.[4] [5] [6] In particular, the "Cass Review," an independent review of the evidence in the United Kingdom, noted that despite the considerable research in the field of gender dysphoria in children, "systematic evidence reviews demonstrated the poor quality of the published studies, meaning there is not a reliable evidence base upon which to make clinical decisions, or for children and their families to make informed choices."[7]

As such, we remind states of the following federal Medicaid requirements.

State Medicaid programs have a responsibility to ensure that payments are consistent with "efficiency, economy, and quality of care" under Section 1902(a)(30)(A) of the Social Security Act. Furthermore, Section 1902(a)(19) of the Social Security Act requires that states provide such safeguards as may be necessary to ensure covered care and services are provided in a manner consistent with the best interests of recipients. The language from federal statute reflects a basic obligation of state Medicaid agencies to take steps to help ensure the quality of Medicaid-covered care and to ensure that such care is provided in a manner consistent with the best interest of beneficiaries.

Additionally, for certain populations, including children, longstanding federal Medicaid regulations prohibit federal funding for coverage of services whose purpose is to permanently render an individual incapable of reproducing. Federal financial participation (FFP) is strictly limited for procedures, treatments, or operations for the purpose of rendering an individual permanently incapable of reproducing and, under 42 C.F.R. 441.253(a), is specifically prohibited for such procedures performed on a person under age 21.[8]

Furthermore, in order for federal financial participation to be made available for prescribed drugs, states must have a drug utilization program that complies with Section 1927 of the Act.[9] In particular, Section 1927(g) requires each state to develop a drug utilization review (DUR) program to assure that prescribed drugs are appropriate, medically necessary, and are not likely to result in adverse results. We encourage states to review their DUR programs to ensure alignment with current medical evidence and federal requirements, including the evidence outlined above. States are required to report annually relevant drug monitoring. Additional guidance on DUR approaches is forthcoming.

CMS is committed to following the highest standards of care and to adhering closely to the foundational principles of medicine, especially as it comes to doing no harm to America's children. CMS is also committed to supporting states as they work to keep their coverage and payment policies up to date, consistent with applicable law. For additional questions, please email us at Medicaid.gov@cms.hhs.gov.

---

[4] NHS England, "Children and young people's gender services: implementing the Cass Review recommendations," August 29, 2024, *https://www.england.nhs.uk/long-read/children-and-young-peoples-gender-services-implementing-the-cass-review-recommendations/*.

[5] Socialstyrelsen, "Care of children and adolescents with gender dysphoria," December 2022, *https://www.socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/kunskapsstod/2023-1-8330.pdf*.

[6] Society for Evidence Based Gender Medicine, "One Year Since Finland Broke with WPATH 'Standards of Care,'" July 2, 2021, *https://segm.org/Finland_deviates_from_WPATH_prioritizing_psychotherapy_no_surgery_for_minors*

[7] Cass, H., "Independent review of gender identity services for children and young people: Final report," April 2024, https://cass.independent-review.uk/home/publications/final-report/.

[8] Cheng, PJ, Pastuszak AW, Myers JB, Goodwin IA, Hotaling JM. Fertility concerns of the transgender patient. Transl Androl Urol. 2019 Jun; 8(3):209-218, available at https://pubmed.ncbi.nlm.nih.gov/31380227/. Accessed March 5, 2025.

[9] *See* Section 1902(a)(54); 42 CFR 456.703

Sincerely,

/s/

Drew Snyder
Deputy Administrator and Director

# Exhibit G to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

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# HHS RELEASES COMPREHENSIVE REVIEW OF MEDICAL INTERVENTIONS FOR CHILDREN AND ADOLESCENTS WITH GENDER DYSPHORIA

Washington, D.C.—The U.S. Department of Health and Human Services, through the Office of the Assistant Secretary for Health and Office of Population Affairs, released a comprehensive review of the evidence and best practices for promoting the health of children and adolescents with gender dysphoria. This review, informed by an evidence-based medicine approach, reveals serious concerns about medical interventions, such as puberty blockers, cross-sex hormones, and surgeries, that attempt to transition children and adolescents away from their sex.

The review highlights a growing body of evidence pointing to significant risks—including irreversible harms such as infertility—while finding very weak evidence of benefit. That weakness has been a consistent finding of systematic reviews of evidence around the world.

The review also fills a gap in the medical literature and existing clinical practice reviews with regard to the ethical aspects of pediatric medical transition. HHS believes that medical ethics should be central in this debate.

Contributors to the review include medical doctors, medical ethicists, and a methodologist. Contributors represent a wide range of political viewpoints and were chosen for their commitment to scientific principles.

“Our duty is to protect our nation’s children—not expose them to unproven and irreversible medical interventions,” **said NIH Director Dr. Jay Bhattacharya.** “We must follow the gold standard of science, not activist agendas.”

Despite increasing pressure to promote these drastic medical interventions for our nation’s youth, the review makes clear: the science and evidence do not support their use, and the risks cannot be ignored.

Chapters of this review were subject to peer review prior to this publication, and a post-publication peer review will begin in the coming days involving stakeholders with different perspectives. Names of the contributors to the review are not initially being made public, in order to help maintain the integrity of this process.

###

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# Exhibit H to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

# Treatment for Pediatric Gender Dysphoria

## Review of Evidence and Best Practices



**Department of Health and Human Services**

November 19, 2025

# Treatment for Pediatric Gender Dysphoria

## Review of Evidence and Best Practices

**Department of Health and Human Services**

November 19, 2025

Minor corrections to May 1 document made May 15, 2025; see Errata.

Minor corrections and revisions made November 19, 2025: see Errata and Supplement, which contains peer reviews and replies.

**Foreword** 9

**Executive Summary** 12

**Part I: Background** 12

**Part II: Evidence Review** 13

**Part III: Clinical Realities** 14

**Part IV: Ethical Considerations** 15

**Part V: Psychotherapy** 16

**Contributors** 17

**PART I: BACKGROUND** 19

**Chapter 1 Introduction** 20

**1.1 Exceptionalism** 23

**1.2 Evidence** 24

1.2.1 Evidence-based medicine 26

1.2.2 History lessons 27

**1.3 Ethics** 28

**Chapter 2 Terminology in Pediatric Gender Medicine** 31

**2.1 Terminology in pediatric gender medicine** 31

**2.2 Terminology in this Review** 39

**Chapter 3 History and Evolution of Adult and Pediatric Gender Medicine** 42

**3.1 *The Transsexual Phenomenon*** 42

**3.2 From George to Christine** 44

**3.3 “Dear Dr. Hamburger”** 46

**3.4 Outcomes of adult transitions** 48

**3.5 The rationale for youth gender transition** 51

**3.6 The spread of the Dutch Protocol and the rise of “gender-affirming care”** 53

**Chapter 4 International Retreat from the “Gender-Affirming” Model** 59

**4.1 The rise of the affirmative care model** 59

**4.2 The international practice reversals 63**
4.2.1 The Cass Review and its reception 66
**4.3 Rationale for international reversals 67**
4.3.1 Changes in the patient population 67
4.3.1.1 Epidemiological shifts 67
4.3.1.2 Mental illness and neurodevelopmental diagnoses 68
4.3.1.3 Nonbinary identities 69
4.3.1.4 Social influence 69
4.3.2 Unclear natural history and prognostic uncertainty 71
4.3.2.1 New evidence about the natural history of gender dysphoria 71
4.3.2.2 Concerns about identity development 72
4.3.3 Concerns about treatment-associated risks and harms 73
4.3.4 More appropriate understanding of suicide 74
4.3.5 Collapse of clinical rationale 78
4.3.6 Lack of reliable evidence of benefit 79
**PART II: EVIDENCE REVIEW 81**
**Chapter 5 Overview of Systematic Reviews 82**
**5.1 Methodology 82**
**5.2 Outcomes of social transition 89**
**5.3 Outcomes of puberty blockers 89**
**5.4 Outcomes of cross-sex hormones 91**
**5.5 Outcomes of surgery 92**
**5.6 Outcomes of psychotherapy 93**
**5.7 Discussion 94**
5.7.1 Findings of this overview 94
5.7.2 Sources of uncertainty in evidence 95
5.7.3 Robustness of this overview's conclusion 96
5.7.4 Limitations and strengths of this overview 98
5.7.5 Conclusion 100
**Chapter 6 Limitations of Systematic Reviews 101**
**6.1 Insufficient elapsed time 102**
**6.2 Short-term observational studies 103**

6.2.1 de Vries et al., 2011, 2014 104
6.2.2 Tordoff et al., 2022 105
6.2.3 Chen et al., 2023 107

**6.3 Publication bias 110**

**6.4 Summary 112**

**Chapter 7 Evidence from Basic Science and Physiology 113**

**7.1 Puberty 113**
7.1.1 Overview of normal pubertal development 114
7.1.2 Tanner Stages of puberty 114
7.1.3 Neuroendocrine regulation of puberty 115

**7.2 Puberty blockers and central precocious puberty 115**

**7.3 Puberty blockers and gender dysphoria 116**
7.3.1 Developmental risks of blocking normal puberty 117
7.3.2 Bone mineral density and skeletal development 117
7.3.3 Neurocognitive and psychosocial development 118
7.3.4 Reproductive maturation 119
7.3.5 Risks of sexual dysfunction 121

**7.4 Cross-sex hormones and gender dysphoria 123**
7.4.1 Physical effects of cross-sex hormones 123
7.4.2 Dosing of cross-sex hormones 124
7.4.3 Hyperandrogenism in females 124
7.4.4 Hyperestrogenemia in males 124
7.4.5 Effects of testosterone on the female reproductive system 125
7.4.6 Effects of estrogen on the male reproductive system 126
7.4.7 Cardiovascular and metabolic risks 126
7.4.8 Other risks associated with cross-sex hormones 127

**7.5 Surgery and gender dysphoria 128**
7.5.1 Surgical problems related to early pubertal blockade 128

**7.6 Other risks associated with hormonal interventions or surgeries 129**
7.6.1 Adverse psychiatric effects 129
7.6.2 Detransition and regret 131

**7.7 Mortality risk 132**

**Chapter 8 Summary and Implications of Evidence Review 134**

**PART III: CLINICAL REALITIES** 137

**Chapter 9 Review of International Guidelines** 138

**9.1 The role and process of clinical practice guidelines** 138

**9.2 Summary of systematic appraisal of clinical guidelines and guidance documents** 140

9.2.1 Methodological quality of existing guidelines and guidance documents 141

9.2.2 Interdependence of the existing guidelines and guidance documents 144

9.2.3 WPATH, Endocrine Society, and the American Academy of Pediatrics (AAP) guidelines and practice statements 146

9.2.4 More recent international guidelines 149

**9.3 Overview of recommendations in the high-quality guidelines** 151

9.3.1 Finland 151

9.3.2 Sweden 152

9.3.3 United Kingdom 154

**9.4 Conclusion** 155

**Chapter 10 WPATH's *Standards of Care* 8** 157

**10.1 Influence of WPATH in the United States** 157

10.1.1 WPATH's role in clinical practice 158

10.1.2 WPATH's role in medical education and training 159

10.1.3 WPATH's role in insurance reimbursement 160

**10.2 The development of SOC-8 and the Adolescent chapter** 161

10.2.1 Hope for evidence of effectiveness 162

10.2.2 Adolescent capacity to consent 164

10.2.3 Treatment effects 165

**10.3 The process of creating SOC-8** 166

10.3.1 Conflicts of interest management 166

10.3.2 Suppression of evidence 171

10.3.3 Redefinition of medical necessity 178

10.3.4 Legal and political considerations 181

**10.4 Elimination of age minimums** 184

**10.5 Continued reliance on SOC-8** 186

**Chapter 11 Collapse of Medical Safeguarding** 188

**11.1 The Dutch Protocol and the relaxation of its criteria in the U.S.** 188

11.1.1 U.S. gender clinics' departure from the Dutch Protocol 189

**11.2 Is pediatric medical transition "rare"? 190**

**11.3 Shift in objectives and the new meaning of "assessment" 192**

11.3.1 Ambiguity in SOC-8 194

11.3.2 SOC-8 guardrails abandoned 196

11.3.3 Collapse of assessment times 198

11.3.3.1 Boston Children's Hospital 198

11.3.3.2 Children's Hospital Los Angeles 199

11.3.3.3 Lurie Children's Hospital 199

11.3.3.4 Seattle Children's Hospital 200

11.3.3.5 UCSF Benioff 201

11.3.3.6 Planned Parenthood 201

**11.4 The whistleblowers 202**

11.4.1 Laura Edwards-Leeper and Erica Anderson 203

11.4.2 Jamie Reed 204

11.4.3 Tamara Pietzke 206

11.4.4 Eithan Haim 207

**Chapter 12 Medical Association Response 210**

**12.1 The role of major medical and mental health associations 210**

**12.2 Factors contributing to neglect of evidence and open debate 213**

**12.3 Conclusion 217**

**PART IV: ETHICS REVIEW 218**

**Chapter 13 Ethical Considerations 219**

**13.1 Consent 220**

**13.2 From paternalism to shared decision-making and patient-centered care 222**

13.2.1 Respect for autonomy vs *caveat emptor* 223

13.2.2 Nonmaleficence, beneficence, and autonomy in pediatrics 225

13.2.3 Risk/benefit in pediatric medical transition 226

13.2.4 Justice 232

**13.3 Alternative clinical rationales 235**

**13.4 Regret 240**

**13.5 Research Ethics 242**

**PART V: PSYCHOTHERAPY** 247

**Chapter 14 Psychotherapy** 248

**14.1 Youth mental health** 248

14.1.1 Trends in youth mental health 249

**14.2 Diagnostic and social labels** 250

**14.3 Controversies regarding assessment and the role of the psychotherapist** 253

**14.4 Psychotherapy for GD: Re-emergence in Europe** 255

**14.5 Psychotherapy and its application to gender dysphoria** 256

14.5.1 Psychotherapy for conditions frequently co-occurring with gender dysphoria 257

14.5.2 Psychotherapy for gender dysphoria 260

14.5.2.1 The charge of “conversion therapy” 261

14.5.2.2 Psychotherapeutic approaches 263

14.5.2.3 Evidence for benefit 268

**Limitations, Strengths, and Conclusion** 270

**APPENDICES** 273

**Appendix 1. Abbreviations** 274

**Appendix 2. Diagnostic Criteria** 278

**Appendix 3. Systematic Reviews and Evidence-Based Medicine** 284

**Appendix 4. Overview of Systematic Reviews: Methodology, Evidence Synthesis, Tables** 294

**BIBLIOGRAPHY** 295

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## Foreword

Over the past decade, the number of children and adolescents who question their sex and identify as transgender or nonbinary has grown significantly. Many have been diagnosed with a condition known as “gender dysphoria” and offered a treatment approach known as “gender-affirming care.” This approach emphasizes social affirmation of a child’s self-reported identity; puberty suppressing drugs to prevent the onset of puberty; cross-sex hormones to spur the secondary sex characteristics of the opposite sex; and surgeries including mastectomy and (in rare cases) vaginoplasty. Thousands of American children and adolescents have received these interventions.

While sex-role nonconformity itself is not pathological and does not require treatment, the use of pharmacological and surgical interventions as treatments for pediatric gender dysphoria has been called “medically necessary” and even “lifesaving.” Motivated by a desire to ensure their children’s health and well-being, parents of transgender-identified children and adolescents often struggle with how best to support them. Many of these children and adolescents have co-occurring psychiatric or neurodevelopmental conditions, rendering them especially vulnerable. When they seek professional help, they and their families should receive compassionate, evidence-based care tailored to their specific needs.

Society has a special responsibility to safeguard the well-being of children. Given that the challenges faced by these patients intersect with deeply contested issues of moral and social significance—including social identity, sex and reproduction, bodily integrity, and sex-based norms of expression and behavior—the medical practices that have recently emerged to address their needs have become a focus of significant controversy.

This Review is published against the backdrop of growing international concern about pediatric medical transition. Having recognized the experimental nature of these medical interventions and their potential for harm (which has been inadequately studied, especially with respect to long-term outcomes), health authorities in a number of countries have imposed restrictions. For example, the U.K. has banned the routine use of puberty blockers as an intervention for pediatric gender dysphoria.

Health authorities have also recognized the exceptional nature of this area of medicine. That exceptionalism is due to a convergence of factors. One is that the diagnosis of gender dysphoria is based entirely on subjective self-reports and behavioral observations, without any objective physical, imaging, or laboratory markers. The diagnosis centers on attitudes, feelings, and behaviors that are known to fluctuate during adolescence.

Additionally, the natural history of pediatric gender dysphoria is poorly understood, though existing research suggests it will remit without intervention in most cases. Medical professionals have no way to know which patients may continue to experience gender dysphoria and which will come to terms with their bodies.

Nevertheless, the “gender-affirming” model of care includes irreversible endocrine and surgical interventions on minors with no physical pathology. These interventions carry risk of significant harms including infertility/sterility, sexual dysfunction, impaired bone density accrual, adverse cognitive impacts, cardiovascular disease and metabolic disorders, psychiatric disorders, surgical complications, and regret, and there has been inadequate research into the frequency and severity of these harms. Meanwhile, systematic reviews of the evidence have revealed deep uncertainty about the purported benefits of these interventions.

The controversies surrounding the medical transition of minors extend beyond scientific debate; they are deeply cultural and political. Public discourse is dominated by intensely polarizing narratives. Some view the medical transition of minors as a pressing civil rights issue, while others regard it as a profound medical failure and a sobering reminder that even modern medicine is vulnerable to serious error. In the midst of this highly charged debate, children and adolescents, and their families—who seek only to support their flourishing—have found themselves caught between competing perspectives. They require, and are entitled to, accurate, evidence-based information to guide their decisions.

This Review of evidence and best practices was commissioned pursuant to Executive Order 14187, signed on January 28, 2025. It is not a clinical practice guideline, and it does not issue legislative or policy recommendations. Rather, it seeks to provide the

most accurate and current information available regarding the evidence base for the treatment of gender dysphoria in this population, the state of the relevant medical field in the United States, and the ethical considerations associated with the treatments offered.

The Review is intended for policymakers, clinicians, therapists, medical organizations and, importantly, patients and their families. It summarizes, synthesizes, and critically evaluates the existing literature on best practices for promoting the health and well-being of children and adolescents with distress related to their sex or to social expectations associated with their sex. Treatment of adults constitutes a separate topic and is not addressed in this Review. A summary of the Review's main findings is presented below.

# Executive Summary

## Part I: Background

- Gender dysphoria is a condition that involves distress regarding one's sexed body and/or associated social expectations. Increasing numbers of children and adolescents in the U.S. and other countries are diagnosed with gender dysphoria. Internationally, there is intense disagreement about how best to help them.
- The term "rapid onset gender dysphoria" (ROGD) has been suggested to describe a new clinical presentation of gender dysphoria. Despite sharp disagreement about the concept's validity, symptoms consistent with ROGD have been recorded in clinics in the U.S. and other countries.
- In the U.S., the current approach to treating pediatric gender dysphoria aligns with the "gender-affirming" model of care recommended by the World Professional Association for Transgender Health (WPATH). This model emphasizes the use of puberty blockers and cross-sex hormones, as well as surgeries, and casts suspicion on psychotherapeutic approaches for management of gender dysphoria.
- The understandable desire to avoid language that may cause discomfort to patients has, in some cases, given rise to modes of communication that lack scientific grounding, that presuppose answers to unresolved ethical controversies, and that risk misleading patients and families. This Review uses scientifically accurate and neutral terminology throughout.
- In many areas of medicine, treatments are first established as safe and effective in adults before being extended to pediatric populations. In this case, however, the opposite occurred: clinician-researchers developed the pediatric medical transition protocol in response to disappointing psychosocial outcomes in adults who underwent medical transition.
- The protocols were adopted internationally before the publication of the first outcome studies. In recent years, in response to dramatic shifts in the number

and clinical profiles of minor patients, as well as to multiple systematic reviews of evidence, health authorities in an increasing number of countries have restricted access to puberty blockers and cross-sex hormones, and, in the rare cases where they were offered, surgeries for minors. These authorities now recommend psychosocial approaches, rather than hormonal or surgical interventions, as the primary treatment, and in some cases have restricted the latter to nationally-overseen research protocols.

- There is currently no international consensus about best practices for the care of children and adolescents with gender dysphoria.

## Part II: Evidence Review

- Evidence-based medicine is widely recognized by health authorities worldwide as the foundation of high-quality care. Consistent with its principles, this Review undertook a methodologically rigorous assessment of the evidence underpinning pediatric gender medicine.
- Specifically, this Review conducted an overview of systematic reviews—also known as an “umbrella review”—to evaluate the direct evidence regarding the benefits and harms of treatment for children and adolescents with gender dysphoria. Existing systematic reviews of evidence, including several that have informed health authorities in Europe, were assessed for methodological quality. The umbrella review found that the overall quality of evidence concerning the effects of any intervention on psychological outcomes, quality of life, regret, or long-term health, is very low. This indicates that the beneficial effects reported in the literature are likely to differ substantially from the true effects of the interventions.
- Evidence for harms associated with pediatric medical transition in systematic reviews is also sparse, but this finding should be interpreted with caution. Inadequate harm detection in pediatric gender medicine may reflect the relatively short period of time since the widespread adoption of the medical/surgical treatment model; the failure of existing studies to systematically track and report harms; and publication bias. Despite the lack of robust evidence from population

level studies, important insights can be drawn from established knowledge about human physiology and the effects and mechanisms of the pharmacological agents used.

- The risks of pediatric medical transition include infertility/sterility, sexual dysfunction, impaired bone density accrual, adverse cognitive impacts, cardiovascular disease and metabolic disorders, psychiatric disorders, surgical complications, and regret.

## Part III: Clinical Realities

- In the U.S., the most influential clinical guidelines for the treatment of pediatric gender dysphoria are published by WPATH and the Endocrine Society. A recent systematic review of international guideline quality did not recommend either guideline for clinical use after determining they "lack developmental rigour and transparency."[1]
- Problems with the development of WPATH's *Standards of Care*, Version 8 (SOC-8) extend beyond those identified in the systematic review of international guidelines. In the process of developing SOC-8, WPATH suppressed systematic reviews its leaders believed would undermine its favored treatment approach. SOC-8 developers also violated conflict of interest management requirements and eliminated nearly all recommended age minimums for medical and surgical interventions in response to political pressures.
- Although SOC-8 relaxed the eligibility criteria for access to puberty blockers, cross-sex hormones, and surgeries, there is compelling evidence that U.S. gender clinics are not adhering even to those more permissive criteria.
- The "gender-affirming" model of care, as practiced in U.S. clinics, is characterized by a child-led process in which comprehensive mental health assessments are often minimized or omitted, and the patient's "embodiment goals" serve as the primary guide for treatment decisions. In some of the nation's

[1] Taylor, Hall, Heathcote et al. (2024a, p. 7).

leading pediatric gender clinics, assessments are conducted in a single session lasting two hours.

- The voices of whistleblowers and detransitioners have played a critical role in drawing public attention to the risks and harms associated with pediatric medical transition. Their concerns have been discounted, dismissed, or ignored by prominent advocates and practitioners of pediatric medical transition.
- U.S. medical associations played a key role in creating a perception that there is professional consensus in support of pediatric medical transition. This apparent consensus, however, is driven primarily by a small number of specialized committees, influenced by WPATH. It is not clear that the official views of these associations are shared by the wider medical community, or even by most of their members. There is evidence that some medical and mental health associations have suppressed dissent and stifled debate about this issue among their members.

## Part IV: Ethical Considerations

- The principle of autonomy in medicine establishes a moral and legal right of competent patients to refuse any medical intervention. However, there is no corollary right to receive interventions that are not beneficial. Respect for patient autonomy does not negate clinicians' professional and ethical obligation to protect and promote their patients' health.
- The evidence for benefit of pediatric medical transition is very uncertain, while the evidence for harm is less uncertain. When medical interventions pose unnecessary, disproportionate risks of harm, healthcare providers should refuse to offer them even when they are preferred, requested, or demanded by patients. Failure to do so increases the risk of iatrogenic harm and reduces medicine to consumerism, threatening the integrity of the profession and undermining trust in medical authority.
- Proponents of pediatric medical transition claim that regret is vanishingly rare, while critics assert that regret is increasingly common. The true rate of regret is

not known and better data collection is needed. That some patients report profound regret after undergoing invasive, life-changing medical interventions is clearly of importance. However, regret alone (just like satisfaction alone) is not a valid indicator of whether an intervention is medically justified. Patients may regret medically justified treatments or feel satisfied with unjustified ones.

- A natural response to the absence of credible evidence is to call for more and better research. Even if high quality research such as randomized controlled trials on pubertal suppression or hormone therapy were feasible, however, conducting it may conflict with well-established ethical standards for human subjects research.

## Part V: Psychotherapy

- The rise in youth gender dysphoria and the corresponding demand for medical interventions have occurred against the backdrop of a broader mental health crisis affecting adolescents. The relationship between these two phenomena remains a subject of scientific controversy.
- Suicidal ideation and behavior are independently associated with comorbidities common among children and adolescents diagnosed with gender dysphoria. Suicidal ideation and behavior have known psychotherapeutic management strategies. No independent association between gender dysphoria and suicidality has been found, and there is no evidence that pediatric medical transition reduces the incidence of suicide, which remains, fortunately, very low.
- There is a dearth of research on psychotherapeutic approaches to managing gender dysphoria in children and adolescents. This is due in part to the mischaracterization of such approaches as “conversion therapy.” A more robust evidence base supports psychotherapeutic approaches to managing common comorbid mental health conditions. Psychotherapy is a noninvasive alternative to endocrine and surgical interventions for the treatment of pediatric gender dysphoria. Systematic reviews of evidence have found no evidence of adverse effects of psychotherapy in this context.

# Contributors[2]

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**Disclosures of Interest (as of November 14, 2025)**

Evgenia Abbruzzese has received payments for legal consultations related to pediatric gender medicine.

Farr Curlin has received payments for expert testimony and honoraria for speaking engagements related to pediatric gender medicine.

Kristopher Kaliebe has received payment for expert testimony related to pediatric gender medicine as well as an honorarium to attend a conference related to pediatric gender medicine.

Michael Laidlaw has received payment for expert testimony related to gender dysphoria as well as an honorarium to attend a conference related to pediatric gender medicine.

Leor Sapir has received payments for legal consultations and honoraria for speaking engagements related to pediatric gender medicine.

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PART 1

# BACKGROUND

# Chapter 1 Introduction

Currently, an estimated 3.3% of adolescents in the United States identify as transgender, and an additional 2.2% question whether they might be.[1] Many have received hormonal or surgical treatment for accompanying distress. A 2023 study published in the *Journal of the American Medical Association* found that between 2016 and 2020, 3,215 patients between the ages of 12 and 18 received surgical "breast or chest procedures" relating to their transgender identity.[2] A more recent study reported that approximately 0.1% of American 17-year-olds, or one in 1,000, was receiving cross-sex hormones between 2018 and 2022.[3] A national estimate of clinics offering pediatric medical transition interventions found at least 271 such institutions in the U.S. as of March 2023.[4]

This Review assesses the existing literature on best practices for promoting the health of children and adolescents with gender dysphoria (GD; serious distress at one's sexed body and associated social expectations[5]) or milder forms of such distress. Treatment of GD in adults is a separate topic and is not covered here.

In the United States, a number of institutions follow the guidelines of the World Professional Association for Transgender Health (WPATH) and the Endocrine Society (ES) for treating gender-dysphoric children and adolescents. This approach is usually called "gender-affirming care." Diane Ehrensaft, Director of Mental Health at UCSF's Child & Adolescent Gender Center, is a leading proponent. As Ehrensaft explains,

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[1] Suarez et al. (2024, Table 2).
[2] Wright et al. (2023).
[3] Hughes et al. (2025).
[4] Borah et al. (2023, p. 375-376). Some of these clinics were closed due to state age restriction laws.
[5] As an American Psychological Association report put it, quoting the American Psychiatric Association, gender dysphoria is an "aversion to some or all of those physical characteristics or social roles that connote one's own biological sex" (Schneider et al., 2009, p. 28). As explained in Zucker et al. (2016), "gender dysphoria" is a "technical term" that refers to symptoms of distress, but is also, as of the fifth edition of the *Diagnostic and Statistical Manual of Mental Disorders* (2013), a "diagnostic term" (p. 218). Gender Dysphoria is a formal diagnosis in the current (text revision) version of the DSM-5, the DSM-5-TR (American Psychiatric Association, 2022). For the relevant diagnostic criteria for children, adolescents, and adults in the DSM-III, IV, and 5, and in the current *International Classification of Diseases* (ICD-11), see Appendix 2 of this Review. The term "gender dysphoria" is used throughout this Review to refer to sex-related distress or discomfort, unless the context makes clear that the formal diagnosis is the topic.

> [gender-affirming care] is defined as a method of therapeutic care that includes allowing children to speak for themselves about their self-experienced gender identity and expressions and providing support for them to evolve into their authentic gender selves, no matter at what age. Interventions include social transition from one gender to another and/or evolving gender nonconforming expressions and presentations, as well as later gender-affirming medical interventions (puberty blockers, cross-sex hormones, surgeries).[6]

This Review is needed because—as later chapters will detail—the emphasis on medicalization makes the field of pediatric gender medicine (PGM) highly controversial. WPATH and ES guidelines recommend commencement of puberty blockers (PBs; drugs that halt pubertal development) at the earliest signs of puberty (Tanner Stage 2), which may begin as early as age 8 in girls and 9 in boys. According to these guidelines,[7] cross-sex hormones (CSH; estrogen for boys and testosterone for girls) are started sometime thereafter; surgeries (e.g., breast removal for girls) are also recommended for some adolescents.[8] All these interventions are associated with significant risks, and most cause irreversible physical or physiological effects.[9]

Do PBs, CSH, and surgeries constitute best practice for this population? Guidelines and policies promulgated by professional medical societies in the U.S. differ from some European guidelines that recommend psychotherapy, *not* hormones or surgeries, for children and adolescents with GD. This Review, then, is written against a backdrop of intense disagreement in the international medical community. The number of young people with GD has surged, and many are suffering, as are their families. The question of how to best help these patients hinges on a comprehensive assessment of the evidence base for different treatment approaches, together with ethical considerations. Bringing ethical principles to bear on the evidence is one goal of this Review. While the need for respect and compassion resonates with all reasonable Americans, an invasive

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[6] Ehrensaft (2017a, p. 62). The gender-affirming approach can be applied to adults too; this Review is entirely focused on the pediatric variety.
[7] Coleman et al. (2022); Hembree et al. (2017).
[8] The latest version of WPATH's clinical practice guideline has no recommended age limits for surgical procedures, with the exception of 18 years old for phalloplasty (the construction of a neophallus in females with skin taken from the patient's arm or leg).
[9] See Chapter 7.

treatment with lifelong ramifications deserves the highest level of dispassionate scrutiny.[10]

The diagnostic description of GD has changed since the condition appeared in the third edition (1980) of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM), as has the terminology used to name it. But one thing has not changed. The DSM-III was clear that "Gender Identity Disorder of Childhood" was "not merely the rejection of stereotypical sex role behavior as, for example, in 'tomboyishness' in girls or 'sissyish' behavior in boys"[11]; the current DSM has a similar emphasis: "The diagnosis is not meant to merely describe nonconformity to stereotypical gender role behavior (e.g., "tomboyism" in girls, "girly-boy" behavior in boys, occasional cross-dressing in adult men)."[12] Non-conformity to sex-role stereotypes is as old as history, and present to some degree in every known culture.[13] This feature of the human experience is not pathological and needs no treatment. What may require treatment is the suffering experienced by those alienated from their sexed bodies.

PGM is a complex topic. This Review, therefore, will cover the field's history and evolution in some detail, from the inception of the medicalized approach in the Netherlands (Chapter 3)[14] to current treatment practices in the U.S. and other countries (Chapter 4, Chapter 9). The Review describes an international trend of retreat from the present "gender affirming" approach and reviews the reasons underlying it.

This Review finds that clinical practice in this field of medicine is exceptional and concerning (Chapter 11). The influential PGM guidelines followed in the U.S. are especially problematic. They were developed in ways that contravene best practices for

[10] The U.K.'s Cass Review pointed out that although some conceptualize controversies about pediatric gender medicine primarily from political/social standpoints, healthcare guidance should "[work] in an evidence-based way" (Cass, 2024a, p. 20).
[11] American Psychiatric Association (1980, p. 264).
[12] American Psychiatric Association (2013, p. 458).
[13] See Chapter 3, footnote 1.
[14] The general treatment paradigm of puberty blockers, cross-sex hormones, and surgeries originated in the Netherlands in the 1990s as an experimental research protocol, and, based on one small study that claimed to demonstrate significant benefits to mental health, was rapidly incorporated internationally into standard practice. As described in the Cass Review's interim report, the "affirmative model" is a "model of gender healthcare that originated in the USA which affirms a young person's subjective gender experience while remaining open to fluidity … This approach is used in some key child and adolescent clinics across the Western world" (Cass, 2022a, p. 78).

guideline development (Chapter 9, Chapter 10). This Review also finds evidence of extreme toxicity and polarization surrounding this field of medicine. ("There are few other areas of healthcare where professionals are so afraid to openly discuss their views … where name-calling echoes the worst bullying behaviour."[15]) Additionally, this Review describes the inadequate response of professional medical and mental health associations to new evidence and controversies (Chapter 12).

Section 1.1 of this opening chapter emphasizes the exceptional nature of PGM. Section 1.2 outlines the role that evidence-based medicine (EBM) plays in the Review; Section 1.3 does the same for medical ethics.

## 1.1 Exceptionalism

The field of PGM is exceptional due to the convergence of several distinct features.

First, the *diagnostic criteria* for GD are based solely on subjective reports and behavioral observations in patients with no objective physical pathology; there are no verifiable physiological or biochemical markers−such as abnormal imaging, lab, or clinical findings−to confirm the GD diagnosis.[16]

Second, the condition's *natural course* (also known as "natural history")—i.e., what happens when the condition remains untreated—appears to tend toward resolution absent medical and/or social transition interventions for a significant number of affected youths (Chapter 4). While the condition will persist in some affected adolescents into adulthood, the Cass Review, commissioned by England's National Health Service (NHS), found that while "a diagnosis of gender dysphoria has been the basis for initiating medical treatment … this is not predictive that the individual will go on to have longstanding trans identity."[17]

Third, the treatments recommended by the medicalized approach are invasive, usually irreversible, and their purported benefits are based on poor quality evidence. In addition

[15] Cass (2024a, p. 13).
[16] Laidlaw et al. (2019). The same goes for the ICD's diagnosis of "gender incongruence": for discussion, see Section 13.4.
[17] Cass (2024a, p. 146).

to infertility and impairment of sexual function, the anticipated harms include adverse effects on bone health, cardiovascular function, and possible negative impacts on brain development (Chapter 7).

When taken separately, *none* of these features is unique in medicine. Nearly all mental health and some physical health diagnoses are made on the basis of self-reports and behavioral observations. Also, there are other pediatric conditions such as mild ear infections and strep throat that are self-limiting but still treated to reduce discomfort, promote faster recovery, or prevent complications. Lastly, there are instances in which patients are offered treatments even if the benefits of those treatments are profoundly uncertain and harms are expected. For example, craniotomies are performed to remove certain malignant brain tumors, even though these interventions carry a high risk of permanent adverse effects and the overall prognosis remains poor even with treatment. (In such cases, however, the alternative to intervention is a significantly shorter life expectancy.) What makes PGM exceptional is not any one of these features, but their combination.

Is the fundamental goal of treatment to manage gender dysphoria, a condition recognized in the DSM's catalogue of mental disorders? Or is it to manage common comorbidities such as depression, anxiety, and suicidal ideation? Or, alternatively, is it to help individuals realize their "embodiment goals" (cosmetic desires)? The stated rationales for these interventions have shifted over time, following decades of research that failed to provide credible evidence of benefit (Chapter 5). This unclarity surrounding the treatments' fundamental aims is yet another way in which PGM is exceptional. In contrast, there is broad consensus about the purpose of medical intervention for conditions like appendicitis, diabetes, or severe depression.

## 1.2 Evidence

When assessing a medical intervention, one of the most important questions is: Is it safe and effective? Does drug X reduce all-cause mortality for cancer patients? Does talk therapy alleviate depression? Does knee surgery relieve arthritis pain with few postoperative complications? Even if the treatment is effective, it may not be safe, and there may be better alternatives.

In the case of invasive treatments for GD, medical authorities in the United States have issued statements indicating that the matter is settled. According to the American Medical Association (AMA):

> Improving access to gender-affirming care is an important means of improving health outcomes for the transgender population. Receipt of gender-affirming care has been linked to dramatically reduced rates of suicide attempts, decreased rates of depression and anxiety, decreased substance use, improved HIV medication adherence and reduced rates of harmful self-prescribed hormone use.[18]

In 2022, the then Assistant Secretary for Health at the U.S. Department of Health and Human Services, Admiral Rachel Levine, gave an even more unqualified endorsement:

> Gender-affirming care is medical care. It is mental health care. It is suicide prevention care. It improves quality of life, and it saves lives. It is based on decades of study. It is a well-established medical practice.[19]

However, according to the U.K.'s April 2024 Cass Review, the most comprehensive assessment of PGM to date:

> This is an area of remarkably weak evidence, and yet results of studies are exaggerated or misrepresented by people on all sides of the debate to support their viewpoint. The reality is that we have no good evidence on the long-term outcomes of interventions to manage gender-related distress.[20]

Whether the approach endorsed by the AMA is based on adequate evidence is the subject of intense controversy. What is considerably less controversial is the best framework for assessing the efficacy of treatments. That framework is EBM, adopted by this Review.

[18] American Medical Association (2022).
[19] Levine (2022).
[20] Cass (2024a, p. 13).

### 1.2.1 Evidence-based medicine

The physician and researcher Gordon Guyatt—who coined the term "evidence-based medicine" in 1991—describes EBM as follows:

> Evidence-based medicine de-emphasizes intuition, unsystematic clinical experience, and pathophysiologic rationale as sufficient grounds for clinical decision making and stresses the examination of evidence from clinical research. Evidence-based medicine requires new skills of the physician, including efficient literature searching and the application of formal rules of evidence evaluating the clinical literature.[21]

EBM sees carefully controlled clinical trials as especially important, along with "systematic reviews" (SRs), methodical syntheses and evaluations of all relevant available evidence. Various "hierarchies of evidence" have been proposed, with SRs at the top and the opinions of individual clinicians, which, although usually valuable, are subject to a variety of biases, at the bottom. EBM has been widely accepted by health authorities around the world.[22]

In keeping with EBM principles, this Review is informed by a methodologically rigorous assessment of the evidence underpinning PGM. An overview of SRs was conducted, and its findings are presented in Chapter 5 and in Appendix 4. In brief, the overview independently confirms Cass's observation that "this is an area of remarkably weak evidence."

Given its emphasis on clinical trials, EBM is less sensitive to evidence about known mechanisms of drug action or relevant biology more broadly. This limits the ability of SRs to uncover potential causal pathways or to understand observed associations or their absence (Chapter 6). Accordingly, Chapter 7 supplements the overview of SRs with evidence from basic science, including physiology. As detailed in that chapter, the risk of harm from the medicalized approach to treating pediatric GD is serious.

[21] Guyatt et al. (1992, p. 2420). See also Akobeng (2005).
[22] E.g. Darzi (2008); Margolis (2018); Carande-Kulis (2022).

It is important to recognize that evaluating the evidence for a treatment's efficacy does not, on its own, determine whether the treatment ought to be offered. SRs or other sources of high-quality evidence are not rigid formulas for making medical decisions; rather, they are essential components of the decision-making process. The principle is explicitly acknowledged in EBM. Medical evidence is not sufficient to justify clinical recommendations or decisions; other considerations—such as patient values and preferences—also play a critical role.[23] However, as emphasized below, these preferences do not override physicians' ethical and professional duties.

### 1.2.2 History lessons

An unreasonable skepticism toward medical expertise can lead to patient harm and even death.[24] On the other hand, while physicians are often capable of remarkable healing, they are not immune to human error or bias. However well-intentioned, doctors are not infallible. Even the consensus of professional medical associations can, at times, be mistaken.

Peanut allergies are a recent example. In 2000, the American Academy of Pediatrics (AAP) advised that infants deemed "high risk" should avoid peanuts—and that breastfeeding mothers do the same. In practice, this guidance was widely interpreted as a recommendation for all infants to avoid peanuts as a precaution. Peanut allergies increased dramatically, and in 2017 the AAP reversed course, recommending early *introduction* of peanuts for the highest-risk infants.[25]

This is just one of many examples.[26] Medical error is more prevalent than many Americans realize. Consensus does not guarantee correctness—in fact, it can sometimes entrench error. Nor should it be assumed that all treatment recommendations are motivated by altruism, as the opioid overprescription crisis has starkly demonstrated. This is not to suggest that medical consensus is inherently untrustworthy, but rather that it should be approached with critical scrutiny, not

[23] Djulbegovic & Guyatt (2017, p. 416); see also Guyatt et al. (2000).
[24] Centers for Disease Control (2025).
[25] Makary (2024, Chapter 1).
[26] Apart from Makary (cited above), see Prasad & Cifu (2019, Chapters 1, 2) and Patashnik et al. (2017, Chapter 2).

unquestioning acceptance. The physicians and researchers Vinay Prasad and Adam Cifu succinctly make this point:

> We expect that medical therapy will change and evolve with time. Good treatments will replace bad ones, and then better ones will replace those. Antibiotics have replaced arsenic, and anesthesia has replaced a bullet held bracingly between the teeth. Recently, however, change has occurred in surprising ways. If you have followed the news about prostate cancer screening, mammography for women in their forties, hormone replacement, cholesterol-lowering medications, and stents for coronary-artery disease, you might think doctors cannot get anything straight. These common practices were not replaced by better therapies; they were found to be ineffective. In some cases, they did more harm than good. You might be worried that some medical practices are nothing more than fads. In some cases, you would be right.[27]

## 1.3 Ethics

Finding safe and effective treatments is only part of medicine's mission. Questions of ethics—and the complex theoretical issues they raise—emerge immediately alongside clinical decision-making. What if a treatment is effective but the patient doesn't want it? When is informed consent needed before starting treatment? Should doctors ever lie to their patients? What is the difference between cosmetic procedures and those that alleviate a medical problem? What should we do when clinicians disagree with pediatric patients or their parents about the best medical course of action? These and numerous similar questions are the topic of the academic field known as *medical ethics*.[28]

EBM is only decades old, but medical ethics is as old as medicine itself. The Hippocratic Oath, originating in the fourth century BCE, and attributed to the ancient Greek physician Hippocrates, is a pledge to uphold ethical principles in medicine. The Hippocratic writings include: "I will use treatment to help the sick according to my ability

[27] Prasad & Cifu (2019, p. 11).
[28] An alternative name is *biomedical ethics*. *Bioethics* is a broader field encompassing ethical issues in the life sciences beyond healthcare. Although medical ethics is an academic discipline, medical ethicists often work in clinics and hospitals, supporting patients and their families, and assisting clinicians in developing policies.

and judgment, but I will never use it to injure or wrong them."[29] This commitment laid the foundation for the medical maxim *Primum non nocere*: First, do no harm.[30] Together with the duty of non-maleficence (avoiding harm), the duty of beneficence (promoting the patient's well-being) "undergirds all medical and health care professions and their institutional settings."[31] These duties have been continually affirmed by professional medical societies. For example, the World Medical Association's Declaration of Geneva, first published in 1948 and last revised in 2017, requires physicians to respect the "autonomy and dignity" of patients but recognizes the primacy of non-maleficence and beneficence: "The health and well-being of my patient will be my first consideration."[32]

Importantly, the physician's duties of non-maleficence and beneficence are not overridden by the patient's desire for a particular course of treatment. In 2002, the American Board of Internal Medicine Foundation, the American College of Physicians Foundation, and the European Federation of Internal Medicine articulated this point in a "Physician Charter." Among the three "fundamental principles" of the charter is the "Principle of patient autonomy," defined as follows:

> Physicians must have respect for patient autonomy. Physicians must be honest with their patients and empower them to make informed decisions about their treatment. Patients' decisions about their care must be paramount, *as long as those decisions are in keeping with ethical practice and do not lead to demands for inappropriate care*.[33]

One central question this Review attempts to answer is whether pediatric medical transition—and in particular the provision of hormonal or surgical interventions to children and adolescents—is consistent with widely-accepted principles of medical ethics. This is examined in Chapter 13. Another treatment approach—psychotherapy (talk therapy)—is examined in Chapter 14.

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[29] Beauchamp & Childress (2019, p. 155). Graduating medical students today recite a variety of oaths, sometimes composing them themselves (Weiner, 2018).
[30] The Latin phrase does not trace back to ancient times: it may have been devised by the seventeenth century English physician Thomas Sydenham (1624-1689), the "English Hippocrates" (Smith, 2005).
[31] Beauchamp & Childress (2019, p. 155).
[32] Parsa-Parsi (2017, p. 1971).
[33] American Board of Internal Medicine Foundation (2002, emphasis added).

The innovation and responsiveness of the U.S. medical system has made it the envy of the world. However, errors are unavoidable in healthcare. The test of a medical system is not its ability to avoid mistakes, but rather how it responds once mistakes become apparent.

# Chapter 2 Terminology in Pediatric Gender Medicine

The choice of words can affect medical decision-making. Medical providers have a professional duty to apprise their patients of their conditions and the treatment options in language that is accurate, ethically neutral, and in no way misleading.[1] In the case of pediatric gender medicine (PGM), language has distorted the clinical picture, obscuring important distinctions. This chapter addresses that issue. Section 2.1 examines commonly used terminology, while Section 2.2 clarifies the specific terms adopted in this Review.

## 2.1 Terminology in pediatric gender medicine

Concerns about proper terminology and disclosure of all relevant information are common in medicine generally, particularly in the context of physician-patient interactions.[2] PGM, however, presents unique challenges. In this context, the understandable desire to avoid exclusionary or pathologizing language—combined with beliefs firmly embedded in the field—has led to a vocabulary and a mode of communicating that is scientifically ungrounded, that presupposes answers to ethical controversies, and that is in other ways misleading.[3]

Nearly all the core terms used in PGM exhibit these kinds of issues. As mentioned in Chapter 1, the preferred label for the treatment approach endorsed by the World Professional Association for Transgender Health (WPATH), the Endocrine Society (ES), the American Academy of Pediatrics (AAP) and the American Medical Association (AMA) is “gender-affirming care.” The surgical removal of breasts (mastectomy) in physically healthy females is called “gender-affirming chest surgery” or “top surgery.”[4] “Affirming” has a positive connotation, and someone who objects to “gender-affirming

[1] Importantly, accuracy and neutrality are not enough. “80% of patients given drug A recovered” is ethically bland; suppose it is also true. Absent further context that statement is misleading if 80% of patients *not* given drug A also recovered. Another example: if a physician truthfully tells a patient, “You either have cancer or a harmless cyst,” knowing that the patient has cancer, the patient has been misled.
[2] Shaw et al. (2022).
[3] For related examples in the field of women’s health, see Gribble (2025). See also Bartick et al. (2025); the authors make the point that “transgender and gender-diverse people need clear and unambiguous health communications, including those related to sex-based needs, conditions, and symptoms, as much as any other group” (p. 5).
[4] E.g. Coleman et al. (2022, p. S130).

surgery" sounds lacking in compassion. The euphemisms "chest surgery" and "top surgery" gloss over the relevant fact that breasts are removed.

Word choices can obscure patients' young ages. Terms such as "people" or "folks" are sometimes used by proponents of medicalized interventions instead of "children" or "adolescents." It is frequently emphasized that prepubertal children are not prescribed hormones or surgeries. That is true. However, clinical guidelines recommend initiating puberty blockers (PBs) at pubertal onset, which can occur at 8 or 9 years old—meaning that such interventions may be started during childhood. In discussions of this recommendation, "young people" or "adolescents" are sometimes substituted for "children."[5] Again, this helps camouflage the fact that sometimes serious medical interventions are performed on children's healthy bodies.[6]

Some adolescents transition and later detransition, reverting to living as their sex, changing their name back and making other necessary social adjustments. If the adolescent has undergone some degree of medical transition, the process of detransitioning can present significant challenges.[7] These difficulties are sometimes downplayed through the use of "retransitioning"[8] instead of "detransitioning," or writing

[5] E.g., from a National Association of Social Workers fact sheet: "MYTH: Gender-affirming hormones, or hormone replacement therapy (HRT), are given to *children*," and: "During and after puberty, some medical treatments may be available [for] the *youth*" (National Association of Social Workers, n.d., emphasis added). According to the AAP, childhood spans ages 2-12 (Hardin et al., 2017).

"Adolescent" is often used for children in the early stages of puberty, when a layperson would use "child." As a member of WPATH put it in an email: "I would avoid children and hormones, and stick to medical definitions: when a young person reaches … puberty, [they are] therefore classed as adolescents (whether they are 9 or 12)," quoted in Boe v. Marshall, No. 2:22-cv-00184: 557-9/700-2 (2024, p. 16). See also Ryan (2025): "Dr. Olson-Kennedy generally avoids using the words 'child,' 'children' or 'kids'"; and Levine et al. (2022b, p. 117). The Endocrine Society made a simple factual error when it stated that "medical intervention is reserved for older adolescents and adults" (Endocrine Society, 2023).

[6] Another phrase is "wrong puberty": e.g., "pubertal blockers … block the progression of puberty so the young person doesn't go through the wrong puberty" (Jacoby, 2022). Apart from presupposing the correct treatment, it is misleading to suggest that the "right puberty" induced by estrogen in males or testosterone in females amounts to a cross-sex version of puberty, because puberty centrally and definitionally involves maturation of the capacity for reproduction. The Endocrine Society guideline adopts this language, writing of the "induction of female puberty" in males (Hembree et al., 2017, Table 8); see also Section 7.4.1.

[7] MacKinnon, Expósito-Campos et al. (2023).

[8] Olson et al. (2022). "Retransitioning" does have a legitimate use, to describe the process of transitioning again, going from detransitioning to living as the other sex (MacKinnon, Expósito-Campos et al., 2023, p. 1).

of “dynamic desires for gender-affirming medical interventions.”[9] This conceptualizes an experience that can be profoundly distressing for the patient as simply another stop along their “gender journey.”[10]

The lead author of the AAP’s 2018 policy statement (reaffirmed in 2023), “Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents,” has even described detransition as part of the “gender affirming” approach itself, thus making treatment failure impossible to conceive.[11]

The problems go deeper. The terminology of “sex,” “male,” and “female” is indispensable if the medical and ethical issues are to be discussed responsibly. And yet proponents of medicalization go to extraordinary lengths to avoid the plain use of these words, and related words such as “boy” and “girl.” When “sex” is defined, the definition is rarely correct,[12] and in any case the preferred phrase is “sex assigned at birth.” According to the ES’s “Clinical Practice Guideline for the treatment of Gender-Dysphoric/Gender-Incongruent Persons,” “the terms biological sex and biological male or female are imprecise and should be avoided.”[13] Pediatric female patients are not “girls” or “young women,” but rather “AFAB individuals” (people “assigned female at

[9] Turban, Brady et al. (2022).
[10] Jorgensen (2023b): “we should be cautious about adopting euphemisms that might mask iatrogenic harm” (p. 2180).
[11] “Rafferty [the lead author of the AAP 2018 policy statement] told me patients who live with harms or regrets do not signal a failure of the affirmative care model. If a child or patient doesn’t like the effects of an intervention, or begins to feel different in their identity, then the provider continues to affirm by discontinuing treatment. ‘They’re not treatment failures if that’s what’s affirming’ he said” (Block, 2023d).
[12] E.g. the entry for “sex” in Hembree et al. (2017, Table 1) conflates sex with characteristics highly correlated with sex in humans (“sex chromosomes,” “sex hormones,” etc.); the entry in Rafferty et al. (2018, Table 2) erroneously says that sex is “an assignment that is made at birth.” For the orthodox conception of sex in biology, see, e.g., Dawkins (1976, pp. 183–184); Parker (2011); Futuyama & Kirkpatrick (2017, p. 249). The orthodox conception is in an Endocrine Society “Scientific Statement” (Bhargava et al., 2021), and in a Health and Human Services document (Health and Human Services, 2025).
[13] Hembree et al. (2017, Table 1). Hembree et al. don’t take their own recommendation completely to heart, writing at one point that “in females [i.e. “biological females”] … the effect of prolonged treatment with exogenous testosterone on ovarian function is uncertain” (p. 3880). This ES guideline is an update of “Endocrine treatment of transsexual persons: An Endocrine Society clinical practice guideline,” published in 2009. In that earlier guideline the conventional meaning of sex is used, and the authors use the allegedly imprecise phrase “biological females” (Hembree et al., 2009, p. 3139). The AMA also claims that “sex assigned at birth” is “more precise” than “sex” (American Medical Association, 2021, p. 14).

birth"). Some authorities in PGM say that the patients wanting mastectomies are in fact "young men."[14]

"Assigned sex at birth" is not a harmless euphemism. It suggests an arbitrary decision—not unlike "assigned seating"—rather than the observation of a characteristic present long before birth, namely the child's sex. Moreover, if the phrase "assigned sex" were intended merely as a gentler way of referring to sex in conversations with patients and families, one would expect more direct language to be used in the specialty medical literature. In professional contexts, where clarity is paramount, euphemisms are generally avoided. Yet "assigned sex" is ubiquitous in clinical and academic publications. Not only that: use of such terminology is now *mandated* by certain medical journals.[15] The American Psychological Association (APA) style guide, for example, classifies "birth sex" and "natal sex" as "disparaging terms" which problematically "imply that sex is an immutable characteristic."[16] As law professor Jessica Clarke observes, "'Sex assigned at birth' is not a euphemism for 'biological sex' but a critique of the very concept."[17]

The term "gender identity" is an especially important example of how words can sow confusion. When first introduced in the 1960s, it meant "the sense of knowing to which sex one belongs, that is, the awareness 'I am a male' or 'I am a female'."[18] Almost

[14] "I don't advocate removal [of] breast tissue from young women. I advocate for chest reconstruction in young men" (Olson-Kennedy, 2019, p. 38); this use of language has the effect of making mastectomies for adolescent girls sound unalarming. See also Ehrensaft (2017b, p. 7): "transgender boys are boys and transgender girls are girls."

[15] *The Lancet*'s "Information for Authors" mandates the use of "sex assigned at birth," instead of "biological sex," "birth sex," or "natal sex" because "it is more accurate and inclusive." The same document also incorrectly states that sex is not "binary," that it exists "along a spectrum," and that a person's sex can change (The Lancet, 2025).

[16] American Psychological Association (2024a). The APA has the "problematic implication" backwards: terminology that suggests a person's sex is a *mutable* characteristic is misleading to patients and should be avoided.

[17] Clarke (2022, p. 1828). The language of "assigned sex" was used in the 1950s for exceedingly rare cases of disorders of sex development (DSDs), where a baby with ambiguous genitalia could be raised as either a boy or a girl (Money, 1955).

[18] Stoller (1964, p. 220); see also Greenson (1964, p. 217). For discussion see Byrne (2023b, 2023a); Haig (2023); D. F. Janssen (2023).

everyone has a gender identity in this sense, and moreover one that is congruent with their sex: males know that they are male, and females know that they are female.[19]

However, today the phrase "gender identity" is used in a significantly different way. For example, WPATH defines "gender identity" in the glossary to their current clinical practice guideline (SOC-8) as:

> A person's deeply felt, internal, intrinsic sense of their own gender.[20]

This new definition is unclear. For instance, what does "gender" mean in this context? The glossary in SOC-8 offers little clarification—though it does correctly acknowledge that the word is highly ambiguous. One meaning of "gender" given in the glossary is "gender identity." But "gender" in the definition above cannot mean "gender identity," otherwise the definition would be circular. Another meaning provided is "gender expression," but this too leads to circularity, because "gender expression" is itself defined in the same glossary in terms of "gender."[21]

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[19] Some children distressed about their sexed bodies are mistaken about whether they are male or female, but some are not. Accordingly, being mistaken about one's sex is not required for a diagnosis of Gender Dysphoria in Childhood in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM): "A strong *desire* to be of the other gender" is enough. Although the diagnostic criteria for children also mention "an insistence that one *is* the other gender," this is not a necessary criterion, and is altogether absent from the DSM criteria for Gender Dysphoria in Adolescents and Adults (American Psychiatric Association, 2022, pp. 512–513, emphasis added).

[20] Coleman et al. (2022, p. S252). Along the same lines: "On one level, gender identity is something deeply felt and can be difficult to put into words. I often refer to this as one's *transcendent* sense of gender. You simply *feel* a certain gender" (Turban, 2024, p. 38); "Gender identity is a person's inner sense of belonging to a particular gender, such as male or female" (Ehrensaft, 2017b, p. 7). This latter definition would sound strange if "particular gender" was replaced by "particular sex": the implication would then be that there are more sexes beyond male and female.

[21] Another definition of "gender" given in SOC-8 is "social gender role, including understandings and expectations culturally tied to people who were assigned male or female at birth" (Coleman et al., 2022, p. S252). Consider the suggestion that this is the intended sense of "gender" in WPATH's definition of "gender identity." That is, "gender identity" is defined as: "a person's deeply felt, internal, intrinsic sense of their own social gender role." Now it is true that a person might have a sense of their "social gender role." A woman, say, might be aware that in her culture certain expectations apply to women. However, here the language of "deeply felt/internal/intrinsic" is quite inappropriate, which is one piece of evidence that the present suggestion is wrong. More importantly, there is no room for any "mismatch" between a person's sex and their social gender role. A woman may (perhaps rightly) disapprove of the expectations that her culture imposes on females; that is, she may disapprove of her social gender role. Since she has this gender role because she was "assigned female" at birth, her "gender" in this sense will *always* match her sex. But evidently WPATH wishes to define "gender identity" in such a way as to allow for *mismatches* with a person's sex. Hence, the "gender role" sense of "gender" is of no help in defining "gender identity" either. [Note continued on next page.]

In short, “gender identity” as it appears in SOC-8 and related literature is ill-defined.[22] It may be true that a person’s gender identity is subjective, or undetectable by blood tests or neuroimaging,[23] or otherwise beyond the reach of science, but the more critical point is that no tolerably clear definition of “gender identity” has been offered in the first place.[24] This is a serious problem, because the term figures centrally in the justification for medical intervention.

The term “transgender” is typically explained in terms of gender identity. Transgender people are those whose gender identities do not “align with” or “match” their sex (or “sex assigned at birth”).[25] Since “each of us has a gender identity, though many of us never give it much thought,”[26] the rest of humanity have gender identities that match their sex; these people are said to be “cisgender.” It is important to realize that “transgender” is

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Another way of explaining “gender” is to give a list of representative “genders” with the expectation or hope that the reader will see the pattern. In principle, this sort of explanation can be satisfactory. However, WPATH’s previous guideline offered the following examples: “male (a boy or a man), female (a girl or woman) … boygirl, girlboy, transgender, genderqueer, eunuch” (Coleman et al., 2012, p. 221). Notice that the list includes the category *transgender*, which is itself explained in terms of gender identity and hence gender, introducing a circularity. Another point is that if *eunuch* is a (contemporary) gender, then “gender” as it figures in WPATH’s definition of “gender identity” cannot possibly be explained in terms of “social gender role” (see the first paragraph of this note). Eunuchs had a special social role in Imperial China; they have no such role today. WPATH’s current guideline has an entire chapter on eunuchs, so clearly WPATH thinks the gender *eunuch* is not an anachronism.

[22] Here are two other examples. First, the AAP’s 2018 policy statement defines gender identity as “[a] person’s deep internal sense of being female, male, a combination of both, somewhere in between, or neither” (Rafferty et al., 2018, Table 1). The policy statement also says that a “transgender” person is someone “whose gender identity does not match their assigned sex.” Clearly “gender identity” as the AAP defines it cannot mean what it originally did, because a transgender man, for instance, might not be mistaken about being female. How to interpret “female” and “male” in the AAP’s definition is far from clear. Second, the philosopher Rach Cosker-Rowland explains gender identity as “our sense of ourself as a particular gender, as a woman, as a man, as non-binary, or as *another gender*” (Cosker-Rowland, 2025, p. 3, emphasis changed); Cosker-Rowland leaves “gender” unexplained.

[23] See, e.g. Baldinger-Melich et al. (2020); Levin et al. (2023); Bakker (2024).

[24] The original 1960s explanation of gender identity (see above) was perfectly clear, but that is not the contemporary conception in gender medicine.

[25] Boe v. Marshall, No. 2:22-cv-00184: 558-16 (2024); Ehrensaft (2017b); Olson-Kennedy (2022). According to the previous WPATH guideline (SOC-7): “The gender identity of transgender people differs to varying degrees from the sex they were assigned at birth” (Coleman et al., 2012, p. 221). Remarkably, sometimes “transgender” is defined to include commonplace gender non-conformity, *regardless* of any “mismatched” gender identity. For instance, according to SOC-8, if a person’s “gender expressions are not what is typically expected for the sex to which they were assigned at birth,” they are transgender (Coleman et al., 2022, p. S252).

[26] Forcier et al. (2020, p. 2). Similarly: “Gender identity … is a core and *universal* component of human identity” (Boe v. Marshall, No. 2:22-cv-00184: 592-12, 2024, p. 6, emphasis added).

not a clinical term and does not correspond to a medical diagnosis.[27] Indeed, proponents of the medicalized approach emphasize that some transgender people neither desire nor need medical or surgical interventions of any sort.

It is often claimed that gender identity is "innate or fixed at a young age," and so "cannot be changed."[28,29] Putting that idea together with the definition of "transgender," the result is that being transgender is a close-to-immutable trait. (The same goes for being cisgender.) A "transgender child," in this framework, is a child whose unalterable gender identity does not align with their sex, while cisgender children are the other kind.[30] Once this binary paradigm of "trans kids" and "cis kids" is accepted, therapeutic exploration of the underlying causes of a child's discomfort with his or her sexed body is readily dismissed as "conversion therapy," an unethical attempt to interfere with the development of the child's authentic self.[31,32]

According to many authorities in PGM, there is a test to determine whether a child is transgender or cisgender. This is because children "know who they are." Specifically, they know their "gender."[33] If a child's "gender" matches their "assigned sex," they are

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[27] Thus a recent article on assessing "transgender and gender diverse adolescents" for puberty suppression recommends reassuring patients that the goal is not to determine whether they "are actually transgender" (Turban et al., 2025, p. 14). But see Section 13.3.

[28] Adkins (2016, p. 4); Ehrensaft (2017b, p. 7); Olson-Kennedy (2022, p. 9). However, an earlier paper on the PMT approach, which has Ehrensaft and Olson-Kennedy as co-authors, states that it is a "myth" that gender identity is "immutable" (Hidalgo et al., 2013, p. 288), indicating at least some confusion about key terms.

[29] In his expert witness report for *Boe v. Marshall*, Aron Janssen, a gender clinician and vice chair of clinical affairs at Lurie's Pritzker Department of Child and Adolescent Psychiatry, wrote that gender identity, "a person's innate sense of their gender," "cannot be altered through medical or psychological interventions" (Boe v. Marshall, No. 2:22-cv-00184: 592-12, 2024, p. 6).

[30] Some PMT authorities would dispute this characterization and claim that a transgender child's gender identity *does* match their sex—what it *doesn't* match is their "birth-assigned sex" (Ehrensaft, 2017b, p. 9).

[31] "Psychotherapy may be beneficial but should not be a requirement for gender-affirming treatment, and conversion treatment should not be offered" Coleman et al. (2022, p. S10). On "conversion therapy," see Section 14.5.2.1.

[32] Two books that discuss the "transgender child" are Gill-Peterson (2018) and Meadow (2018). On Gill-Peterson, see Byrne (2024b, pp. 243–244). For an early expression of skepticism, see Brunskell-Evans & Moore (2018).

[33] [R]esearch substantiates that children who are prepubertal and assert an identity of TGD [transgender and gender-diverse] *know their gender* as clearly and as consistently as their developmentally equivalent peers who identify as cisgender and benefit from the same level of social acceptance" (Rafferty et al., 2018, emphasis added). Also: "Individuals whose sex assigned at birth is opposite to the gender they *know themselves to be* are often referred to as *transgender*" (Turban & Ehrensaft, 2018, p. 1, first emphasis added); "studies show that trans children and adolescents know themselves and their gender" (Ashley, 2022b, p. 15).

cisgender; if not, they are transgender. So, to determine whether a child is transgender or cisgender, one only need ask.

An immediate problem is posed by the undeniable phenomenon of temporary youthful transgender identification. (See Section 4.3.1.4.) Attempting to address this difficulty, Aron Janssen, vice chair of clinical affairs at the Pritzker Department of Child and Adolescent Psychiatry at Lurie Children's Hospital in Chicago, and chair of the American Academy of Child and Adolescent Psychiatry's Sexual Orientation and Gender Identity Issues Committee, stated in a deposition that although gender identity is "static" and "fixed," "one's understanding of it can evolve over time."[34]

Dysphoric children and socially transitioned children are routinely referred to as "transgender children." In some cases, this is for convenience or as a gesture of respect.[35] However, its use may subtly influence clinical reasoning. The label "transgender" implies a mismatch between gender identity and the person's sexed body, and that mismatch can supposedly cause gender dysphoria (GD).[36] Since an adolescent's gender identity cannot be changed, the obvious solution to relieve the distress is to change their body.[37]

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[34] Boe v. Marshall, No. 2:22-cv-00184: 558-16 (2024, pp. 104–110). Some PMT clinicians maintain that such change in understanding is not likely: "there is [a] small but non-zero possibility of one's understanding of their gender identity evolving over time" (Turban et al., 2025, p. 2). According to UCSF's Diane Ehrensaft, "My own clinical experience told me that you could discern one group of children from the other prior to adolescence, not with 100% accuracy, but not far from it" (Ehrensaft, 2014, p. 578). As Ehrensaft puts it in her book *The Gender Creative Child*, "we can tell the apples (the transgender children) from the oranges (the gender-nonconforming but not trans kids), sometimes as early as when they are three years old. So, why hold the apples back if they already know who they are?" (Ehrensaft, 2016, p. 55). Put without the framing of "trans kids," the clinical issue is whether one can discriminate between gender dysphoric children whose dysphoria will resolve without any medical intervention, and those whose dysphoria will persist into adulthood (see Section 4.3.2).

[35] E.g. Olson et al. (2022).

[36] According to WPATH, gender dysphoria is "distress that is *caused by* a discrepancy between a person's gender identity and that person's sex assigned at birth" Coleman et al. (2012, p. 221, emphasis added). The quotation continues, "(and the associated gender role and/or primary and secondary sex characteristics)"; so at least in theory, one way of relieving gender dysphoria would be to change the "associated gender role."

[37] The AAP policy statement includes more young people as candidates for medicalization than just those with mismatched or incongruent gender identities. The title of the policy statement is "Ensuring Comprehensive Care and Support for Transgender *and Gender-Diverse* Children and Adolescents" (Rafferty et al., 2018, emphasis added). Transgender youth, the policy statement says, are "a subset of gender-diverse youth." The policy statement explicitly equates "gender diverse" with "gender nonconforming" (the latter term being deprecated only because of its allegedly pejorative connotation).

## 2.2 Terminology in this Review

While communication with patients and families must always be sensitive and compassionate, describing sex as a matter of "assignment" is, at best, confusing and accordingly not truly respectful. Patients and their legal caregivers are entitled to the facts regarding their medical situation; this is essential for informed participation in the medical decision-making process. Just as importantly, evidence assessments must use accurate and precise language when referring to sex, in order to maintain scientific integrity and support sound clinical judgment.

Treatment of children and adolescents with GD presents an especially complex case of doctor-patient communication because doctors understandably do not want to alienate their patients; trust is the bedrock of shared decision-making.

There is growing international awareness of the importance of using accurate sex-based language. As the recent U.K.'s *Review of Data, Statistics and Research on Sex and Gender* (RSG) asserts:

> Analysts must be able to use clear and familiar language in reporting findings on sex. Terms such as women, men, boys and girls are synonymous with (respectively) adult human females and males and children of each sex. Similar considerations apply to terms such as mothers and fathers, sons and daughters.[38]

The RSG also recommends against using the phrase "sex assigned at birth," remarking that it is "misleading."[39]

The RSG notes that the word "gender" has "multiple distinct meanings, including: a synonym for sex; social structures and stereotypes associated with sex; and gender

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Thus, gender-nonconforming youth *in general* are singled out as potential recipients of sex-related hormone therapy and surgery. The same points apply to WPATH's SOC-8, *Standards of Care for the Health of Transgender and* Gender Diverse *People*, which also deprecates the use of "gender-nonconforming" (Coleman et al., 2022, p. S11, emphasis added); SOC-7 (Coleman et al., 2012) has "gender-nonconforming" in its title.

[38] Sullivan (2025, p. 11). The Review was commissioned by the previous Conservative government and welcomed by the present Labour Secretary of State for Health and Social Care (Scott, 2025).

[39] Sullivan (2025, p. 7).

identity."[40] For this reason, the RSG cautions against using the word when misunderstandings could arise. A prime example is WPATH's definition of "gender identity" discussed above, which uses the word "gender" without an adequate explanation. Because of its unclarity and ambiguity, "gender" will generally be avoided in this Review. "Gender identity" inherits the obscurity of "gender" and will not be used either.[41] As discussed, the term "transgender child" suggests that medical intervention is the default or primary course of action. For this reason, it will be avoided.[42]

The Review will use "social transition" for the process of changing one's sex-associated name, presenting oneself as a member of the other sex, being referred to with third-person pronouns for the other sex,[43] and so on.

"Gender dysphoria" is in the DSM and at present has no accepted alternative; therefore, it will be used despite problems with the word "gender." "Gender nonconformity" is a familiar and well-understood phrase, so it will also be used (although some may prefer "sex-stereotype nonconformity"). As already indicated, "pediatric gender medicine" (PGM) will be used for the clinical field that treats children and adolescents with GD, sometimes with medical interventions. Instead of the term "gender-affirming care" this Review will use "PMT" (pediatric medical transition), as in phrases such as "the PMT approach." This is more accurate and carries no positive or negative connotation. The PMT approach does not always involve hormones or surgeries, but some of its proponents do tend to view even social transition as an initial step toward medical transition. The older term "cross-sex hormones" (CSH)[44] is more neutral and informative than "gender-affirming hormone therapy." Surgeries to alter sex characteristics[45] for

[40] Sullivan (2025, p. 5).
[41] It should be emphasized that not everyone accepts that they have a gender identity. As the RSG puts it: "Questions on gender identity should recognize that the concept of gender identity as such will be unfamiliar, unclear or irrelevant to some respondents, and that many respondents may not perceive themselves as having a gender identity. Questions should not assume that respondents will agree that they have a gender identity" (Sullivan, 2025, p. 9). The RSG illustrates how "gender identity" is now firmly embedded, not just in gender medicine, but also in social statistics (and, it could be added, pedagogy). For an illuminating discussion of the history, see Brubaker (2025).
[42] Needless to say, terminology that makes other treatment pathways prominent is equally undesirable.
[43] Or *they* or neo-pronouns (*xe*/*xem* and the like).
[44] Even this terminology is not perfect: estrogens are normally present in males, although at lower levels than in females; vice versa for androgens (including testosterone).
[45] Sex characteristics are either *primary* (the external and internal reproductive organs), or *secondary* (characteristics that emerge at puberty, such as breasts in females and facial hair in males).

adolescents will be given medically standard, clinical, neutral descriptions—e.g. “mastectomy.” Finally, the older term “sex reassignment surgery” (SRS) will be used rather than the more recent “gender confirmation surgery.”

# Chapter 3 History and Evolution of Adult and Pediatric Gender Medicine

Medical transition for gender dysphoric youth is a comparatively recent practice and grew out of the clinical experience of transitioning mature adults. It is common in medicine to extend medical treatments to children once they have been proven safe and effective in adults. In this case, however, the opposite occurred. The rationale for transitioning adolescents emerged from the observation that medical transition in adults often failed to produce the desired positive outcomes. This chapter explains how this came about and provides additional historical context.

Sections 3.1, 3.2, and 3.3 briefly review the history of medicalized transitions, which are barely a century old. Sections 3.4 and 3.5 explain how the observed failure of medical transition to produce positive psychosocial outcomes for adults led clinicians in the Netherlands to propose an early intervention model, resulting in the "Dutch Protocol." The final section describes how the Dutch Protocol evolved into the "gender affirming care" approach to pediatric medical transition (PMT), a shift that was accompanied by significant changes in the pediatric patient population presenting with gender dysphoria (GD)—both in terms of size and demographic composition.

## 3.1 *The Transsexual Phenomenon*

Extremely gender-nonconforming people, including those who live their lives either as members of the other sex, or as a so-called "third gender," have been documented throughout human history.[1] One famous example is the French diplomat and spy Chevalière d'Eon (1728-1810), who dressed and "passed" as a woman during the final 32 years of his life. Everyone was convinced, including the last king of France, Louis XVI.[2] In the early 20th century, the English physician and sexologist Henry Havelock Ellis coined *eonism*, after the Chevalière, for "people who took pleasure in behaving and

[1] See, e.g., Bullough et al. (1997); R. Green (1966); Herdt (1996); Peled (2016); Vasey & VanderLaan (2014). Many earlier cultures and some contemporary ones have "third genders": some people of one sex (typically feminine same-sex attracted males) occupy social roles (somewhat) similar to those of the other sex. It is a mistake to take this phenomenon to be akin to the contemporary Western "transgender moment"—see Vasey (2022).
[2] Kates (2001, p. 218).

dressing like the opposite sex and yet were not sexually inverted; that is, their sexual feelings were not directed towards persons of their own sex."[3] "Eonism" later came to label a broader category, including individuals with strong cross-sex wishes who were same-sex attracted.[4] In 1949, an American physician, David Cauldwell, used the term "transexual" to label "individuals who are physically of one sex and apparently psychologically of the opposite sex."[5]

"Transsexualism" was popularized by Harry Benjamin, a German-American endocrinologist and the father of transgender medicine. Benjamin's 1966 book, *The Transsexual Phenomenon*, was the first comprehensive English-language discussion of medicalized treatment for people who "want to undergo corrective surgery … so that their bodies would at least resemble those of the sex to which they feel they belong and to which they ardently want to belong."[6] Cross-sex hormones (CSH) followed by surgery, Benjamin thought, could "change a miserable and maladjusted person of one sex into a happier and more adequate, although by no means neurosis-free, personality of the opposite sex."[7]

In the first half of the 20th century, there were few recorded instances of transsexuals. One of the first people to undergo sex-reassignment surgery (SRS) was Einar Wegener, a Danish artist who modeled while cross-dressed for his wife Gerda Gottlieb, a talented painter. In pursuit of the body modifications he so desperately desired, Wegener sought help from the sexologist Magnus Hirschfeld, a long-time friend of Harry Benjamin's and founder of the Institute for Sexual Science in Berlin.[8] Castration, penectomy, and ovarian implantation were performed on Wegener in Berlin and Dresden in 1930, with

[3] Havelock Ellis (1937, p. 1, Part Two); quoted in Byrne (2024b, pp. 113–114). According to d'Eon's biographer, the historian Gary Kates, "d'Eon was neither a transvestite nor a transsexual … there is simply no indication that d'Eon hated his own body or that he wanted, or even imagined he would be better off with, the body of a woman" (Kates, 2001, p. xxii); quoted in Byrne (2024b, p. 229).
[4] See, e.g., Hamburger et al. (1953) (a report on Christine Jorgensen's case; see the following section). See also Benjamin (1967b, p. 107) and Blanchard (1989, p. 240).
[5] Quoted in Meyerowitz (2009, p. 44). This quotation is from Cauldwell's 1950 *Questions and Answers on the Sex Life and Sexual Problems of Trans-Sexuals*, which hyphenates "transsexual." Cauldwell used "psychopathic transexual" (one "s") in 1949 (Cauldwell, 2006, p. 41).
[6] Benjamin (1966, p. 14)
[7] Benjamin (1966, p. 164).
[8] Li (2023a, 2023b, pp. 113–114).

additional procedures the following year. These were unsuccessful. Einar Wegener, transformed into Lili Elbe, died in September 1931, after an "abyss of suffering."[9]

## 3.2 From George to Christine

Transsexualism was not then a phenomenon. That changed in 1952, when the news broke that George Jorgensen, a 24-year-old American of Danish descent had undergone sex reassignment surgery (SRS) in Denmark:

> [H]er celebrity began December 1, 1952, when a banner headline screaming "EX-GI BECOMES BLONDE BEAUTY: OPERATIONS TRANSFORM BRONX YOUTH" greeted readers of the *New York Daily News*. Hearst Publications' popular Sunday newspaper supplement, *American Weekly*, subsequently paid twenty thousand dollars for an exclusive interview with Jorgensen that brought her story to millions of American homes, and whetted the appetite of the world press. When she returned to the United States in 1953, an unprecedented three hundred reporters were on hand to meet her plane at New York International Airport … Her "sex-change" was viewed by many as a miracle of God in which not Christ, but Christine—Man reborn as Woman—heralded a new dispensation of human history.[10]

Jorgensen met Harry Benjamin in New York that year, and they enjoyed a long friendship. In a 1965 letter, just before the publication of *The Transsexual Phenomenon*, Benjamin wrote: "Without you, Christine, none of this would have happened."[11]

Growing up in the Bronx, the young George was teased for his "girlish qualities," and was greatly conflicted by his homosexuality:

> One question was especially troubling for George: He had learned at church and from his school friends that homosexual relationships were considered sinful and immoral. In the Jorgensen household, the word was never spoken. Among his

[9] Elbe et al. (2020, p. 203); quoted in Joyce (2021, p. 17). Lili apparently had no regrets, writing in June 1931, "The price which I have paid seems to me very small" (Elbe et al., 2020, p. 198). On regret, see Section 13.4. The 2015 movie *The Danish Girl*, starring Eddie Redmayne, is loosely based on Einar/Lili's story.
[10] Stryker (2000, pp. v–vi). See also Li (2023b, pp. 152–153).
[11] Jorgensen (1967, p. xi).

> neighbors, “homos” or “queers” were thought to be unacceptable, even dangerous people. Hence, a series of romantic attractions to other young men became his greatest teenage conflict. Try as he might to avoid these crushes, George persistently fell in love with other male youths of his age. This conflict would contribute to episodes of depression, low self-esteem, low aspiration for success, and much personal unhappiness.[12]

George himself fixated on a hormonal explanation for his femininity and same-sex attraction—a “glandular imbalance”[13]—and was also (wrongly) convinced that his genitals were “underdeveloped.”[14] It is a plausible conjecture that George found an English translation of Lili Elbe’s autobiography while hunting in New York City libraries, “hoping to find other keys to my dilemma.”[15] In any event, in search of the hormonal and surgical treatment he felt he needed, George went to Denmark on a one-way ticket in 1950. There the “Bronx youth” became a patient of Christian Hamburger, a Copenhagen endocrinologist:[16]

> Perhaps Hamburger felt a special compassion for homosexuals because his sister was a lesbian. Despite Denmark’s comparatively liberal national policies, Hamburger surely knew from his sister’s experience how discrimination against gays and lesbians could be profoundly troubling for a homosexual. He could offer no medical intervention to help his sister, but he believed there might be some steps he could take to help George Jorgensen, and he was willing to try.[17]

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[12] Docter (2013, pp. 25–26).
[13] Docter (2013, p. 63).
[14] Docter (2013, p. 46).
[15] Jorgensen (1967, p. 80); for the conjecture, see Docter (2013, p. 38).
[16] Hamburger had a distinguished career (Pedersen-Bjergaar, 1964). Contrasting with Hamburger’s academic record, before Benjamin became interested in transsexuality he was a prominent proponent of endocrine “rejuvenation therapy,” a medical fad. In 1931 he filed a lawsuit against the editor of the *Journal of the American Medical Association* (*JAMA*) “for calling his treatment quackery,” and lost (Pettit, 2013, p. 1070). See also Li (2023b).
[17] According to Hertoft & Sørensen (1979), a “sex change” was not the original plan: “the Danish team regarded Chris Jorgensen as a homosexual man suffering from his homosexuality and since he himself asked for castration, they would not deny him this operation. Not until afterwards, when the press published the case, did the team behind the procedure accept it as a sex change. The rest of the story is well known” (p. 168). Hamburger is said to have denied that Jorgensen was a homosexual in Christine’s autobiography (Jorgensen, 1967, p. 101). See also Docter (2013, p. 81).

In a case report he later wrote for the *Journal of the American Medical Association* (*JAMA*) Hamburger described George's desire "with medical assistance to be able to obtain permission to live on 'as nearly a woman as possible.'"[18] Hamburger prescribed estrogen, and George's application for castration to the Danish Ministry of Justice was approved in 1951.[19] Castration was followed by penectomy and a later unsatisfactory attempt at creating an artificial vagina. "As a nationally recognized personality, Christine Jorgensen's flame burned with exceptional brilliance for about thirty years,"[20] dimming in the 1980s. A heavy drinker and smoker, Christine died of cancer in 1989, at the age of 62.

## 3.3 "Dear Dr. Hamburger"

After the "sensational publicity" over George Jorgensen's metamorphosis into Christine, Hamburger received "a unique collection of letters from a considerable number of men and women who desire to change their sex."[21] He analyzed all 756 of them, from 465 people, and published the results in a European endocrinology journal, *Acta Endocrinologica*. His correspondents wrote from all over the world. Over three quarters were men, and some of the letter writers were young teenagers. Not everyone mentioned their sexual orientation, but the women were the most forthcoming, with 71% offering at least some information. Fewer than half the men gave "any information about their sexual impulses."[22] Homosexuality predominated[23] among the men and was universal among the women:

> It is remarkable that not one single woman admits to heterosexuality, which is the case in 22 per cent of all male letter writers … Not a single woman mentions attraction to men; on the contrary. Women who have experienced shorter or longer periods of married life, felt the physical part of matrimony to be intolerable. Completely different are the transvestic men: they do not appear to have felt any

[18] Hamburger et al. (1953, p. 393).
[19] Jorgensen (1967, pp. 114–116).
[20] Docter (2013, p. 255).
[21] Hamburger (1953, p. 361).
[22] Hamburger (1953, p. 368).
[23] Of the 45% of men who disclosed information about their sexual orientation, Hamburger classified 65% as homosexual (Hamburger, 1953, Table 3).

> aversion to the female body, although the erotic attraction, if any, is stated to have declined with passing years, or to have led to impotence.[24]

A 16-year-old American girl wrote:

> I've always acted like a boy and did the things they did. When I was smaller I used to wear my brothers [sic] clothes and I even do now sometimes when no one is home. This isn't the worst of it though, ever since I've been in High School I've been in love with a girl! and as much as I try to forget this love the more I realize I don't want to forget it. - - - I've also read about transvestites who only wanted to dress like the opposite sex but that's not how I feel. I want to dress like a boy yes, but it's not so bad that I can't control it.[25]

Childhood gender-nonconformity is strongly associated with later homosexuality.[26] Because childhood- or early-onset GD[27] involves extreme gender-nonconformity, young children distressed by their sexed bodies will likely grow up to be same-sex attracted. As the current *Diagnostic and Statistical Manual* (DSM-V-TR) puts it, "Studies have shown a high incidence of sexual attraction to those of the individual's birth-assigned gender, regardless of the trajectory of the prepubescent child's gender dysphoria."[28] Harry Benjamin put his own spin on George Jorgensen's homosexuality: "since the psychological status of a transsexual male is that of a female, it is natural that sex attraction centers on a male."[29]

Despite the sensational publicity, in the 1960s the "transsexual phenomenon" was still in its infancy. By 1965, Benjamin had seen 307 cases of which he deemed 220 "true transsexuals," the remainder being classed as "transvestites." Almost 90% of the transsexuals were male. Only 62 males and 11 females had had surgery.[30] Reflecting

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[24] Hamburger (1953, p. 369).
[25] Hamburger (1953, p. 370).
[26] Bailey & Zucker (1995); R. Green et al. (1987); Steensma et al. (2013).
[27] Ristori & Steensma (2016); Singh et al. (2021). For other forms of GD, see Bailey & Blanchard (2017); Zucker et al. (2016). See also Section 4.3.1.
[28] American Psychiatric Association (2022, p. 516).
[29] Benjamin (1967a, p. ix).
[30] Benjamin (1966, p. 163).

this imbalance, *The Transsexual Phenomenon* had only one slim chapter on "the female transsexual."

By 1979, the demand for "sex change" became significant enough for clinicians caring for this patient population to form a professional association, the Harry Benjamin International Gender Dysphoria Association (HBIGDA), which published the first *Standards of Care* in 1979. In that short typewritten document, "Principle 2" of 32 was: "Hormonal and surgical sex reassignment are procedures requiring medical justification and are not of such minor consequence as to be performed on an elective basis."[31]

In the third edition of the DSM in 1980, the disorder of "transsexualism" was said to be "apparently rare."[32] In 1994 DSM-IV reported: "Data from smaller countries in Europe with access to total population statistics and referrals suggest that roughly 1 per 30,000 adult males and 1 per 100,000 adult females seek sex-reassignment surgery."[33] The "transgender tipping point"[34] had not yet arrived.

## 3.4 Outcomes of adult transitions

Pediatric medical transition began in the Netherlands, which had offered adult treatment in an academic hospital starting in the 1970s, with the costs of a medical transition reimbursed through the Dutch national health insurance system.[35] The availability of comprehensive and reliable medical records gave clinicians the opportunity to study how patients fared, and a paper detailing the results was published in 1988: "Sex reassignment surgery: A study of 141 Dutch transsexuals." The research was led by the psychologist Peggy Cohen-Kettenis, who had worked earlier with adult transsexuals at the Department of Sexology at Utrecht University. In 1987, she moved to the

[31] Harry Benjamin International Gender Dysphoria Association (1979).
[32] For the diagnostic criteria, see Appendix 2. The first two versions of the DSM fleetingly included "transvestism" (American Psychiatric Association (1952, p. 39) and "transvestitism" (American Psychiatric Association (1968, p. 44). See also Drescher & Yarbrough (2024).
[33] American Psychiatric Association (1994, p. 535). See also Dhejne et al. (2014). According to the first *Standards of Care*, "As of the beginning of 1979, an undocumentable estimate of the number of adult Americans hormonally and surgically sex-reassigned ranges from 3,000 to 6,000" (Harry Benjamin International Gender Dysphoria Association, 1979).
[34] The title of a *Time* cover story in 2014 (Steinmetz, 2014).
[35] Bakker (2021, p. 29).

Department of Child and Youth Psychiatry at the Academic Hospital Utrecht (now UMC Utrecht), where she began to see children and adolescents with GD.[36]

Cohen-Kettenis and her co-author and student Bram Kuiper sent recruitment letters to all 229 patients diagnosed by the Netherlands Gender Care Foundation (NGCF) as "transsexuals and who … had at least started hormone therapy." The 141 who agreed to participate were "36 FMs (female-to-male transsexuals) and 105 MFs (male-to-female transsexuals)."[37] They were at varying stages of medical transition. Some had completed surgery, while others had just started on CSH; follow-up time from the start of treatment ranged from one month to more than 10 years. The patients' average ages were late-20s (the FMs) and mid-30s (the MFs). They were assessed by interview, and all but three were interviewed in their homes.

On the positive side, 65% reported feeling happy or very happy, while 11% said they were unhappy or very unhappy. Almost all the FMs and nearly 80% of the MFs described their ability to "pass as a member of the newly assumed gender" as good or very good. None of those who had had surgery "felt any significant doubts about the decision to get rid of their own primary and secondary sex characteristics and to have the body surgically adjusted to the characteristics of the opposite sex," except for one FM who nonetheless had no regrets about living as a man.[38]

On the other hand, while the self-reported subjective outcomes were good, objective measures told a different story. One in seven MFs and one in 36 FMs had attempted suicide after treatment began. (Of the total number of patients seen at the NGCF in the previous 10 years, three had committed suicide after treatment.) 60% of the MFs and 37% of the FMs were unemployed and 59% of the MFs and 33% of the FMs had no romantic partners.[39] Commenting on previous studies of SRS, the researchers noted: "it is possible to discern a trend in these reports that the subjective well-being of the

[36] Bakker (2021, p. 113).
[37] Kuiper & Cohen-Kettenis (1988, p. 442).
[38] Kuiper & Cohen-Kettenis (1988, p. 450).
[39] Kuiper & Cohen-Kettenis (1988, p. 447).

transsexuals has increased, whereas an 'improvement' in their actual life situation is not always observed."[40]

Did medical transition at least alleviate gender dysphoria? Interestingly, there was no relationship between reported happiness and stage of transition:

> Although a fair number of persons attribute their feelings of happiness to SRS, there appears to be no direct relation between the subjective well-being and the phase of therapy. Those who have completed SRS are not happier or less happy than those who are still in the initial phase of therapy. In other words, a person's positive evaluation of his/her life-in-its-totality is not directly related to his/her progress in physical adjustment to the opposite sex.[41]

The researchers speculated that this might be due to an expectation effect:

> However, it does not seem justifiable to conclude that it is irrelevant to a person's happiness whether physical adjustment has or has not taken place and that the operations could therefore just as well have been omitted. One has to bear in mind that in general the [FMs and MFs who had not completed treatment] are happy in the knowledge that the operations will be performed within a reasonable time. They are taking a loan on the future.[42]

Although the researchers claimed that "there is no reason to doubt the therapeutic effect of sex reassignment surgery," they were clear that there were significant costs:

> SRS is no panacea. Alleviation of the gender problems does not automatically lead to a happy and lighthearted life. On the contrary, SRS can lead to new problems.[43]

Why were the MFs, in particular, doing so poorly? Three possible explanations were floated. One was that "passing" is easier for FMs, because of the power of

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[40] Kuiper & Cohen-Kettenis (1988, p. 440). Dhejne et al. (2011) examined the long-term outcomes of 324 people in Sweden receiving sex-reassignment surgery (SRS) over the period 1973-2003 (191 MFs, 133 FMs). Dhejne et al. concluded: "Persons with transsexualism, after sex reassignment, have considerably higher risks for mortality, suicidal behaviour, and psychiatric morbidity than the general population."
[41] Kuiper & Cohen-Kettenis (1988, p. 454).
[42] Kuiper & Cohen-Kettenis (1988, p. 454).
[43] Kuiper & Cohen-Kettenis (1988, p. 455).

testosterone.[44] Second, "society in general is inclined to take a milder view of women who dress and/or behave like men."[45] Finally, the MFs had transitioned later and were more likely to have married and to have children, with a consequent "heavier burden of a past life as a person of the original gender."[46,47]

One possibility that the Dutch researchers did not consider was that the FMs were doing better because their romantic relationships were easier to preserve after transition. As Hamburger reported from his correspondence in 1953, "No less than 10 women say, in so many words, that they want their sex changed in order to be able to marry their female friend or to have the relationship legalized."[48] Also apparently ignored was the related possibility that transition may appeal to young gay men and lesbians suffering from social disapproval of their homosexuality.[49]

## 3.5 The rationale for youth gender transition

Medically transitioning earlier gave patients a better chance to "pass" and reduced the "burden of a past life," so perhaps intervening at younger ages would improve transsexuals' quality of life. Cohen-Kettenis thought so. As sociologist Michael Biggs explains,

> Cohen-Kettenis believed that transsexuals would experience better outcomes if they started treatment before adulthood. By the mid-1990s, she was referring some patients aged 16 and 17 to the Amsterdam clinic for endocrinological intervention prior to cross-sex hormones … Johanna, for example, "fulfilled all necessary requirements for early treatment": she did not favor girly things (though neither did her sisters), she was fond of soccer, she never dated in school (perhaps not surprising given that she was homosexual), and her parents discovered her wearing a tight t-shirt to conceal her breasts … Brought to the clinic at 17, she was prescribed progestin for four months and then testosterone.

[44] This works both ways. First, testosterone can dramatically transform the female body; second, the effects of pubertal testosterone on the male body are hard or impossible to undo. See Section 7.4.
[45] Kuiper & Cohen-Kettenis (1988, p. 455).
[46] Kuiper & Cohen-Kettenis (1988, p. 456).
[47] See also Smith et al. (2005, p. 97).
[48] Hamburger (1953, p. 370).
[49] See Barnes (2023, pp. 159–164).

> Within two years Jaap (as Johanna had become) underwent mastectomy, hysterectomy, and oophorectomy, and obtained a new birth certificate.[50]

In 1991 Cohen-Kettenis and her colleague Louis Gooren lowered the eligible age for CSH to 16, but Cohen-Kettenis was not yet recommending puberty blockers (PBs).[51] The Dutch pediatric endocrinologist Henriette Delemarre-van de Waal had treated the first patient with blockers some years earlier, in 1987. “FG” was a girl with early-onset gender dysphoria:

> From the age of 5, FG “had made it very clear that I was supposed to be a boy.” It later transpired that FG was sexually attracted to women. FG’s father, an Italian with traditional views on gender, disapproved of his daughter’s masculinity, and serious conflict ensued. Extensive psychotherapy did not improve matters; FG wrote a suicide note at the age of 12.[52]

At age 13, FG was prescribed puberty blockers and remained on them until age 18, after which many surgeries followed, including mastectomy and hysterectomy.

FG had come to the Utrecht gender clinic three years after starting PBs; as Cohen-Kettenis recounts:

> I’ll never forget that first boy treated with Decapeptyl[53] by Henriette Delemarre. He made an impression with his boyish appearance at 16—naturally, because he hadn’t entered puberty. Henriette and I embarked upon the adventure. No one knew what the long-term effects of administering puberty blockers would be. Yes, I was nervous: suppose you’ve got it wrong with an adolescent like that and you have to reverse it![54]

With the collaboration of Cohen-Kettenis and Delemarre-van de Waal, the “Dutch Protocol” for youth medical transition was born.[55] As of 1997, for carefully selected

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[50] Biggs (2023b, p. 350).
[51] Bakker (2021, p. 118).
[52] Biggs (2023b, p. 350).
[53] The brand name of triporelin, a gonadotropin releasing hormone agonist (GnRHa); triptorelin acts on the pituitary gland, blocking puberty in adolescents. See Section 7.3.
[54] Bakker (2021, p. 115).
[55] Delemarre-van de Waal & Cohen-Kettenis (2006).

"juvenile transsexuals," with early-onset GD worsening at puberty, PBs could be given as early as 12.[56] Cross-sex hormones could be administered at 16, with surgeries at 18.[57] Patients were required to be otherwise mentally healthy and have family support.

FG was followed up 22 years later at age 35:[58]

> FG did not regret transition, but scored high on the measure for depression. Owing to "shame about his genital appearance and his feelings of inadequacy in sexual matters," he could not sustain a romantic relationship with a girlfriend. Ironically, a "strong dislike of one's sexual anatomy" is one of the diagnostic criteria for gender dysphoria in children (according to DSM-5), and so in this respect it is not clear how the dysphoria had been resolved … Now aged 48, FG has given two recent interviews. FG's situation seems to have improved, and he now has a serious girlfriend. He describes puberty suppression as "life-saving" in his case … but also recommends that it should require a significant assessment process.[59]

## 3.6 The spread of the Dutch Protocol and the rise of "gender-affirming care"

In the United States, HBIGDA endorsed puberty blockers in their sixth version of their clinical guideline, the *Standards of Care* (SOC-6, 2001):

> Two goals justify this intervention: a) to gain time to further explore the gender identity and other developmental issues in psychotherapy; and b) to make passing easier if the adolescent continues to pursue sex and gender change. In order to provide puberty delaying hormones to an adolescent, the following criteria must be met:

[56] Bakker (2021, p. 121).
[57] In fact, surgery was mandatory until 2014 (Gregory, 2021).
[58] Cohen-Kettenis et al. (2011).
[59] Biggs (2023b, p. 355).

> 1. throughout childhood the adolescent has demonstrated an intense pattern of cross-sex and cross-gender identity and aversion to expected gender role behaviors;
>
> 2. sex and gender discomfort has significantly increased with the onset of puberty;
>
> 3. the family consents and participates in the therapy.[60]

SOC-6 also erroneously characterized PBs as "fully reversible" (see Chapter 7). As Biggs points out, "the published evidence for the benefits of puberty suppression then comprised a single case study of one patient—FG—awaiting final surgery."[61]

In the U.S., PBs were first prescribed for GD at Boston Children's Gender Management Service (GeMS, now Gender Multispeciality Service) around 2007, with the U.K.'s Gender Identity Development Service (GIDS) following four years later.[62] GeMs did not set a minimum age limit, and in 2015 neither did the U.K.'s National Health Service.[63] The relatively strict gatekeeping of the Dutch Protocol soon gave way to a more patient-led approach (see Section 4.1. and Chapter 11). This occurred not just in the U.S. but other countries, including the U.K.:

> From 2014, puberty blockers moved from a research-only protocol to being available through routine clinical practice … In addition, the strict inclusion criteria of the Dutch protocol were no longer followed, and puberty blockers were given to a wider range of adolescents … These included patients with no history of gender incongruence prior to puberty, as well as those with neurodiversity and complex mental health presentations.[64]

HBIGDA became the World Professional Association of Transgender Health (WPATH) in 2007. Reflecting in 2009 on the "new paradigms [that] have emerged about the nature

[60] Harry Benjamin International Gender Dysphoria Association (2001, p. 10).
[61] Biggs (2023b, p. 353).
[62] GIDS was closed in March 2024; see also Barnes (2023).
[63] Biggs (2023b, p. 354).
[64] Cass (2024a, p. 73).

of transgender identity and experience," Lin Fraser, then President-elect of WPATH, wrote:

> The new model views gender as a continuum rather than a male/female dichotomy and calls for individualized gender trajectories, which may or may not include hormonal therapy and sex reassignment surgery.[65]

The seventh version of the *Standards of Care* (SOC-7) was published in 2012 and was a significant departure from SOC-6, moving away from medical gatekeeping and towards the "gender-affirming" model. For example, SOC-6 recommended that CSH be given only to patients aged 18 or older, who either had "real-life experience" ("living in the desired gender") or had been in psychotherapy for at least three months. SOC-7 had no age limit for CSH, only requiring that the adolescent give "informed consent" and that the parents or guardians have also "consented to the treatment and are involved in supporting the adolescent." Recommendations for psychotherapy or real-life experience were absent. SOC-7 effectively relegated the role of mental health professionals to provide assessments needed by insurance companies for reimbursement.

Another change was apparent from SOC-7's title. SOC-6 was the standards of care "for Gender Identity Disorders," but SOC-7 was "for the Health of Transsexual, Transgender, and Gender Nonconforming People." "Non-binary" would have to wait its turn, appearing for the first time in the current guideline, SOC-8 (2022), with a chapter dedicated to it.[66] The first version of the *Standards of Care* was authored by just six people and comprised slightly over 3,000 words; SOC-8 has more than 100 contributors and more than 100,000 words.

In 2011, Cohen-Kettenis and colleagues published a follow-up study of 70 adolescent patients who received PBs in the Netherlands between 2000 and 2008. The results

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[65] Fraser (2009, pp. 113–114, citations omitted). One of the citations omitted from the quotation is *The Apartheid of Sex: A Manifesto on the Freedom of Gender*, by Martine Rothblatt. Chapter 1 of that book is called "Five Billion Sexes," and begins: "There are two sexes, male and female, right? Wrong! In fact, there is a continuum of sex types, ranging from very male to very female, with countless variations in between" (Rothblatt, 1995, p. 1).

[66] A 2020 survey of U.S. youth aged 13-24 who identified as LGBTQ found that, of the 11,914 who identified as transgender or non-binary, more than 60% identified as the latter (A. E. Green et al., 2022, p. 645).

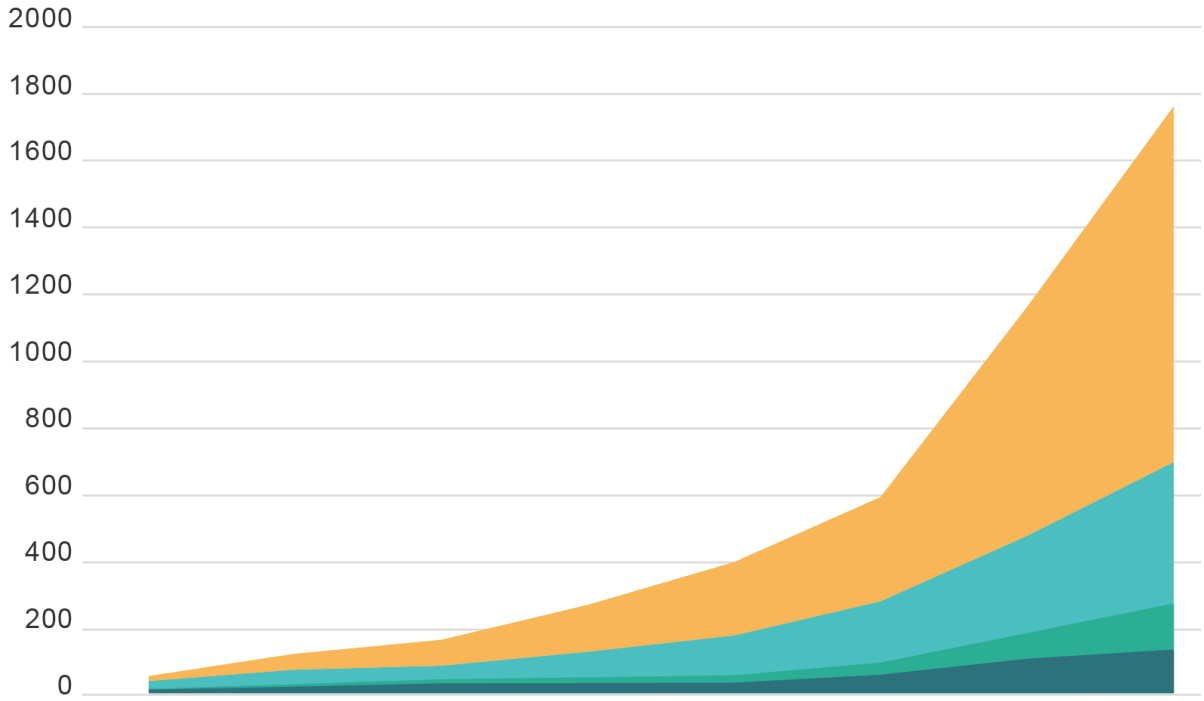
were interpreted as encouraging: “Behavioral and emotional problems and depressive symptoms decreased, while general functioning improved significantly during puberty suppression.”[67] A 2014 study of the same patient cohort after sex reassignment surgery—but with just 55 of the original 70 subjects—contained a similarly positive conclusion: “After gender reassignment, in young adulthood, the GD was alleviated and psychological functioning had steadily improved.”[68] These two studies form the foundational evidence base of the Dutch Protocol, and are widely cited to support it. (As subsequent analysis revealed, they do not: see Section 4.3.6.)

The previously observed tendency for early-onset GD patients to be gay continued with the Dutch cohort. Of the initial group of 70, only one reported heterosexuality; the other 69 reported either homosexuality (62), bisexuality (six), or “don’t know yet” (one).[69] (See also Section 13.3.1.)

Around the time Cohen-Kettenis and colleagues published their first study, clinicians started to observe a rapid increase in the pediatric patient population. More notably, the demographic profile of these patients was shifting, with adolescent females emerging as the predominant group. This trend is illustrated in Figure 3.1, which charts referrals to GIDS from 2009 to 2016.

[67] de Vries et al. (2011, p. 2276).
[68] de Vries et al. (2014, p. 696).
[69] de Vries et al. (2011, Table 1).

**Figure 3.1: Sex ratio in children and adolescents referred to GIDS in the U.K. (2009-16)**[70]




| | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|
| Adolescent F | 15 | 48 | 78 | 141 | 221 | 314 | 689 | 1071 |
| Adolescent M | 24 | 44 | 41 | 77 | 120 | 185 | 293 | 426 |
| Children F | 2 | 7 | 12 | 17 | 22 | 36 | 77 | 138 |
| Children M | 10 | 19 | 29 | 30 | 31 | 55 | 103 | 131 |

In a related trend, Western countries began reporting a growing number of adolescents who, often unexpectedly, disclosed a transgender identity—frequently to the surprise of their parents.[71] The number of pediatric patients seeking medical transition can only be roughly estimated,[72] but the demand in European countries has outstripped supply, with waitlists approaching 2 years or longer. In response to the growing demand, the U.S.—characterized by its decentralized and privatized healthcare system—saw the

[70] Reproduced from Cass (2024a, p. 70); original in de Graaf et al. (2018, Figure 1).
[71] See Section 4.3.1.4.
[72] According to the Human Rights Campaign (HRC), "there are more than 300,000 high school-aged (ages 13-17) transgender youth in the United States today, *many of whom need gender-affirming care*" (Human Rights Campaign, n.d.), emphasis added). See also Williams Institute (2024).

emergence of many new specialty gender clinics, along with a proliferation of independently practicing clinicians.[73] According to a recent conservative estimate, as of March 2023 there were 271 clinics offering PMT in the U.S., though 70 were inactive due to legislative restrictions.[74]

As clinical experience with treating youth with GD across the world has grown, concerns about the PMT model have become increasingly apparent. In response, public health authorities in several European countries have launched formal investigations into the practice. The most comprehensive is the U.K.'s 2024 Cass Review, mentioned in Chapter 1. As a result of such inquiries, some European health authorities are now restricting eligibility for medical transition and implementing new research requirements and safeguards. In the U.S., where government health authorities play a more limited role, and medical practice is primarily regulated at the state level, many states have turned to legislative measures to restrict or prohibit pediatric medical transition.[75]

As Hilary Cass observed in 2022, "it is not helpful to exceptionalise gender identity issues."[76] The consensus in pediatric gender medicine (PGM) of 10 years ago was driven by that exceptionalization, which has now begun to change. The following chapter explains why this change is underway.

[73] Levine et al. (2022a, p. 708).
[74] Borah et al. (2023, pp. 375–376).
[75] Harmon (2024).
[76] Cass (2022b).

# Chapter 4 International Retreat from the "Gender-Affirming" Model

Since the publication of the Dutch Protocol in 2006, the practice of "gender-affirming" (or "affirmative" care) has rapidly expanded. Now, a global reversal is underway. Several national health authorities have restricted hormonal and surgical interventions for minors. Section 4.1 provides a brief overview of the rise of pediatric medical transition (PMT) as the primary response to childhood and adolescent gender dysphoria (GD). Section 4.2 summarizes the ongoing practice reversal that is now taking place in an increasing number of countries. Section 4.3 explores the reasons behind these reversals.

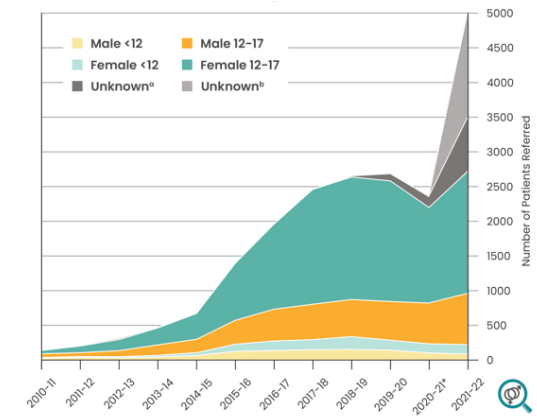
## 4.1 The rise of the affirmative care model

Following the publication of the Dutch Protocol in 2006,[1] puberty blockers (PBs) and cross-sex hormones (CSH) were incorporated into the Endocrine Society's 2009 clinical practice guideline (CPG),[2] which recommended that hormonal interventions should be used for certain pediatric patients with GD. This approach was also recommended by the World Professional Association for Transgender Health's (WPATH) guidelines in 2012.[3] Notably, these endorsements occurred before the final analysis of psychological outcomes from the original Dutch cohort was published in 2014[4]—and several years before the first systematic reviews of evidence (SRs) commissioned by public health authorities began to appear in 2019 and 2020.[5] During this same period, the number of children and adolescents reporting symptoms of GD and seeking medical intervention surged—a trend that has since become widespread across Western countries. At the same time, the epidemiological profile of patients changed markedly: while earlier

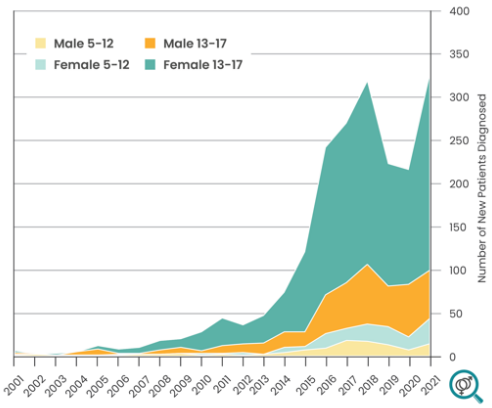
[1] Delemarre-van de Waal & Cohen-Kettenis (2006). Outcomes from the first patient cohort treated according to the protocol were published in 2011 and 2014 (de Vries et al., 2011, 2014).
[2] Hembree et al. (2009).
[3] The 2012 guidelines were the organization's seventh CPG (Coleman et al., 2012). The fifth and sixth CPGs, published in 1998 and 2001, briefly mentioned the potential use of "LHRH agonists" (Levine et al., 1998; Harry Benjamin International Gender Dysphoria Association, 2001), but the use of PBs as the central part of the treatment for adolescents did not emerge until the seventh version.
[4] de Vries et al. (2014).
[5] National Institute for Health and Care Excellence (2020b, 2020a); Pasternack et al. (2019).

cohorts consisted mainly of prepubertal boys, more recent referrals have been dominated by teenage girls (see Figure 4.1 below).

**Figure 4.1: Child and adolescent referrals for GD (U.K., left; Sweden, right)**[6]




*Referral activity to GIDS/Tavistock was sharply limited in 2020-2021 due to COVID-19.
[a]Beginning in 2018-19, increasing numbers of referrals are not reported by sex.
[b]Beginning July 2021, referrals made directly to GIDS are reported separately from those handled by the Arden & GEM referral management service. The Tavistock reports that Arden & GEM handled over 1500 additional referrals in 2021-22 (age and sex not reported separately).




Incidence data for 2001-2018 from the Swedish National Board of Health and Welfare[a] were applied to population counts by age/sex/year from Statistics Sweden[b] to produce estimated GD diagnosis counts. Incidence data for 2019-2021 were drawn from an update of "God vård av barn och ungdomar med könsdysfori, 2015" (Socialstyrelsen, 2022, unpublished).
[a]Socialstyrelsen, Utvecklingen av diagnosen könsdysfori - förekomst, samtidiga psykiatriska diagnoser och dödlighet i suicid, 2020.
[b]https://www.statistikdatabasen.scb.se/pxweb/en/ssd/START__BE__BE0101__BE0101A/BefolkningR1860N/

The scientific foundation for the rapid expansion of PMT was largely underpinned by two Dutch studies, published in 2011 and 2014,[7] which followed the same patient cohort. The first study, which focused on the use of PBs,[8] reported psychological outcomes in 70 adolescents who had completed the PB phase and were beginning CSH. The findings suggested modest “pre-post” improvements in some mental health measures following PB treatment—but notably, no improvement in GD itself, as assessed by the newly developed Utrecht Gender Dysphoria Scale (UGDS).

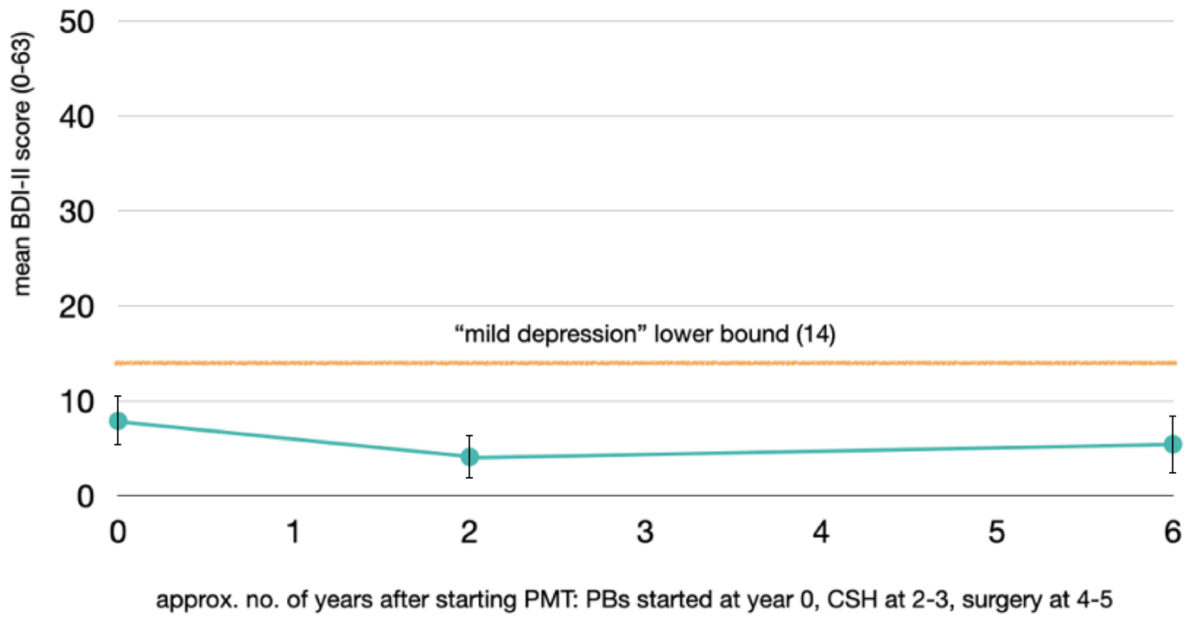
For more than a decade, many of the study’s methodological flaws remained largely overlooked. One of the study’s limitations was its retrospective selection of 70 subjects from a larger “intent-to-treat” group of 111 using non-randomized methods. This selection process inadvertently biased the sample toward cases with the most favorable prognoses, thereby limiting the generalizability of the study’s findings.[9]

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[6] Source: Society for Evidence-Based Gender Medicine (SEGM).
[7] de Vries et al. (2011, 2014).
[8] de Vries et al. (2011).
[9] The study’s inclusion criteria defined eligibility for analyzing the effects of puberty blockers (PBs) based on the start date of the subsequent phase—CSH. This approach introduced significant bias by excluding,

In 2014, a follow-up study was published assessing the participants' functioning after CSH and surgery.[10] The sample size was further reduced to just 55 participants, and critical measures of psychological health—such as depression, anxiety, and overall functioning—were assessed in as few as 32 participants. Moreover, although the reported improvements reached statistical significance, their clinical relevance was limited (see the depression scores plotted in Figure 4.2: the orange line indicates the *threshold* for "mild depression," with 63 being the maximum score; mean scores remained below the mild depression threshold at baseline and throughout treatment).

**Figure 4.2: Depression scores in Dutch cohort**[11]




Noting the high-functioning status of the adolescent/young adult cohort at the end of the study, the authors concluded that the Dutch Protocol provided patients with "the

from the outset, any subjects who discontinued treatment, underrepresenting psychologically complex cases who remained in the "diagnostic" PB phase for longer periods, and skewing the sample toward older subjects. Because eligibility hinged on starting CSH at 16, only those who reached this threshold were included—potentially explaining why the average age for initiating PBs in the study was 15, despite the protocol recommending initiation around age 12 (Abbruzzese et al., 2023).

[10] de Vries et al. (2014).

[11] Graph of data contained in de Vries et al. (2011) and de Vries et al. (2014); 95% confidence intervals added.

opportunity to develop into well-functioning adults."[12] The study failed to consider that the subjects were already high-functioning at baseline—comparable to Dutch peers without GD.[13] This was likely attributable, at least in part, to the original Dutch Protocol's stringent selection criteria.

Moreover, the study failed to account for or appropriately consider potential signals of harm. One participant died due to post-surgical treatment complications associated with early pubertal suppression,[14] at least three were diagnosed with uncontrolled diabetes or morbid obesity while on hormones, and at least one subject discontinued treatment.

These and other serious limitations—including subject selection bias and methodological flaws (such as the post-treatment reversal of the UGDS[15])—remained largely unacknowledged, even as the study became the foundational pillar[16] of PMT protocols worldwide. Attempts to replicate the Dutch findings regarding PBs in the U.K. were unsuccessful[17]—and the publication of those unfavorable results was delayed for several years.[18] It has also been reported that the attempts to replicate the benefits of PBs in a National Institutes of Health (NIH)-funded study in the U.S. yielded less-than-favorable results.[19]

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[12] de Vries et al. (2014, p. 696).
[13] As explained in Abbruzzese et al. (2023), the requirement of psychological stability was built into the protocol, and earlier research from the same clinic had stated that "when both pre- and posttest group means were compared with Dutch normative data, all scores turned out to be within the average range" (Smith et al., 2001, p. 277).
[14] de Vries et al. (2014) noted that "1 transfemale died after her vaginoplasty owing to a postsurgical necrotizing fasciitis" (p. 697). A 2023 analysis of the original Dutch papers found that the researchers "did not mention the fact that this death was a consequence of puberty suppression: the patient's penis, prevented from developing normally, was too small for the regular vaginoplasty and so surgery was attempted with a portion of the intestine, which became infected" (Biggs, 2023b, p. 8). See also Negenborn et al. (2017).
[15] The reversal of the GD scale post-surgery may have entirely invalidated the study's key finding of the resolution of GD post-treatment (Abbruzzese et al., 2023). Of note, another clinical research study in this field (López de Lara et al., 2020) also switched GD and body image scales.
[16] One of the authors of the original Dutch research noted, in 2022, that those papers are "still used as main evidence for provision of early medical intervention including puberty blockers in transgender youth" (de Vries, 2022, p. 109). The Cass Review's final report described that instead of the usual, slow evolution of clinical practice over "many years before strongly positive research findings are incorporated … the reverse happened in the field of gender care for children. Based on a single Dutch study … the practice spread at pace to other countries …" (Cass, 2024a, p. 13).
[17] Carmichael et al. (2021).
[18] See Chapter 6.
[19] Ghorayshi (2024c).

Spurred on by the belief in the success of the Dutch Protocol and its central premise—reliance on PBs —the expanding availability of PMT services was met by a surge in demand: "first gradually, then suddenly."[20] By 2015, nearly every European country was reporting a dramatic increase in the number of gender-dysphoric youth seeking hormonal interventions at pediatric gender medicine (PGM) clinics—a trend whose underlying cause remains the subject of ongoing debate. The endorsement of PMT was further solidified by the publication of the 2017 Endocrine Society (ES) guidelines,[21] co-authored by psychologist Peggy Cohen-Kettenis—the pioneer of the original Dutch Protocol—who had first introduced the recommendations for PMT into the 2009 ES guidelines, and later reinforced them in the 2012 WPATH *Standards of Care 7* guidelines (SOC-7).[22]

One striking characteristic of the surge of adolescents presenting with a wish to undergo medical transition is the disproportionate number of female adolescents without prior childhood history of GD who present with high rates of comorbid mental health conditions. This pattern drew the attention of Finnish researchers, who were the first to publish on these changing demographics and to raise concerns that the Dutch Protocol might not be helping—and might even be harming—patients.[23] Finland subsequently became the first country to revise its national guidelines,[24] sharply limiting medical interventions based on the findings of an SR.[25] In the years that followed, other countries began conducting their own evaluations of the evidence and arrived at similar conclusions. A global trend has since emerged, away from use of PBs, CSH, and surgeries in youth with GD. This ongoing reversal is explored in greater detail in the following section.

## 4.2 The international practice reversals

Starting in 2020, PMT began to face growing scrutiny from public health authorities worldwide, resulting in substantial reversals of clinical protocols in an increasing number

[20] Abbruzzese et al. (2023, p. 12).
[21] Hembree et al. (2017).
[22] Coleman et al. (2012); Hembree et al. (2009).
[23] Kaltiala et al. (2020); Kaltiala-Heino et al. (2015).
[24] Council for Choices in Health Care Finland (2020a, 2020b, 2020c).
[25] Pasternack et al. (2019).

of countries. The most influential effort to date has been the Cass Review—a four-year independent evaluation of PGM that was published in April 2024.[26] The findings of the Cass Review led to the closure of the U.K.'s PGM clinic, the Gender Identity Development Service (GIDS), which had been given a rating of "inadequate" by the Care Quality Commission in 2021.[27] The Cass Review recommended a restructuring of the care delivery model—away from the centralized "gender clinic" model of care toward a more holistic framework centering psychosocial support, to be delivered through regional hubs. The Cass Review's findings also led the U.K. to ban the use of PBs outside clinical trials,[28] and to significantly restrict CSH.[29] While CSH are still officially an available treatment, the National Health Service (NHS) recently revealed that since the Cass Review was published, no minor has been found eligible to receive CSH according to the updated policy.[30] In the U.K., minors have never received GD-related surgery through the NHS.

Finland was the first country to curtail PMT, issuing revised national guidelines in 2020.[31] In 2022, Sweden's National Board of Health and Welfare concluded that, for most young people, the potential harms of hormonal interventions outweigh the benefits, and subsequently restricted both to research settings or exceptional cases.[32] Denmark followed Sweden's lead in 2023, restricting the use of endocrine intervention in minors,[33] and Norway's public health agency (the Norwegian Healthcare Investigation Board) advised that PBs and CSH should be considered experimental treatments.[34] Most recently, hormonal interventions have been restricted in Brazil,[35] Chile,[36] the province of Alberta in Canada,[37] and the state of Queensland in Australia.[38]

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[26] Cass (2024a).
[27] Care Quality Commission (2021).
[28] Department of Health and Social Care (2024).
[29] National Health Service England (2024c).
[30] Spencer (2025).
[31] Council for Choices in Health Care Finland (2020a, 2020b, 2020c).
[32] Socialstyrelsen (2022a, 2022b, 2022c).
[33] Hansen et al. (2023). See also Society for Evidence-Based Gender Medicine (2023b).
[34] Block (2023b).
[35] AFP (2025).
[36] Lane (2024).
[37] Government of Alberta (2024).
[38] Australian Associated Press (2025).

At the same time, several other countries are in the process of determining how best to care for youth with GD. In Australia, following Queensland's statewide pause in January 2025 on initiating PBs and CSH for new patients under 18, the Australian Government commissioned the National Health and Medical Research Council with developing new clinical practice guidelines for youth with GD. The guidelines are expected to be completed within three years, with interim recommendations on PBs available in 2026.[39] In Italy, the Italian Bioethics Committee updated its position on the use of PBs for GD,[40] and a formal guideline development process is underway.[41] France is expected to release new national guidelines in 2025, which are expected to spark considerable debate due to anticipated endorsement of PMT[42]—a position previously criticized by the French National Academy of Medicine.[43]

Germany recently published guidelines[44] that continue to generate considerable debate in German-speaking countries, including Austria and Switzerland. The controversy stems from concerns about the non-evidence-based nature of the recommendations, their a priori reliance on WPATH positions, and deep divisions in the professional community[45] regarding the appropriate approach to caring for youth with GD. Even the Netherlands—the birthplace of the Dutch Protocol—has not been immune to debate.[46] In May 2024, the Dutch Minister for Medical Care formally requested that the Health Council of the Netherlands produce an independent scientific advisory report on healthcare for minors with GD. This ongoing review will include an evaluation of the Dutch Protocol and a comparison with other countries' guidelines.[47]

[39] Australian Government National Health and Medical Research Council (2025).
[40] Italian National Bioethics Committee (2024). See also Society for Evidence-Based Gender Medicine (2024d).
[41] Curridori (2024).
[42] Sugy (2024).
[43] Society for Evidence-Based Gender Medicine (2022a).
[44] German Society for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy (DGKJP) (2025).
[45] Zepf, Buchmann, et al. (2024).
[46] Society for Evidence-Based Gender Medicine (2023c).
[47] Health Council of the Netherlands (2024).

### 4.2.1 The Cass Review and its reception

The Cass Review has had a profound influence on international debates. Commissioned by NHS England, the Cass Review assessed the safety, efficacy, and delivery of PGM services for children and adolescents. Conducted over four years under the leadership of Hilary Cass, pediatrician and a past president of the Royal College of Paediatrics and Child Health, the review engaged a broad range of stakeholders and relied on SRs from the National Institute for Health and Care Excellence (NICE)[48] and the University of York,[49] as well as additional research. The Cass Review identified significant limitations in the evidence base for PBs and CSH. It recommended that PBs be offered only as part of a clinical trial until further data are available, and that all potential interventions should be tested within a research context.[50] The review emphasized a multidisciplinary, developmentally-informed model of care for youth with GD that prioritizes psychological support and the development of "an explicit clinical pathway … for non-medical interventions."[51]

Recent criticisms of the Cass Review—particularly claims that it fails to meet CPG standards—reflect a misunderstanding of the Cass Review's purpose and scope. The Cass Review was not a CPG; it was an "independent review." This is a U.K.-specific process of conducting a service-level evaluation intended to inform policy, not prescriptive clinical decisions. Such processes are invoked when an area of clinical care begins to operate in ways that compromise care quality and threaten patient safety.[52]

Criticism of the Cass Review appears to stem largely from a U.S.-based group of motivated advocates for the continued legality of PMT.[53] The critiques are ridden with

[48] National Institute for Health and Care Excellence (2020a, 2020b).
[49] Hall et al. (2024); Heathcote et al. (2024); Taylor, Hall, Heathcote et al. (2024a, 2024b); Taylor, Hall, Langton et al. (2024a, 2024b); Taylor, Mitchell, Hall, Heathcote et al. (2024); Taylor, Mitchell, Hall, Langton et al. (2024).
[50] "The overarching conclusion from the evidence presented in this Review is that the puberty blocker trial, which is already in development, needs to be one part of a much broader research programme that seeks to build the evidence on all potential interventions, and to determine the most effective way of supporting these children and young people" (Cass, 2024a, p. 197). See "Recommendation 6" (Cass, 2024a, p. 35).
[51] Cass (2024a, p. 157).
[52] Cheung et al. (2025).
[53] Of these, the white paper McNamara et al. (2024), produced by the Yale Integrity Project, has been most influential.

misrepresentations of the Cass Review and contain multiple factual errors.[54] In the U.K., the Cass Review has been widely accepted as a foundational document for realigning pediatric gender medicine (PGM) with the principles of evidence-based medicine (EBM) and child safeguarding.[55] It has been welcomed by both major political parties in the U.K., and was fully accepted by the NHS for implementation, which is well underway.[56]

## 4.3 Rationale for international reversals

A defining feature of these global reversals has been the rejection of the "gender clinic" model, which typically promotes PMT. Internationally, this model is increasingly being supplanted by more traditional, holistic approaches to adolescent distress. Rather than referring youth with GD to specialty clinics oriented toward transition, emerging models emphasize standard mental health services, where young people receive comprehensive psychosocial and psychotherapeutic support—and, when indicated, psychiatric care.

The global reversals away from PMT can be attributed to six main factors: a significant shift in the patient population; uncertainty surrounding the natural history and prognosis of GD; increasing recognition of the risks associated with medical interventions; a more accurate understanding of the suicide risk; the collapse of the original treatment rationale; and a weak underlying evidence base. The following subsections (1-6) examine each of these factors in turn.

### 4.3.1 Changes in the patient population

The population of young people for whom the Dutch Protocol was originally developed differs significantly from those presenting for care today.

#### 4.3.1.1 Epidemiological shifts

Over the past decade, the population presenting to PGM clinics has changed in two key ways: a rapid increase in numbers and a significant shift in demographic composition. Before hormonal interventions became widely available, pediatric referrals for GD were

[54] Cheung et al. (2025); McDeavitt et al. (2025).
[55] Abbasi (2024).
[56] National Health Service England (2024a).

relatively rare,[57] and the majority were prepubertal boys with early-onset GD.[58] Over the past decade, the increase in patients has been described as exponential,[59] a trend driven primarily by adolescent females who typically have no childhood history of GD.[60]

#### 4.3.1.2 Mental illness and neurodevelopmental diagnoses

The current patient population has a high rate (relative to the general population) of comorbid mental health problems, including depression, anxiety, suicidality, self-harm, and eating disorders; as well as neurodevelopmental conditions like autism spectrum disorder (ASD).[61] Importantly, register-based research conducted in Finland, which has national databases, found that 75% of patients presenting to PGM clinics in the mid-2010s had severe mental health problems that appeared to have *predated* the emergence of GD.[62] High rates of comorbid mental illness have been documented in the U.S. and other countries.[63]

The high prevalence of ASD among youth presenting with GD has been recognized for some time.[64] At the U.K.'s clinic, ~35% of patients had comorbid moderate-to-severe autistic traits (compared to <2% of the general population).[65] Although some researchers have postulated that the social difficulties in youth with these co-occurring conditions may not result from ASD but instead from GD and may be ameliorated by targeting this distress,[66] limited research thus far has not supported this hypothesis.[67] In

[57] For example, the U.K.'s clinic had 12 total referrals in 1994 and 24 in 1996; the number of referrals between its opening in 1989 and the year 2000 was 150 (Barnes, 2023, pp. 15–16).
[58] Steensma et al. (2018).
[59] E.g. Coleman et al. (2022, p. S9, S43); Baker & Restar (2022); de Vries et al. (2021); Olson-Kennedy, Okonta et al. (2018). The figure in McDeavitt et al. (2025) shows that the rate of increase in referrals to the U.K.'s clinic (for example) is well-approximated by an exponential. A Reuters investigation did not describe exponential growth but did find that referrals to PGM clinics have sharply increased in the U.S. (Respaut & Terhune, 2022).
[60] See Kaltiala-Heino et al. (2015, 2018); Taylor, Hall, Langton et al. (2024b); Thompson et al. (2022a); Wagner et al. (2021); Wood et al. (2013); Zhang et al. (2021). One study in this field claimed that there was no disproportionate increase in female adolescents (Turban, Dolotina et al., 2022). However, this finding was based on a survey in which there was "uncertainty as to whether transgender students responded to the sex question with their sex or gender identity" (Johns et al., 2019).
[61] See Becerra-Culqui et al. (2018); Kaltiala-Heino et al. (2015), (2018); Kozlowska et al. (2021); Taylor, Hall, Langton, Fraser, et al. (2024b); Thompson et al. (2022b).
[62] Kaltiala-Heino et al. (2015).
[63] E.g., Becerra-Culqui et al. (2018); Kozlowska et al. (2021).
[64] E.g. de Vries et al. (2010); Strang et al. (2018).
[65] Barnes (2023, p. 156).
[66] E.g., Ehrensaft (2016); Edwards-Leeper & Spack (2012); J. L. Turban (2018).
[67] Russell et al. (2021).

2018, recognizing the clinical entity of co-occurring GD and ASD traits, researchers published preliminary guidelines for this specific population of children and adolescents,[68] recommending that "due to differences in social communication, insight and flexible thinking … extended diagnostic periods should be considered in cases where [ASD] is suspected or diagnosed."[69]

#### 4.3.1.3 Nonbinary identities

The original Dutch research did not study patients with nonbinary identities; such patients were not deemed to be appropriate candidates for medical transition.[70] However, nonbinary identities now feature prominently in contemporary clinical settings and research populations. In a 2020 research project funded by the Trevor Project, for example, 63% of the 11,914 survey respondents identified as nonbinary.[71] In a study of youth who received mastectomies, 11% identified as nonbinary or "other."[72] This creates a new set of ethical challenges, as patients seek interventions that have never before been contemplated, including keeping patients in puberty-suppressed states for extended periods of time to allow them to maintain a sex-ambiguous appearance. The risks of such interventions may be considerable.[73]

#### 4.3.1.4 Social influence

The role of social influence is a likely factor in these epidemiological changes. In 2018, physician and researcher Lisa Littman popularized the phrase "rapid onset gender dysphoria," or ROGD, in the peer-reviewed literature, describing the clinical picture of

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[68] Strang et al. (2018).
[69] See description in Russell et al. (2021, p. 2074). In contrast to the 2018 Dutch guidelines that recommended more caution for patients with co-occurring ASD, leading specialists in the United States have criticized parents who are reluctant to consent to PMT for their autistic children. They have proposed clinicians "depend on drawings" for severely autistic, nonverbal adolescents who cannot speak but are able to draw pictures (Transparency Podcast, n.d.). See also: whistleblower account of therapist Tamara Pietzke (Section 11.4.3).
[70] de Vries et al. (2006, p. 88): "Adolescents whose wish for sex reassignment seems to originate from factors other than a genuine and complete cross-gender identity are served best by psychological interventions."
[71] A. E. Green et al. (2022).
[72] Ascha et al. (2022).
[73] In 2020, researchers published a case report in which clinicians considered the possibility of keeping an "agender" patient with low bone density on PBs for at least seven years in order to provide affirmation for this identity (Pang, Notini, et al., 2020). Contemporary WPATH guidelines have eliminated barriers to hormonal interventions and surgeries for minors with nonbinary and other identities.

"adolescent-onset or late-onset gender dysphoria where the development of gender dysphoria is observed to begin suddenly during or after puberty in an adolescent or young adult who would not have met criteria for gender dysphoria in childhood."[74] This phenomenon has also been described in research from the U.K.,[75] the Netherlands,[76] Finland,[77] and Canada.[78] Other terms have been used—e.g. "adolescent onset gender dysphoria," "postpuberty adolescent-onset transgender histories"[79]—for pubertal-onset gender dysphoria disproportionately affecting female adolescents.

Research into experiences of detransition and regret (detransition refers to stopping or reversing transition after having received medical and/or surgical interventions; it can overlap with but is not synonymous with regret) have suggested social influence or pressure have played a role in the transient transgender identifications of some patients.[80] Concerns about the possible role of social influence underlying epidemiological shifts in presentations have been articulated elsewhere in the literature,[81] including by some proponents of PMT.[82] WPATH's guidelines note that "susceptibility to social influence impacting gender may be an important differential to consider" for some adolescents; the guidelines also acknowledge "situations in which a young person experiences very recent or sudden self-awareness of gender diversity and a corresponding gender treatment request, or when there is concern for possible excessive peer and social media influence on a young person's current self-gender concept."[83]

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[74] Littman (2018, p. 2). This research surveyed 256 parents of children with adolescent-onset GD, finding that in roughly half the cases, the rapid onset of GD appeared to have coincided with the onset of similar distress within the children's friend groups, and with an increase in social media/Internet use. "Rapid onset gender dysphoria" appeared in scholarly work a year earlier, in a poster abstract by Littman in the *Journal of Adolescent Health* and (following Littman's research) also in Marchiano (2017).
[75] de Graaf et al. (2018); Hutchinson et al. (2020).
[76] de Vries (2020).
[77] Kaltiala-Heino et al. (2018); Kaltiala-Heino & Lindberg (2019).
[78] Zucker (2019).
[79] Kaltiala-Heino & Lindberg (2019); de Vries (2020).
[80] Littman (2021); Littman et al. (2024).
[81] Bailey & Diaz (2023); Wood et al. (2013).
[82] Edwards-Leeper & Anderson (2021); Shrier (2021b).
[83] Coleman et al. (2022, p. S45, S58).

### 4.3.2 Unclear natural history and prognostic uncertainty

Prior to the widespread availability of hormonal interventions, most cases of childhood GD resolved naturally by the end of puberty, with the majority of patients having a homosexual sexual orientation in adulthood.[84] The Dutch Protocol was developed on the assumption that only GD that persisted into adolescence would likely be permanent.[85] As referrals shifted toward patients with adolescent-onset distress, this assumption of permanence was generalized to all adolescent GD regardless of whether it *intensified* in adolescence or *appeared for the first time* in adolescence. The belief that any GD in adolescence is likely permanent and warrants medical treatment remains "central to the rationale for medical intervention" in adolescents.[86]

#### 4.3.2.1 New evidence about the natural history of gender dysphoria

Recent close examination of the literature has called into question the assumptions regarding the permanence of adolescent GD.[87] Although the natural history of GD—i.e., its course absent medical interventions—is currently impossible to measure given the wide availability of interventions, new evidence tentatively suggests that GD has a low diagnostic stability. For example, a German longitudinal analysis of an insurance claims database showed that over 70% of adolescent females aged 15-19 no longer had the

[84] The largest such study was Singh et al. (2021), which included a comprehensive overview of prior research on persistence of childhood GD (pp. 2–4). Some have argued that changes to diagnostic criteria—from the older "Gender Identity Disorder" (for which dysphoria, described as "discomfort," was a criterion) to the contemporary "Gender Dysphoria" diagnosis—render findings of older studies irrelevant (Temple Newhook et al., 2018). These arguments have been effectively countered (Zucker, 2018). (For the diagnostic criteria, see Appendix 2.) Low persistence rate of childhood GD has been recognized in the literature: e.g. "gender variant children, even those who meet the criteria for GID prior to puberty, for the most part are not gender dysphoric at a later age" (de Vries & Cohen-Kettenis, 2012, p. 306); also see Ristori & Steensma (2016, p. 6); Cohen-Kettenis & Gooren (1999).
[85] E.g. Cohen-Kettenis & Pfäfflin (2003); de Vries et al. (2006); de Vries & Cohen-Kettenis (2012); de Vries et al. (2014).
[86] Rosenthal (2021a, p. 585): "Longitudinal studies have indicated that the emergence or worsening of gender dysphoria with pubertal onset is associated with a very high likelihood of being a transgender adult. This observation is central to the rationale for medical intervention in eligible transgender adolescents."
[87] Byrne (2024a).

diagnosis five years later.[88] Another recent study from the Netherlands found that "gender non-contentedness" continues to decline steadily into the early twenties.[89]

#### 4.3.2.2 Concerns about identity development

There is considerable concern that "pubertal suppression may alter the course of gender identity development, essentially 'locking in' a gender identity that may have reconciled with biological sex during the natural course of puberty."[90] This concern is not new. Some early critics of the Dutch approach pointed out that initiation of hormonal interventions in early to mid-puberty "might affect the further development of gender identity, or … even iatrogenically induce persistence [of GD]."[91] In 2024, the European Academy of Pediatrics cautioned that puberty suppression may undermine long-term autonomy by creating a path dependency that leads to cross-sex hormones and surgery.[92] Several studies have suggested continuation rates from PBs to CSH exceed 90%.[93] The perception of PBs has shifted—from being seen as a reversible "pause button" to more like a "gas pedal" that accelerates medical transition.

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[88] Bachmann et al. (2024) was an insurance claims study looking at the International Classification of Diseases, tenth version (ICD-10) code F64 ("Gender Identity Disorder"), which was the billing code used in Germany over the course of the study period (Society for Evidence-Based Gender Medicine, 2024c). A recent *BMJ* analysis of claims data and medical records concluded that for some groups, including young people, "GD is not a permanent diagnosis" (Sun et al., 2023).

[89] Rawee et al. (2024, p. 1813). "Gender non-contentedness" was defined based on endorsement of item 110 in the Youth Self Report/Adult Self Report (YSR/ASR), "Wishes to be the opposite sex." Although item 110 is not synonymous with the diagnosis of GD, it is frequently used as a rough proxy for the clinical diagnosis as it captures the primary criterion of the desire to be the opposite sex. See Zucker (2005).

[90] Jorgensen et al. (2022, p. 1005). See also the Cass Review's final report: "Blocking [puberty] means that young people have to understand their identity and sexuality based only on their discomfort about puberty and a sense of their gender identity developed at an early stage of the pubertal process. Therefore, there is no way of knowing whether the normal trajectory of the sexual and gender identity may be permanently altered" (Cass, 2024a, p. 178).

[91] Korte et al. (2008, p. 839).

[92] Brierley et al. (2024).

[93] E.g., Brik et al. (2020); Carmichael et al. (2021); Karakılıç Özturan et al. (2023a); van der Loos, Klink et al. (2023); Wiepjes et al. (2018). Some have claimed that "the most likely explanation for why most youth who receive early, supportive interventions [i.e., puberty blockers] continue onto gender-affirming hormone therapy [is] that they are indeed transgender. It is not ... puberty-pausing medications that drive a persistent transgender identity" (McNamara et al., 2024, pp. 20–21). However, the very research studies that comprise the evidence base in this area recognized the possibility that the intervention may induce persistence; e.g., "Due to the observational character of the study, it is not possible to say if [puberty blocker] treatment itself influenced the outcome" (Brik et al., 2020, p. 2611); "[there is] the potential that treatment could influence the continuation of their GD" (Carmichael et al., 2021).

Social transition in childhood may have similar effects, with some low-quality studies suggesting the majority of children who socially transition[94] before puberty progress to medical interventions.[95] These patients "are likely [to] seek blockers or hormones."[96] Prepubertal transition was not recommended in the original Dutch approach (the researchers actually recommended *against* the practice),[97] but was originally championed by American clinicians.[98]

Prepubertal social transition is now recommended for certain patients, including in the Netherlands.[99] However, there are no reliable methods to distinguish which patients will experience long-term GD.[100] There is growing concern about administering irreversible treatments that may lead to lifelong medical dependency for a condition that, in many cases, may naturally resolve.

### 4.3.3 Concerns about treatment-associated risks and harms

Awareness of the risks and potential harms of PMT is growing.[101] Concern has been raised about the unknown or potentially harmful effects of suppressing normally timed puberty on adolescent physical and mental health, especially with regard to bone mineralization and brain development.[102] Hormonal interventions can lead to infertility and impaired sexual function, and in some cases, if the patient proceeds to genital

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[94] In this context, social transition refers to "a 'complete' binary social transition ... including changing their pronouns to the binary gender pronouns that differed from those used at their births" (Olson et al., 2022, p. 2), not to changes in hairstyle, clothing, etc.
[95] Olson et al. (2022, 2024). See also Society for Evidence-Based Gender Medicine (2022b).
[96] Olson et al. (2022, p. 4).
[97] E.g., "In a qualitative follow-up study, several youths indicated how difficult it was for them to realize that they no longer wanted to live in the role of the other gender and to make this clear to the people around them… Another reason we recommend against early transitions is that some children who have done so (sometimes as preschoolers) barely realize that they are of the other natal sex. They develop a sense of reality so different from their physical reality that acceptance of the multiple and protracted treatments they will later need is made unnecessarily difficult. Parents, too, who go along with this, often do not realize that they contribute to their child's lack of awareness of these consequences" (de Vries and Cohen-Kettenis, 2012, p. 308).
[98] E.g. Ehrensaft (2016); Olson et al. (2016).
[99] Bazelon (2022a).
[100] Cass (2024a, pp. 22, 134, emphasis added). "… clinicians have told us *they are unable to determine with any certainty* which children and young people will go on to have an enduring trans identity … Many clinicians, both nationally and internationally, have [acknowledged] that there is *no reliable way to accurately predict* which young people might benefit from a medical transition and which might benefit from alterative pathway(s) or interventions(s)."
[101] See Chapter 7 for detailed discussion.
[102] E.g., Baxendale (2024); Biggs (2021).

procedures, riskier operations.[103] Surgical procedures themselves carry the risk of complications.

The emergence of detransitioners has brought renewed attention to a risk acknowledged in the original Dutch Protocol, which is that initiating medical transition while a young person's identity is still developing carries the risk of "false positives"—patients who undergo irreversible hormonal and/or surgical interventions but ultimately do not continue to identify as transgender.[104] In the past five years, a growing body of research and peer-reviewed literature has examined the phenomena of detransition and regret.[105] Personal accounts from detransitioned patients who report having been harmed by PMT have played a significant role in drawing public and regulatory attention to these issues.[106]

### 4.3.4 More appropriate understanding of suicide

Proponents of PMT often describe it as lifesaving.[107] Some physicians recommending PMT have urged anxious parents to consent to irreversible interventions for their distressed children, warning that not doing so may increase the risk of suicide.[108] Such claims are not supported by the evidence and have been criticized as unethical.[109]

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[103] See Lee et al. (2023), for example.
[104] Delemarre-van de Waal & Cohen-Kettenis (2006, p. S132). "It is conceivable that lowering the age limit increases the incidence of 'false positives.'"
[105] E.g. Entwistle (2020); Littman (2021); MacKinnon, Expósito-Campos et al. (2023); Roberts et al. (2022).
[106] According to a Reuters investigation, a patient told her gender clinic at age 16 that she was "sure of my identity … I thought nothing would change my mind." After starting CSH she experienced worsening mental health and had several suicide attempts and psychiatric hospitalizations. She detransitioned at age 20 and identifies as a lesbian: "I do wish my doctors had said to me, 'It's OK to feel disconnected from your body. It's OK to like girls. It's OK to be gender non-conforming'" (Respaut et al., 2022). For an overview of the role of detransitioner Keira Bell in drawing regulatory attention to pediatric gender medicine in the U.K., see Cass (2024a, pp. 78–80).
[107] E.g., ACLU (2021); Boerner (2022, 3/31/2025 update); Georges et al. (2024); Lee & Rosenthal (2023); Sandhu et al. (2025); Szilagyi (2022b); The Lancet Child & Adolescent Health (2021). See also Section 1.2.
[108] In 2011, Johanna Olson-Kennedy, pediatrician and leader in the field of pediatric gender medicine, told ABC News that "We often ask parents, would you rather have a dead son than a live daughter?" (ABC News, 2011). See also Singal (2018).
[109] E.g., Clayton (2023); Levine et al. (2022a).

Adolescents and adults with GD do exhibit higher rates of suicidality—including suicidal thoughts, self-harm, and suicide attempts—compared to the general public.[110] However, completed suicide among adolescents with GD remains rare.[111] Moreover, there is no evidence that elevated suicidality can be attributed solely to GD, as it frequently co-occurs with other mental health conditions. A 2020 report by the Swedish National Board of Health and Welfare (Socialstyrelsen) concluded that "people with gender dysphoria who commit suicide have a very high rate of co-occurring serious psychiatric diagnoses, which in themselves sharply increase risks of suicide … it is not possible to ascertain to what extent GD alone contributes to suicide."[112]

Table 4.1 reports suicide rates from four PGM clinics and notes whether the suicides were in patients who had received hormonal interventions.

[110] E.g., Biggs (2022); Erlangsen et al. (2023); Heino et al. (2023); Marconi et al. (2023); Van Cauwenberg et al. (2021); Wiepjes et al. (2020).
[111] Biggs (2022); Ruuska et al. (2024); Society for Evidence-Based Gender Medicine (2023a).
[112] Socialstyrelsen (2020); see also Ruuska et al. (2024). Additionally, de Graaf et al. (2022) found that adolescents with GD or transgender identification had similar self-reported suicidality measures to comparator adolescents without GD who were receiving specialized mental healthcare for other psychiatric diagnoses.

**Table 4.1: Suicide mortality in youth referred to pediatric gender medicine clinics (with estimated per 1,000 patient-years rates)**

| Study; Country | Age range | Years | Referred youths | Suicides | % | Per 1K patient-years | Were patients who died by suicide taking PBs and/or CSH? |
|---|---|---|---|---|---|---|---|
| **Van Cauwenberg et al. (2021); Belgium** | 12–18 | 2007–2016 | 148 | 5 | 3.38 | 11.26 | All suicides among patients taking CSH |
| **Chen et al. (2023); U.S.** | 12–20 | 2016–2021 | 315 | 2 | 0.63 | 3.17 | All suicides among patients taking CSH |
| **Ruuska et al. (2024); Finland** | <23 | 1996–2019 | 2,083 | 7 | 0.34 | 0.51 | Unknown (38% of cohort treated with PBs and/or CSH) |
| **Biggs (2022); U.K.** | <18 | 2010–2020 | 15,032 | 4 | 0.03 | 0.13 | Unknown (59% of cohort treated with PBs and/or CSH) |

*Table adapted from Society for Evidence-Based Gender Medicine (2024a).*

Further, the evidence for whether PMT reduces *suicidality*-related outcomes in adolescents—such as self-reported frequency of suicidal thoughts, or healthcare utilization for self-harm or suicide attempts—is inconsistent.[113] When the focus turns to preventing *suicide mortality*, there is no evidence that hormonal interventions are effective. A large, register-based study from Finland found that overall suicide mortality in patients with GD was rare and that when mental health comorbidities were controlled for, the rate did not differ from that of the general population. The study authors concluded that hormonal interventions did not appear to have impacted suicide risk.[114]

[113] Small to medium-size studies have reported improvement over time in self-report scores related to suicidality (Achille et al., 2020; Allen et al., 2019) or decrease in healthcare utilization for suicidal or self-harm behavior (Kaltiala et al., 2020; Khatchadourian et al., 2014); other larger studies found the percent of patients with suicidal thoughts/behaviors increased after initiating PBs/CSH (Kuper et al., 2020) and increases in healthcare utilization related to suicidality (Hisle-Gorman et al., 2021). Kuper et al.'s before-after comparison is compromised by the unequal time periods over which suicidality was measured.
[114] Ruuska et al. (2024).

An SR of suicide prevention for youth with GD rated the evidence as low quality,[115] and WPATH's own SR of mental health outcomes, which focused on adult populations, acknowledged that "It was impossible to draw conclusions about the effects of hormone therapy on death by suicide."[116] As summarized in the Cass Review's final report, "it has been suggested that hormone treatment reduces the elevated risk of death by suicide in this population, but the evidence found [does] not support this conclusion."[117] Consequently, claims that PMT is "lifesaving" appear to be unsupported by the evidence.

These findings also have been confirmed by the Appleby Report, commissioned by the U.K. government, which reviewed suicides among young people with GD. The report strongly criticized the way suicide and GD have been discussed on social media, characterizing it as insensitive, distressing, dangerous, and in violation of established guidance on the safe reporting of suicide. Appleby emphasized that many of the public claims made about suicide do not meet basic standards for statistical evidence. The report also urged a shift away from viewing PBs as the primary marker of supportive care, warning that such a narrow focus oversimplifies complex clinical needs.[118]

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[115] Christensen et al. (2025). Similar findings were also reported in a recent narrative review focused on adults (Jackson, 2023). With respect to surgeries, evidence is limited. A recent systematic review of mastectomies in young females found very low certainty evidence with respect to effect on death by suicide (Miroshnychenko et al., 2024).

[116] Baker et al. (2021, p. 12). Another more recent systematic review also found very low certainty evidence for the effect of CSH on death by suicide (Miroshnychenko, Ibrahim et al., 2025).

[117] Cass (2024a, p. 33). An example of commonly cited evidence—e.g., American Psychological Association (2024b); The Lancet Child & Adolescent Health (2021), via reference to Rew et al., (2021); Turban (2020)—in support of this suggestion is Turban, King et al. (2020), a cross-sectional analysis of Internet-based survey data that found that respondents who had accessed PBs had lower lifetime suicidal ideation when compared to those who had wanted PBs but not accessed them. The online survey, the 2015 U.S. Transgender Survey (USTS) (James et al., 2015), had multiple methodological weaknesses. For example, it was a convenience sample, likely not representative of transgender adults in the U.S, and respondents may have confused PBs for CSH (Biggs, 2020; Clayton et al., 2021). Additionally, the survey relied on adult respondents' retrospective recall of childhood and adolescence, and such memories "are subject to confabulation, modification, bias, and simply forgetting;" for example, "31% of respondents recalled realizing they were transgender by age 5, including some who recalled they were transgender at the age of 1 and 2—long before autobiographical memories begin" (Kulatunga Moruzi & Lawler, 2024, pp. 11, 4). The Turban et al. study has also been criticized for its inaccurate assumption that PBs for GD were available in the U.S. starting in 1998, and it has been pointed out that on multivariate analysis, there were no statistically significant between-group differences on five other measures of suicidality, including history of suicide attempts (Biggs, 2020; Clayton et al., 2021).

[118] Appleby (2024).

### 4.3.5 Collapse of clinical rationale

An original rationale for prescribing PBs, as outlined in the Dutch Protocol, was to provide adolescents with "time to think" by pausing puberty, thereby allowing for the exploration of identity without the added distress of physical development.[119] However, as noted earlier, data suggest that the vast majority of adolescents who start PBs go on to take CSH.[120] This means that PBs may not function as a neutral pause, but rather the first step on the path to medical transition. This has prompted many experts to abandon the "time to think" rationale, a reversal reflected in more recent WPATH guidelines and professional statements.[121] PBs and CSH are now understood to be a continuous treatment pathway.[122]

Given the risk profile of PBs as outlined in Chapter 7, and the possibility that their use may lead to lifelong medical dependency carrying additional long-term risks, their role in the current treatment paradigm is unclear. In male patients, testosterone suppression can be achieved with anti-androgens alongside estrogen for feminization. In female patients, testosterone alone effectively suppresses estrogen, while also inducing masculinization. Therefore, if PBs are not being used to provide time to think, their rationale in this context remains uncertain.[123]

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[119] Delemarre-van de Waal & Cohen-Kettenis (2006).

[120] See Section 4.3.2.2.

[121] Although WPATH's 2012 guidelines stated (consistent with the original Dutch research) that PBs would "[give] adolescents more time to explore their gender nonconformity and other developmental issues," (see Coleman et al., 2012, p. 177), this clinical rationale is absent in the latest version of the organization's guidelines, Coleman et al. (2022). A recent article by leaders in the field about eligibility and screening evaluations for patients interested in PBs made no mention of the "time to think" rationale (Turban et al., 2025). See also amicus brief acknowledging that PBs and CSH should not be considered separate treatment pathways because they constitute a "care continuum" and "the vast majority of adolescents with gender dysphoria who receive puberty blockers progress to cross-sex hormone therapy" (U.S. v. Skrmetti (No. 23-477), Expert Researchers and Physicians, Amicus curiae brief, 2024).

[122] There are exceptions to this understanding; some research papers and organizations still claim PBs provide time to think (e.g. Fisher et al., 2024; U.S. v. Skrmetti (No. 23-477), American Academy of Pediatrics and Additional National and State Medical and Mental Health Organizations, Amicus curiae brief, 2024, p. 13).

[123] The Cass Review found that although there may be "a very narrow indication for the use of puberty blockers in birth-registered males as the start of a medical transition pathway in order to stop irreversible pubertal changes," there were no other reasonable, proven rationales for use of PBs, and, notably, no indication for use of PBs in females (Cass, 2024a, p. 180). Experts have questioned "the rationale for depriving an adolescent of sex hormones for years during puberty and risking the effects on bones and brains" (Ryan, 2024b).

### 4.3.6 Lack of reliable evidence of benefit

The original intent behind the use of hormonal interventions in pediatrics was to improve mental health outcomes[124] by preventing sexual development and causing the development of physical characteristics typical of the other sex. This approach was based on the hypothesis that avoiding "an unfavorable physical appearance"[125] would "improve the ability to 'pass' as the desired gender."[126] While these interventions do alter physical appearance, SRs have not found credible evidence that they lead to meaningful improvement in mental health.[127] Multiple SRs have concluded that the evidence supporting the benefits of pediatric transition interventions—from PBs to CSH and surgery—is of "very low certainty." (See Chapter 5.) This means that findings from studies reporting mental health improvements[128] are not considered reliable. In contrast, all medical interventions carry the potential for harm.

Ultimately, medical interventions should be used when the balance of benefits clearly outweighs the risks. Every public health authority that has conducted a systematic

[124] Researchers were originally motivated to initiate hormonal interventions in children and adolescents because they were concerned about poor mental health in adult patients and hoped to mitigate this by preventing development of sex characteristics that were distressing for these adults (discussed in more detail in Chapter 3).
[125] Delemarre-van de Waal & Cohen-Kettenis (2006).
[126] Costa et al. (2015).
[127] The other original clinical rationale was decreasing need for future surgeries. One study has reported that female patients who started PBs early in puberty were less likely to receive mastectomies than patients who started PBs later, suggesting relative lack of breast tissue precluded need for mastectomy. However, this study also found greatly increased odds of intestinal vaginoplasty in male patients who received PBs in early puberty (van de Grift et al., 2020). One adolescent mastectomy study suggested chest-related dysphoria increased after testosterone use (Olson-Kennedy, Warus, et al., 2018). Theoretically, increasing chest dysphoria could lead to pursual of mastectomy. In the adult literature there have been reports of females undergoing hysterectomy due to pelvic pain caused by reproductive organ atrophy (e.g., Zwickl et al., 2023).
[128] Across the studies looking at mental health outcomes, statistically significant improvements have been inconsistently reported. Of longitudinal mental health outcome studies in this field, some reported improvements in one or more mental health outcomes (Achille et al., 2020; Allen et al., 2019; Chelliah et al., 2024; Chen et al., 2023; de Vries et al., 2011, de Vries et al., 2014; Fisher et al., 2024; Kaltiala et al., 2020; Kuper et al., 2020; Lavender et al., 2023; López de Lara et al., 2020; Olson-Kennedy et al., 2025); the largest study found worsening in mental health outcomes (Hisle-Gorman et al., 2021), while others reported no change (Becker-Hebly et al., 2020; Cantu et al.. 2020; Carmichael et al., 2021; Eisenberg et al., 2024; Khatchadourian et al., 2014; Russell et al., 2021; Tordoff et al., 2022). One study reported similar improvement in a group treated with PBs and a group treated with psychotherapy only (Costa et al., 2015).

review of the evidence has concluded that the benefit/risk profile of PMT is either unknown or unfavorable.

PART 2

# EVIDENCE REVIEW

# Chapter 5 Overview of Systematic Reviews

This chapter reviews the best available information regarding the risks, benefits, and uncertainties of interventions commonly used to address gender dysphoria (GD) in youth. It summarizes the findings of the overview of systematic reviews (SRs) (also known as an "umbrella review") conducted for this Review. Section 5.1 defines some terminology and describes the methodology used to produce the overview of SRs. Sections 5.2-5.6 summarize the overview's findings for the following interventions: social transition; puberty blockers (PBs); cross-sex hormones (CSH); surgery; and psychotherapy. The chapter concludes with a discussion section (5.7).

Chapter 6 explains the limitations of SRs and the need—especially in the context of pediatric gender medicine (PGM)—to consider other types of scientific evidence. Chapter 7 is an overview of those other types of evidence, including evidence from basic science, from known mechanisms of drug action, and from endocrinological disorders that approximate the effects of medical transition. This broader base of evidence allows for a more comprehensive assessment of potential harms. Chapter 8 briefly summarizes the implications of these findings for decision-makers.

## 5.1 Methodology

A fundamental principle of evidence-based medicine (EBM) is that optimal decision-making "requires awareness of the best available evidence, which ideally will come from systematic summaries of that evidence."[1] The cornerstone of EBM is the *systematic review*,

> [which] attempts to collate all empirical evidence that meet prespecified eligibility criteria in order to answer a specific research question. It uses explicit, systematic methods that are selected with a view to minimizing bias, thus providing more reliable findings from which conclusions can be drawn and decisions made.[2]

[1] Guyatt et al. (2015, p. 10).
[2] Higgins et al. (2019, p. xxiii).

The conclusions of any individual study will be limited by study design and other factors. Collating, synthesizing, and assessing all relevant studies on the topic of interest, using systematic and reproducible methods to minimize biases and mistakes, makes more reliable conclusions possible.

SRs sit atop of the "hierarchy of evidence."[3] However, not all literature reviews are SRs, even when titled as such, so it is important to evaluate the process used in the production and reporting of any evidence review that claims to be an SR. For example, the "Cornell Review" has been extensively cited in the field of PGM to support a claim of low regret, but that review's findings are undermined by poor methodology.[4] Similarly, a recent review commissioned by lawmakers in Utah has been cited as showing the safety of PBs and CSH, but this review lacks a methodologically valid evidence appraisal, among other problems.[5]

An overview of SRs essentially applies the methodology of SRs to SRs themselves, making the SRs the unit of analysis, rather than individual primary studies. In the present case, an overview of SRs was prepared because the field is already saturated with SRs, many of which evaluate the same studies. By assessing the quality of these SRs, an overview allows for a clearer understanding of the overall strength, consistency, and gaps in the evidence base.

The methodology of the overview followed the recommendations for overviews of SRs in the *Cochrane Handbook for Systematic Reviews of Interventions*.[6,7] Medline, Embase, and the psychological database PsycINFO were searched for SRs on the effects of social transition, PBs, CSH, surgeries, and psychotherapy for youth with GD

[3] See Appendix 3.
[4] Cornell University & What We Know Project (2017). The relevance of the Cornell Review to PMT is anyway slight, because the target population was mature adults, and thus is not clearly applicable to children and adolescents with GD (see Section 4.3.1.1). The Cornell Review was not included in the present overview for this reason. The review claimed that "regrets are most likely to result from a lack of social support after transition or poor surgical outcomes using older techniques." But evidence from included studies was not properly synthesized, nor was evidence quality assessed. The findings should therefore be interpreted with caution.
[5] University of Utah College of Pharmacy, Drug Regimen Review Center (2025); cited by Dowshen et al. (2025). See Section 5.7.3 and Appendix 4, Section 2.4.
[6] Higgins et al. (2019).
[7] See Appendix 4 for the detailed methodology and results of this overview.

up to age 26 years.[8] A complementary literature search was also conducted for "grey literature"[9] and reference lists of eligible SRs. Two reviewers independently screened titles and abstracts, and then full texts, to determine study eligibility. Reviewers resolved disagreement by discussion. The Risk of Bias Assessment Tool for Systematic Reviews (ROBIS) was used to assess the included SRs.[10] Data extraction and risk of bias assessment were completed by one reviewer and checked by a second. ROBIS assesses the quality of the SR in four domains: (1) study eligibility criteria; (2) identification and selection of studies; (3) data collection and study appraisal; and (4) synthesis of findings. Additionally, ROBIS assesses the overall risk of bias in an SR's process. SRs with concerns identified in the four domains can still be assessed at low risk of bias if the SRs have properly addressed those concerns in the evidence interpretation.

The following five sections of this chapter summarize the outcome data across SRs published in English and classified at low risk of bias. The evidence synthesis was organized by the outcomes of interest for each treatment strategy. These outcomes included GD, mental health and well-being, physiologic effects (e.g., suppression of sex hormones for PBs), need for or progression to further treatment, safety outcomes including side effects and adverse outcomes, and regret. For each outcome, this overview summarized the effect estimates and the quality of evidence (the confidence in the effect estimates), following the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) methodology.

In GRADE, quality of evidence is equivalent to certainty of evidence.[11] Quality of evidence can be downgraded for various reasons: risk of bias (study limitations), inconsistency (unexplained variation in results), indirectness (evidence not directly

[8] SRs in this area have usually involved patients under 18 or under 26. To encompass the inclusion of those aged 18, the Review made the decision to search for SRs for patient populations below the age of 26. This balances the comprehensiveness and the directness (applicability) of evidence review. Though there is concern regarding the directness of evidence, the evidence for <18 and patients who are older than 18 years did not identify any significant differences in outcomes.
[9] "Gray literature" refers to research and information produced outside of traditional academic publishing channels and therefore may not be formally peer-reviewed or indexed in major databases.
[10] Whiting et al. (2016).
[11] "The quality of evidence is very low" is equivalent to "the certainty of evidence is very low" (Balshem et al., 2011; Guyatt et al., 2008).

applicable), imprecision (wide confidence intervals or small samples), and publication bias (selective reporting).[12] Conversely, quality may be upgraded if there is a large effect size, a clear dose-response relationship, or if confounding factors would likely reduce the observed effect but the effect was nonetheless observed.[13]

Evidence is then classified into four categories by level of quality: high, moderate, low, or very low.[14] High quality evidence means that "we are very confident that the true effect lies close to that of the estimate of the effect." Very low quality evidence indicates that "we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect." This overview summarizes the GRADE ratings from the original SRs for the respective outcome wherever it is available. Nevertheless, two modifications were made:

1. Where a formal GRADE appraisal had not been performed by the SR, but expressions such as "we are very uncertain" or "no conclusions could be drawn" were used in the SR's conclusions, these were considered equivalent to a "very low quality" GRADE assessment.[15]

2. Where SRs disagreed on GRADE assessment for the same outcome, this overview resolved the disagreement with *de novo* assessment following the GRADE methodology and reported the rationale.

After screening, 17 SRs met the inclusion criteria. These examined the effects of social transition (n = 2),[16] PBs (n = 9),[17] CSH (n = 8),[18] surgery (n = 3),[19] and psychotherapy (n

[12] Balshem et al. (2011); Guyatt et al. (2008); Guyatt, Oxman, Kunz, Brozek et al. (2011); Guyatt, Oxman, Kunz, Woodcock, Brozek, Helfand, Alonso-Coello, Falck-Ytter et al. (2011); Guyatt, Oxman, Kunz, Woodcock, Brozek, Helfand, Alonso-Coello, Glasziou et al. (2011); Guyatt, Oxman, Montori, et al. (2011); Guyatt, Oxman, Vist et al. (2011).
[13] Guyatt, Oxman, Sultan et al. (2011).
[14] Balshem et al. (2011). See also Appendix 3.
[15] Balshem et al. (2011); Santesso et al. (2020).
[16] Dopp et al. (2024); Hall et al. (2024).
[17] Chew et al. (2018); Dopp et al. (2024); Ludvigsson et al. (2023); Miroshnychenko, Roldan et al. (2025); Ramos et al. (2021); Rew et al. (2021); Taylor, Mitchell, Hall, Heathcote et al. (2024); Thompson et al. (2023); Zepf, König et al. (2024).
[18] Chew et al. (2018); Dopp et al. (2024); Karalexi et al. (2020); Ludvigsson et al. (2023); Miroshnychenko, Ibrahim et al. (2025); Taylor, Mitchell, Hall, Langton et al. (2024); Thompson et al. (2023); Zepf, König et al. (2024).
[19] Dopp et al. (2024); Miroshnychenko et al. (2024); Thompson et al. (2023).

= 5)[20] among children or adolescents with GD. Of the 17 included SRs, 10 were rated as having a low risk of bias overall.[21] SRs rated as a "low risk of bias" nevertheless may still have limitations in one or more domains. Seven SRs were rated as having a high risk of bias overall,[22] often due to limited or poorly defined research questions and eligibility criteria, lack assessment for risk of bias, and inadequate synthesis of findings. The variation in methodological rigor highlights the need for cautious interpretation of findings, especially from reviews rated at high risk of bias.

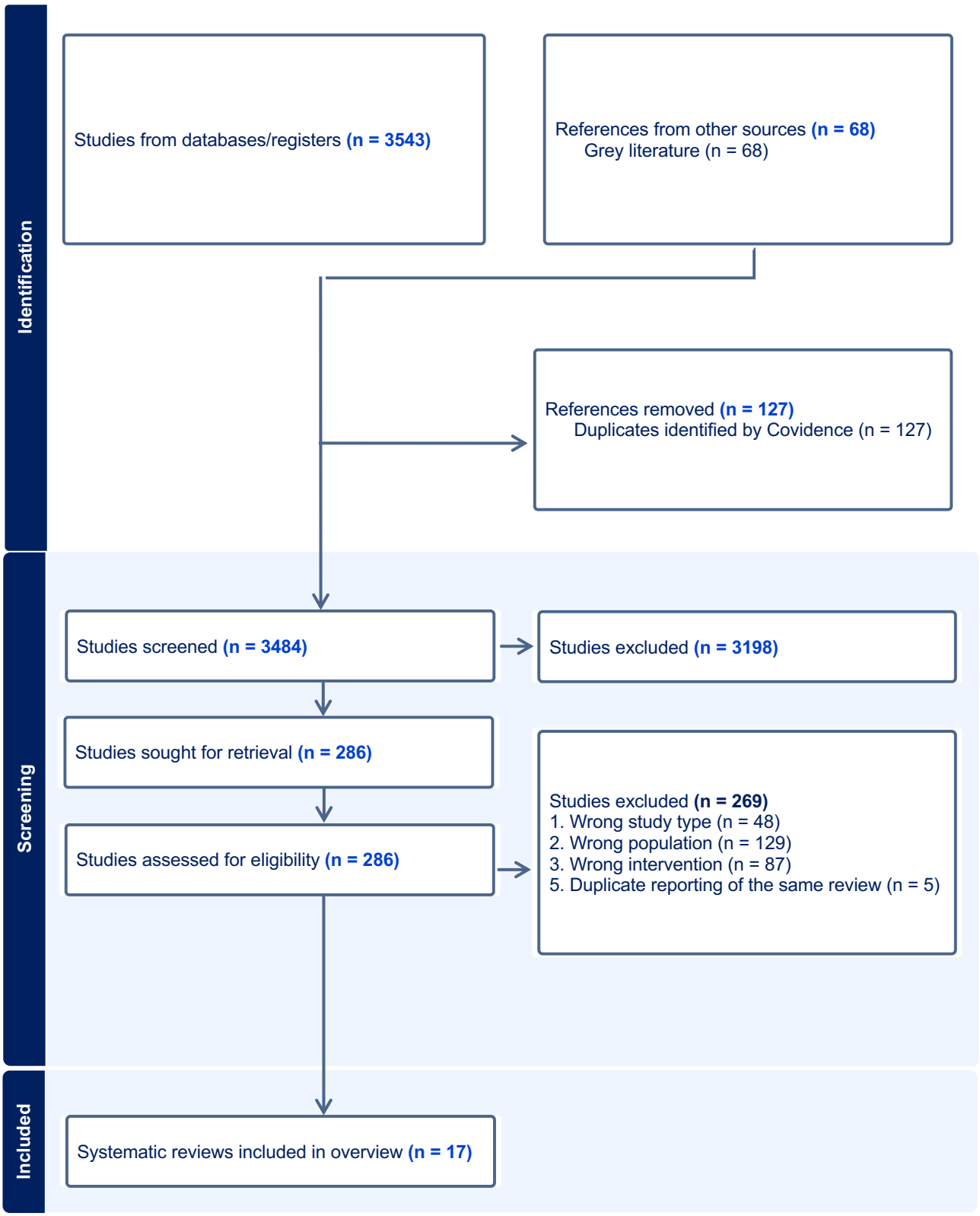
Of note, this overview excluded two SRs performed by the National Institute for Health and Care Excellence (NICE) in October 2020 to inform the Cass Review.[23] These were excluded because several subsequent SRs commissioned from the University of York to inform the Cass Review were published. The latter SRs are more comprehensive and updated the findings of the two NICE SRs.

This overview also excluded the 2021 SR by Baker et al.,[24] because participants in most of the included studies for that SR were mature adults. Notably, the Baker et al. review was cited to support Statement 2.1 in the World Professional Association for Transgender Health's *Standards of Care for the Health of Transgender and Gender Diverse People*, Version 8 (WPATH SOC-8).[25] That statement—"We recommend health care systems should provide medically necessary gender-affirming health care for transgender and gender diverse people"—was then cited in support of the recommendations in SOC-8's Adolescent chapter. Because of the way this SR has been relied on in the field of PMT, Baker et al. was subjected to a separate ROBIS analysis which found it to be at high risk of bias due to limitations in ROBIS domains of "data collection and study appraisal" and "synthesis and findings." The ROBIS assessment of

[20] Dopp et al. (2024); Expósito-Campos et al. (2023); Heathcote et al. (2024); Malpas et al. (2022); Thompson et al. (2023).
[21] Dopp et al. (2024); Hall et al. (2024); Heathcote et al. (2024); Ludvigsson et al. (2023); Miroshnychenko et al. (2024); Miroshnychenko, Ibrahim et al. (2025); Miroshnychenko, Roldan et al. (2025); Taylor, Mitchell, Hall, Heathcote et al. (2024); Taylor, Mitchell, Hall, Langton et al. (2024); Zepf, König et al. (2024). SRs conducted by the same research group generally followed the same methodology approach.
[22] Chew et al. (2018); Expósito-Campos et al. (2023); Karalexi et al. (2020); Malpas et al. (2022); Ramos et al. (2021); Rew et al. (2021); Thompson et al. (2023).
[23] National Institute for Health and Care Excellence (2020b, 2020a).
[24] Baker et al. (2021).
[25] Coleman et al. (2022).

Baker et al. is included in Section 2.3 of Appendix 4, while Appendix 3 provides an introduction to SRs and EBM. Figure 5.1 below provides a flow diagram for the searching, screening, and inclusion process.

**Figure 5.1 Searching, screening, and inclusion process**



## 5.2 Outcomes of social transition

Social transition involves changing one or more aspects of one's presentation or expression, such as name, appearance, or behavior, with the goal of being perceived and treated as a member of the other sex, or to avoid being perceived and treated as a member of one's own sex. As noted in the Cass Review, even though social transition is undertaken outside healthcare settings, "it is important to view [social transition] as an active intervention because it may have significant effects on the child or young person in terms of their psychological functioning and longer-term outcomes."[26]

This overview identified two SRs evaluating the impact of social transition. Both are assessed at low risk of bias.[27] The results suggest that the impact of social transition on long-term GD, psychological outcomes and well-being, and future treatment decisions such as hormones or surgeries remains poorly understood. Evidence on regret associated with social transition is extremely limited. The certainty of evidence for these outcomes is very low.

Significant evidence gaps remain in the evaluation of social transition as an intervention for children and adolescents with GD. Most available studies are cross-sectional and there are no prospective longitudinal studies with appropriate comparison groups, making it unclear whether observed associations reflect the effects of social transition or other underlying factors. Additionally, published studies often do not disentangle the effects of social transition from concurrent interventions such as psychotherapy or medical treatments, further complicating interpretation.

## 5.3 Outcomes of puberty blockers

Gonadotropin-releasing hormone agonists (GnRHa), known as "puberty blockers" (PBs), are used to prevent or arrest the development of sex characteristics in

[26] Cass (2024, p. 158). Social transition may also involve breast binding for females or "tucking" (moving the testes into the inguinal canals and positioning the penis and scrotum in the perineal region) for males. This is a (non-medical) physical intervention with potentially adverse health effects, unlike haircuts or clothing changes. As a recent review puts it, "For chest binding, a significant number of negative health implications have been reported, with rates as high as 97.2%" (Bumphenkiatikul, 2025, p. 5). This review did not attempt to synthesize the quality of the evidence for either harms or benefits, however.
[27] Dopp et al. (2024); Hall et al. (2024).

peripubertal and pubertal children and adolescents with GD. This overview identified nine SRs that assessed the treatment effects of PBs. Among these four were English-language SRs[28] assessed at low risk of bias. The eligibility criteria and number of included studies varied in these four SRs, and the certainty of evidence is very low regarding the effect of PBs on GD (or gender incongruence), improvement in mental health, and safety. There is high certainty evidence that PBs exert physiological effects (such as sex hormone suppression) and often cause infertility when followed by CSH, depending on the patient's pubertal stage and sex.[29] Low certainty evidence suggests that PBs may compromise bone health.[30] A high proportion of youth proceed to CSH after PBs, though the certainty of evidence regarding any causal role PBs play in this progression is very low.

Important gaps remain in both the range and quality of outcomes assessed across the existing literature. Many primary studies were not adequately designed for measuring or reporting on the outcomes related to PBs. For example, few primary studies included in the SRs assessed the impact of PBs on outcomes such as GD or mental health. Although PBs are frequently described as a "pause button,"[31] no studies have systematically examined their role in the decision-making process or the outcomes of those who discontinue treatment.

When outcomes were assessed, the focus was largely on short-term psychological or physiological changes, or surrogate outcomes—such as suicidal ideation or bone mineral density, rather than on endpoints like suicides or fractures. The evidence is particularly limited regarding long-term outcomes related to fertility, growth, and neurocognitive development.

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[28] Dopp et al. (2024); Ludvigsson et al. (2023); Miroshnychenko, Roldan et al. (2025); Taylor, Mitchell, Hall, Heathcote et al. (2024).
[29] See subsequent discussion of fertility in Chapter 7.
[30] See subsequent discussion of physiologic mechanisms whereby induced hypogonadotropic hypogonadism negatively impacts bone development.
[31] See, for example, a puberty blocker fact sheet from Cambridge Health Alliance/Harvard Medical School Teaching Hospital (Cambridge Health Alliance, n.d.).

While studies suggest a high proportion of youth proceed to CSH after puberty suppression,[32] there is minimal evidence on the impact of this combined pathway compared to CSH alone, or on how this pathway affects longer-term outcomes such as undergoing surgery. Furthermore, no studies have clearly examined the physical or psychosocial trajectories of the small minority of those who undergo PBs but do not proceed to CSH. As a result, there is little data on what happens after treatment ends, and the assumption that the effects of PBs are reversible remains largely untested. Another important limitation is that most of the primary studies have not distinguished the effects of PBs on females versus males. Overall, the absence of long-term, high-certainty evidence on these critical outcomes (including suicides, fractures, fertility, growth, and neurocognitive development) leaves substantial uncertainty about the effects of PBs.

## 5.4 Outcomes of cross-sex hormones

Estrogen for males and testosterone for females are used off-label to induce physical changes in the sex characteristics of youth with GD. This overview identified eight SRs on the treatment effects of CSH, among which four were in English language and assessed at low risk of bias.[33] The certainty of evidence is very low regarding the effect on GD or incongruence, improvement in mental health, and safety metrics including fertility and bone health. There is high certainty evidence that CSH exert physiological effects.

As with PBs, important evidence gaps exist for CSH. Many studies were not specifically designed to capture the full range of long-term outcomes and have primarily concentrated on short-term psychological or physiological changes. Key outcomes such as effects on GD, other mental health outcomes, and quality of life have been inconsistently measured and, when reported, often are derived from small,

[32] In the systematic reviews that were assessed at low risk of bias, only two studies (Carmichael et al., 2021; Karakılıç Özturan et al., 2023a) reported data on this outcome, each reporting progression rates from PBs to CSH of >95%. Other studies not captured by this overview, cited elsewhere in this Review, also reported >90% progression rate from PBs to CSH: Brik et al. (2020); van der Loos, Klink et al. (2023); Wiepjes et al. (2018).
[33] Dopp et al. (2024); Ludvigsson et al. (2023); Miroshnychenko, Ibrahim et al. (2025); Taylor, Mitchell, Hall, Langton et al. (2024).

observational studies with limited follow-up. Critically important long-term outcomes remain poorly understood. Sexual dysfunction, despite being highly relevant to long-term well-being, has been infrequently assessed. Although a few studies have reported cardiovascular event rates, long-term follow-up is needed to evaluate cumulative risk.[34]

Evidence on fertility is sparse, with little data on whether reproductive effects vary by age at treatment initiation or whether these effects are reversible. Furthermore, the compounded effects of sequential (and sometimes concurrent, especially among males) treatment with PBs followed by CSH—such as their impact on bone health recovery, final adult height, or the likelihood of requiring surgical interventions—have not been adequately investigated. As with PBs, the lack of methodologically rigorous, long-term studies significantly limits researchers' understanding of the broader health implications of CSH use during adolescence. A lack of primary studies that separately evaluate the effects of estrogen in males and testosterone in females is a significant limitation, as hormone-sex interactions may meaningfully influence outcomes.

## 5.5 Outcomes of surgery

Masculinizing mastectomy for adolescent females is the most frequently performed surgery in the context of youth with GD. This overview identified three SRs on surgeries for children or adolescents with GD, with most primary studies considering mastectomy only.[35] Two SRs were assessed at low risk of bias.[36] There is high certainty evidence that mastectomy is associated with predictable surgical complications such as necrosis and scarring. The certainty of evidence is very low regarding the effect of surgery on GD or incongruence, improvement in mental health including suicidality and depression, and long-term outcomes such as sexual function, quality of life, and regret.

There are substantial gaps in the evidence on surgeries for adolescents with GD. Most studies are case series or small observational designs, with limited or no comparator

[34] This is particularly true for pediatric medical transition (due to starting CSH in adolescence, the duration of treatment will be longer than for previously studied populations of adults).
[35] Dopp et al. (2024) included 18 studies; more than half of the included studies were on mastectomy. Miroshnychenko et al. (2024) included 39 studies and only assessed the effects of mastectomy. The other SR included 25 participants receiving surgeries, of which 24 received mastectomy. See Dopp et al. (2024); Miroshnychenko et al. (2024); Thompson et al. (2023).
[36] Dopp et al. (2024); Miroshnychenko et al. (2024).

groups, and thus are unable to isolate the effects of surgery from prior medical or psychosocial interventions. Outcomes such as effects on GD, mental health, and quality of life are inconsistently reported and often lack validated measures. Long-term outcomes, including the durability of psychological benefits, sexual function, need for revision surgeries, as well as satisfaction and well-being into adulthood, remain poorly characterized. Furthermore, while regret is a frequent topic of public discussion, existing studies do not provide robust data on the factors influencing regret. There are also knowledge gaps for other types of surgeries, including genital surgeries.

## 5.6 Outcomes of psychotherapy

Discussions about the role of psychotherapy in the treatment of youth with GD suffer from internal inconsistencies in the field of gender medicine, whereby psychotherapy is both recognized as an important tool but is also stigmatized if its aim is the resolution of GD (see Chapter 14). The overview identified a total of five SRs assessing psychotherapy among children or adolescents with GD. Only two were assessed at low risk of bias.[37]

The evidence on the effects of psychotherapy is limited. A 2024 review conducted by Dopp et al. included one randomized controlled trial (RCT) evaluating the effects of “coping-oriented brief videos” on suicidality, which did not provide direct evidence about the effect of psychotherapy in youth with GD. There are no other RCTs. Both SRs found that psychotherapy interventions were delivered through a range of formats, highlighting considerable heterogeneity in delivery. Formats for both face-to-face and online interventions varied widely, including individual, group, family-based, and combined approaches. Face-to-face interventions took place in diverse settings, such as specialist gender services, community programs, community mental health clinics, a weekend retreat, and an acute residential treatment program. These heterogeneities limit the generalizability of evidence. For mental health outcomes, the certainty of evidence was very low. However, no harms were reported.

[37] Dopp et al. (2024); Heathcote et al. (2024).

The overview found no evidence on the effect of psychotherapy on GD itself. This evidence gap may be due to a conflation of psychotherapy with "conversion therapy." As noted by the Cass Review, "[the] role of psychological therapies in supporting children and young people with gender incongruence or distress has been overshadowed by an unhelpfully polarised debate around conversion practices."[38] There has been very limited evidence on the role of psychotherapy in treating mental health problems co-occurring with childhood or adolescent GD,[39] including depression, anxiety, eating disorders, self-harm, and suicidality. Early reports often did not isolate the effects of psychotherapy from those of other concurrent interventions such as social transition, PBs, or CSH, making it difficult to attribute observed outcomes to psychotherapy alone. There is little understanding of which therapeutic approaches may be more or less effective for specific subgroups. The lack of robust research was acknowledged by the Cass Review, which noted that "there has been a failure to systematically consider how psychosocial interventions should be used and to research their efficacy."[40]

Of note, although the direct evidence for psychotherapy in children and adolescents with GD is limited, there is available evidence to support the role of psychotherapy in treating children and adolescents with other mental health problems, including depression, anxiety, eating disorders, self-harm, and suicidality (See Section 14.5.1).

## 5.7 Discussion

### 5.7.1 Findings of this overview

This overview of SRs includes 17 SRs evaluating the effects of interventions for children or adolescents with GD. For social transition, the certainty of benefits and harms is very low due to problems in the study designs. While studies suggest that early social transition is associated with a high rate of persistence of GD and a >90% rate of continuation to PBs and CSH,[41] from a methodological perspective there is uncertainty due to very low-quality evidence about causal explanations/pathways. Specific to medical transition, this overview highlights a consistent pattern across interventions for

[38] Cass (2024a, p. 150).
[39] See Chapter 14.
[40] Cass (2024a, p. 155).
[41] Hall et al. (2024).

children or adolescents with GD: while PBs, CSH, and surgeries reliably produce expected physiological changes, there remains substantial uncertainty about their psychological and long-term health impacts. High-quality evidence confirms that PBs suppress pubertal development and CSH induce changes to sex characteristics. There is low quality evidence suggesting that PBs compromise bone health.[42] However, the quality of evidence for outcomes such as GD, mental health, quality of life, and regret remains very low across all intervention types. The interpretation of many of the SRs' findings should be approached with caution, particularly given the sources of uncertainty, the robustness of this overview's conclusion, and the methodological limitations inherent in the evidence reviews.

### 5.7.2 Sources of uncertainty in evidence

Across the included SRs, the quality (certainty) of evidence is predominantly limited by lack of methodologically rigorous studies. For instance, across all primary studies included in the nine SRs on PBs, there were no eligible randomized controlled trials.

The lack of proper controls is another common methodological limitation in the studies. This overview found that across all primary studies in the nine SRs on PBs, only six were observational studies with parallel control groups that compared PBs with no PBs among children or adolescents with GD.[43] However, the overall certainty of evidence was influenced not only by methodological shortcomings, but also by factors such as small sample size and small or no effects, which signify imprecision in GRADE terminology. For instance, the sample sizes of the six comparative observational studies addressing PBs were small, with three studies which each included fewer than 100 participants. One SR downgraded the quality of evidence on the effect of PBs on global function for imprecision, noting that the evidence "suggests both a possibility of a benefit or a harm in the outcome."[44]

Inconsistent study findings are another frequently cited concern that lowers the quality of evidence. For instance, one SR of CSH found "limited or inconsistent evidence

[42] Physiological mechanism for PBs' effect on bone mineralization is discussed in Chapter 7.
[43] Becker-Hebly et al. (2021); Costa et al. (2015); Grimstad et al. (2021); Jensen et al. (2019); McGregor et al. (2024); Tordoff et al. (2022).
[44] Miroshnychenko, Roldan et al. (2025).

regarding GD, body satisfaction, psychosocial and neurocognitive outcomes, fertility, height/growth, bone health and cardiometabolic effects."[45] Similar limitations were observed across studies evaluating other medical and surgical interventions for youth with GD.

Thus, it is important to clarify that the absence of high- or even moderate-quality evidence is not only due to a lack of randomized controlled trials (RCTs). The quality of evidence could have been improved through well-conducted observational studies,[46] which can provide moderate and even high-quality evidence when effects are large, consistent, and clearly attributable to the intervention.

### 5.7.3 Robustness of this overview's conclusion

Although this overview focused on English-language SRs assessed at low risk of bias, another low risk of bias SR, published in German, reached similar conclusions, reinforcing the overall patterns identified here.[47] As stated earlier, this overview did not include the NHS-commissioned SRs on PBs and CSH in 2020, as they were superseded by the SRs published in 2024 to inform the Cass Review. However, these two earlier SRs also concluded that the evidence was of very low quality,[48] and their inclusion would not have altered the conclusions of this overview.

A report commissioned by lawmakers in Utah was publicly released at the end of May 2025.[49] Assessment of the "Utah Review" with ROBIS[50] demonstrates that it would not have met the criteria for inclusion in the evidence synthesis (which only included SRs with low risk of bias). The Utah Review's review of primary studies did not properly define the research question, conduct a comprehensive literature search, or critically appraise all included studies. Most critically, it failed to perform two key aspects of a systematic review, a formal evidence synthesis and an assessment of evidence certainty, and therefore does not qualify as a systematic evidence review. It concluded,

[45] Taylor, Mitchell, Hall, Langton et al. (2024).
[46] See the checklist for ways to improve observational research in this field in Ludvigsson et al. (2023).
[47] Zepf, König et al. (2024).
[48] National Institute for Health and Care Excellence (2020b, 2020a).
[49] University of Utah College of Pharmacy, Drug Regimen Review Center (2025). This report postdated the initial publication of the present Review.
[50] See Appendix 4, Section 2.4, and Whiting et al. (2016).

without sound methodological basis, that “the consensus of the evidence supports that the treatments are effective.”[51] The Utah Review also contained a review of clinical guidelines and SRs; these both had significant limitations. For example, the guideline review retrieved only four guidelines, and the SR review omitted recently published SRs.

It is also important to note that while the current overview focused on SRs assessed at low risk of bias, this designation does not imply that these SRs were without methodological limitations. The “low risk of bias in the systematic review” in ROBIS allows for some flexibility. The included SRs still had shortcomings, such as limited search strategies, outdated literature searches,[52] or lack of precision in evidence assessments. In contrast, SRs assessed at high risk of bias consistently exhibited serious methodological flaws, including poorly defined eligibility criteria, absence of risk of bias assessments for included studies, and unsystematic synthesis approaches. These SRs were judged to be too biased to inform reliable conclusions. The findings presented in this overview, therefore, reflect a deliberately cautious approach, drawing only from the most trustworthy sources currently available.

Finally, rather than extending beyond what the evidence can support, this overview is confined to summarizing the conclusions of SRs. As a result, it may not include some of the most recently published studies (due to the timing of the SRs’ literature searches). However, a targeted search[53] of recently published studies did not reveal any published or ongoing studies that would significantly change the conclusions, especially those pertaining to benefits. This is due to ongoing problems such as an absence of comparison groups, inadequate sample sizes, and limited follow-up. Should the contemplated U.K. RCT trial of PBs[54] receive ethics approval, it might improve the

[51] University of Utah College of Pharmacy, Drug Regimen Review Center (2025, p. 90).
[52] According to the Cochrane Handbook, reviews should be as up-to-date as possible. However, as recency is not the sole consideration, SRs with outdated search strategies can still be considered at low risk of bias overall (Higgins et al., 2019).
[53] A targeted search in this field identified recent publications based on observational studies from the U.S. (Hidalgo et al., 2024; Olson-Kennedy et al., 2025; Wittlin et al., 2025), Canada (Lawson et al., 2024), the Netherlands (van der Meulen et al. 2025), and the U.K. (Morandini et al., 2023). These studies have similar limitations (including study design, small sample size, short-term follow up, etc.) to the primary studies included in the SRs.
[54] National Institute for Health and Care Research (2024).

evidence base for short-term (24 month) effects of PBs on certain outcome measures. However, based on the elements of the study design publicly disclosed to date, it might not provide information about the effect of treatment when PBs are followed by CSH—a clinical trajectory which appears to occur more than 90% of the time.[55] Such combination use would have a different risk/benefit profile than the use of PBs alone, both in terms of possible benefits and possible harms. Finally, the anticipated short-term follow-up will not adequately address the key question of long-term outcomes.

Without a meaningful shift toward more robust research designs—such as RCTs that test each intervention as it is currently provided (sequential treatment of PBs followed by CSH), prospective cohorts with suitable comparators, or natural experiments—the quality of evidence likely will remain low.[56] Conducting new SRs to answer the same research questions in the near future is unlikely to yield novel insights. This dearth of robust research and evidence has direct implications for clinical guidance and policy development, where expectations of benefit must be weighed against the persistent uncertainty of the evidence documented in the literature.

### 5.7.4 Limitations and strengths of this overview

All SRs and overviews of SRs have limitations. SRs aim to capture all relevant research that meets predefined eligibility criteria. However, this objective may be undermined by reporting (or non-reporting) bias—a form of bias that arises when the decision to publish, delay, or selectively report study results is influenced by the statistical significance, size, or direction of the findings.[57]

As discussed in Chapter 6 of this Review, research in the field of PGM suffers from significant publication and reporting bias. The extent of the problem is difficult to quantify due to widespread poor methodology and a lack of consistency in reporting effect

[55] Brik et al. (2020); Carmichael et al. (2021); van der Loos, Klink, et al. (2023); Wiepjes et al. (2018).
[56] There is debate about whether high-quality research on effects of PBs/CSH in minors should be pursued. Ethical deliberations factor into this debate. Some have argued that research should focus on patients who already received PBs, CSH or surgery (Ryan, 2024b). The Cass Review called for more robust research into psychotherapeutic approaches to GD, which is a promising treatment approach so-far neglected by research (Cass, 2024a).
[57] Guyatt, Oxman, Montori, Vist et al. (2011).

sizes.[58] Notably, publication bias has not been considered as a reason for downgrading the certainty of evidence in the included SRs.

Another limitation is that SRs serve to answer well-defined research questions which have prespecified outcomes, but cannot detect signals or generate hypotheses. Many studies in PGM focus on psychological outcomes but only inconsistently track other outcomes that may be signals of the intervention's adverse effects. When outcomes are not reported using rigorous methodological standards—such as being clearly listed in a dedicated outcomes table—but instead are only mentioned in the discussion section, SR methodologies are unlikely to flag the study as relevant to that outcome during the screening process. As a result, important adverse effects may go unnoticed. This issue is discussed at some length in the next chapter.

A key characteristic of SRs and overviews of SRs is their emphasis on population-level epidemiological data,[59] often with limited integration of mechanistic evidence or considerations of biological plausibility. This narrow scope limits the ability of this overview to elucidate potential causal pathways or to fully interpret observed associations—or their absence.

This overview of SRs has other limitations. Like all overviews, it is constrained to synthesizing published SRs and does not reanalyze primary studies. The scope of this overview was intentionally narrow, focusing on young patients and excluding indirect evidence from adult populations that may provide insight into long-term effects.

Strengths included systematic evaluation of the risk of bias across SRs using the ROBIS tool. Thus, this overview offers a transparent assessment of the reliability of each SR's conclusions. It also allows for comparison across SRs with overlapping but differently scoped studies, helping to identify consistent findings, methodological gaps, and areas of agreement or divergence.

[58] Publication bias is notoriously hard to measure, and the existing statistical tools have significant limitations (Afonso et al., 2024).
[59] Guyatt et al. (1992, 2015).

### 5.7.5 Conclusion

This overview synthesizes the best available clinical evidence from population-level data, highlighting a consistent pattern across interventions for children and adolescents with GD. The benefits and harms of social transition remain unknown; PBs, CSH, and surgeries consistently produce certain physical and physiological effects; and there is considerable uncertainty regarding their psychological and long-term health outcomes. Likewise, there is uncertainty regarding the effects of psychotherapy for GD.

# Chapter 6 Limitations of Systematic Reviews

As reported in the overview of systematic reviews (SRs), the quality of evidence for benefits of the interventions used in pediatric medical transition (PMT) is very low. Nevertheless, the practice has continued to expand rapidly. The “very low” quality of evidence for benefits demands additional scrutiny of the potential harms in order to arrive at a proper understanding of the risk/benefit ratio.

It is well-established that SRs are better at detecting benefits than harms.[1] As Guyatt and colleagues remark, “Many, if not most, systematic reviews fail to address some key outcomes, particularly harms, associated with an intervention.”[2] Consequently, the absence of evidence of harms in published studies is not equivalent to evidence of absence of harms. In pediatric gender medicine (PGM), inadequate harm detection is amplified by the following factors:

- Insufficient time has elapsed since the widespread adoption of PMT;
- Short-term before-and-after observational studies that comprise the bulk of the evidence often have high ‘loss to follow up’ rates and do not systematically look for, track, or completely report harms;
- Publication bias impedes the recognition of harms.

The first three sections of this chapter (6.1–6.3) consider how these factors affect the ability of SRs to detect harms, with a summary in Section 6.4.

A comprehensive examination of harms associated with PMT is necessary to inform clinical practice. Harms associated with surgeries that remove healthy body parts are easy to recognize, as are some of the adverse effects of hormonal interventions. The latter are noted both in the Food and Drug Administration (FDA) drug labels[3] and on informed consent or assent forms parents and children sign prior to initiating treatment.[4]

[1] Loke et al. (2007); Mayo-Wilson et al. (2023); Qureshi et al. (2022).
[2] Guyatt, Oxman, Kunz, Atkins et al. (2011, p. 397).
[3] Testosterone is one of the most widely used drugs in the field and is classified as a Schedule III controlled substance due to the risk of psychological dependence and abuse.
[4] E.g. Cornell Health (n.d); Fenway Health (2024a, 2024b, 2025).

Use of these drugs off-label in PGM may add additional risk. It is well-established in adults that for the same drug, off-label uses are associated with considerably higher rates of adverse effects, especially when strong scientific evidence is lacking.[5] Clinical trials have never been conducted for using puberty blockers (PBs) to stop normally-timed puberty; such use will have a different risk profile than the use of PBs to temporarily stop abnormally early (precocious) puberty.

Additional uncertainty arises from the fact that, in studies, PBs are followed by cross-sex hormones (CSH) over 90% of the time;[6] this de facto combination therapy introduces new and potentially serious risks (e.g., concerning fertility) and has never been subjected to any FDA-regulated clinical trial for any population. Further, research shows that when the evidence supporting a particular off-label use is of very low certainty—as is the case for PMT—the already elevated risk of adverse effects associated with off-label use is increased even further.[7]

## 6.1 Insufficient elapsed time

Although the Dutch Protocol was first published 20 years ago,[8] it was not until the late 2010s to early 2020s that there were sufficient numbers of patients to allow for studies that can estimate rates of harms and benefits.[9] In addition, because the emergence of harms may be delayed by a decade or longer, SRs conducted relatively early in the field's tenure are more likely to understate these outcomes.[10] The average patient is still quite young—typically in their teens or early twenties—at the time of follow-up. This compounds problems with risk detection, since the effect of hormones on health may be cumulative (e.g., effects of hormones on cardiometabolic disease or malignancies) and may not fully manifest until later in life.

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[5] Eguale et al. (2016).
[6] E.g., Brik et al. (2020); Carmichael et al. (2021); Karakılıç Özturan et al. (2023a); van der Loos, Klink et al. (2023); Wiepjes et al. (2018).
[7] Eguale et al. (2016).
[8] de Vries et al. (2006); Delemarre-van de Waal & Cohen-Kettenis (2006). See Chapter 3.
[9] Respaut & Terhune (2022).
[10] A study in gender medicine with longer-term follow up found "poorer outcome[s] … [which] 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 10 years after sex reassignment and onwards" (Dhejne et al., 2011).

## 6.2 Short-term observational studies

The Cass Review recognized continued reliance on poorly-designed observational studies as a "key limitation to identifying … safety of gender-affirming hormones for children and adolescents."[11] A key problem that disadvantages SRs in their detection of harms is the fact that the entire body of evidence in PGM is largely composed of short-term "before and after" observational studies that are particularly prone to bias. Such studies focus on demonstrating benefits while inconsistently reporting harms.[12] Unlike the intended benefits of an intervention, which are hypothesized before the study begins and investigated as primary outcomes,[13] harms are not always expected, surveilled, or reported. Therefore, SRs are limited by being able to identify only those outcomes reported by primary studies.[14]

An example of the difficulty in identifying harms pertains to whether PBs represent a harmless "pause button" providing "time to think"[15] or a powerful intervention that promotes iatrogenic persistence of GD and promotes continuation to CSH. At least five studies indicate >90% rate of progression from PBs to CSH.[16] As the Cass Review noted, "These data suggest that puberty blockers are not buying time to think, given that the vast majority of those who start puberty suppression continue to masculinizing/feminising hormones, particularly if they start earlier in puberty."[17] Because the high rate of persistence from PBs to CSH is often mentioned only in the text of a study (and not delineated in outcome tables or abstracts), SRs may overlook this information at the screening stage. Only one low risk of bias SR assessed the proportion of CSH use after PBs, identifying only two studies.[18]

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[11] Cass (2024a, p. 76).
[12] Loke et al. (2007); Mayo-Wilson et al. (2023); Qureshi et al. (2022).
[13] In the case of prospective studies.
[14] Researchers may want their intervention to lead to beneficial outcomes, and may be reluctant to look for or focus on harms.
[15] See Chapter 4 for discussion of the "time to think" rationale.
[16] Brik et al. (2020); Carmichael et al. (2021); Karakılıç Özturan et al. (2023a); van der Loos, Klink et al. (2023); Wiepjes et al. (2018). See also Section 4.3.2.2.
[17] Cass (2024a, p. 176).
[18] Miroshnychenko, Roldan et al. (2025) was the SR that identified Carmichael et al. (2021) and Karakılıç Özturan et al. (2023a).

There are other examples of inappropriate reporting of adverse effects.[19] Three notable ones are profiled below.

### 6.2.1 de Vries et al., 2011, 2014[20]

The pair of seminal Dutch studies that launched PMT worldwide can serve as an example of how harms can go unreported. The 2014 study's conclusion that treatment with PBs, CSH and surgery "leads to improved psychological functioning"[21] did not comment on the finding that at least four of the original 70 young patients experienced adverse effects during treatment. Three adolescents were diagnosed with obesity and diabetes, which disqualified them from continuing to surgery, and one patient died from complications following surgery after early pubertal suppression.[22] These serious adverse events were not reported as formal outcomes,[23] precluding any discussion of whether they were caused by the experimental intervention or occurred incidentally. More recently published evidence suggests that the postsurgical death was likely directly related to the practice of early pubertal suppression.[24] Further, because these adverse effects were noted only in the context of accounting for the reduced postsurgical sample size, the study may not have attempted to detect and report less severe adverse effects that were not disqualifying for further participation.

Inadequate reporting of harms in the Dutch study was compounded when SRs excluded this study due to its unreliable design (e.g. the study comingled the CSH and surgery phases, making it impossible to determine which outcomes were associated with which

[19] This is not atypical in medicine. Researchers who invent innovative treatments are likely to focus on the apparent benefits.
[20] de Vries et al. (2011); de Vries et al. (2014).
[21] de Vries et al. (2014, p. 703).
[22] See Chapter 4 for discussion of the weaknesses in the original Dutch Protocol research.
[23] These outcomes were only discussed in the "methods" section (de Vries et al., 2014).
[24] de Vries et al. (2014) had 15 missing cases from the original cohort of 70 participants. Of these 15 participants, three were disqualified from the study because they developed obesity and/or diabetes. One dropped out of treatment, and one died from a surgical complication that was a likely consequence of pubertal suppression (Biggs, 2023b; Negenborn et al., 2017). Several others failed to return postsurgical questionnaires for unknown reasons.

intervention).[25] Thus, the serious harms reported incidentally by the study authors were entirely omitted from the SRs due to the study's poor design.

### 6.2.2 Tordoff et al., 2022[26]

Inadequate reporting of harm is also evident in more recent research. A highly influential 2022 study from Seattle Children's Gender Clinic by Tordoff et al. focused exclusively on psychological outcomes, where benefits had been hypothesized. It did not study or report physical health outcomes, where harms would have been more likely to occur.

The study by Tordoff et al. reported mental health outcome data for adolescents and young adults aged 13-20 years who were treated with PBs or CSH for up to one year. The study claimed to provide "quantitative evidence" of mental health improvements; however, the rates of depression in youth who started PBs or CSH remained unchanged—about 6 in 10 youth were moderately-to-severely depressed both pre- and post-intervention.[27] These data were reported in a supplement which was available only online. The study finding of improved mental health was derived from the odds ratios: 60% lower odds of depression and 73% lower odds of suicidality in patients treated with PBs or CSH as compared to those who were not. However, major methodological issues, including potential selection bias and confounding,[28] inappropriate statistical

[25] de Vries et al. (2014) was excluded from the systematic review of CSH by the SR conducted by the U.K.'s National Institute for Health and Care Excellence (NICE). The stated reason for exclusion was: "Exclude on intervention – all participants had surgery after gender-affirming hormones. Unable to determine whether changes were due to hormones or surgery. Complete data only available for 40 patients. Details of gender-affirming hormones are poorly reported" (National Institute for Health and Care Excellence, 2020a, p. 72). This study was also excluded from the SR by Miroshnychenko, Ibrahim et al. (2025) on CSH. Though it was included in the SR by Taylor, Mitchell, Hall, Langton et al. (2024) on CSH, it was classified as a low-quality study and not included in the evidence synthesis.

[26] Tordoff et al. (2022). This research was conducted in the U.S. at Seattle Children's Hospital/Washington State University.

[27] Raw Patient Health Questionnaire (PHQ-9) and Generalized Anxiety Disorder-7 (GAD-7) data was not reported, even in the online-only supplement.

[28] Of 104 youth aged 13-20, 62 initiated treatment with PBs or CSH during the 12-month study, and 7 were already on treatment at baseline. Participants who initiated treatment during the study contributed to both "treated" and "untreated" groups at different times, complicating interpretation.

modeling,[29] missing participant data,[30] and selective reporting[31]—raise serious concerns about the reliability of the reported findings.

The impressive-sounding odds ratios were thus calculated by relying on progressively smaller denominators in the untreated "comparator" group. The supplementary online-only data revealed that only seven cases from the "comparator group" of patients not treated with PBs or CSH remained enrolled in the study by its end.[32] It was also unclear if or to what extent this "comparator" group could be considered representative of all untreated patients. It appears that the "untreated" group comprised youth whose mental health problems and GD issues resolved who dropped out from the gender clinic and the study (representing 80% of the total "untreated group"); the patients who were about to cross-over to the treated group after a short assessment; and the eight patients (seven of whom provided follow-up data) who continued to attend the gender clinic 12 months later, but for an unknown reason were not starting hormonal interventions.[33]

Two recent systematic reviews have assessed Tordoff et al. for risk of bias, using two different tools (the Newcastle Ottawa Scale and ROBINS-I).[34] While both analyses identified some methodological weaknesses (e.g., short follow-up, high attrition rate), the study's inclusion of untreated youth as a comparison group somewhat boosted its

[29] Rather than analyzing individual mental health trajectories before and after treatment, the study performed cross-sectional comparisons at various time points, leading to potential bias.
[30] At 12 months, data are missing for 17% of medicalized youth (12 of 69) and an astounding 80% of non-medicalized youth (28 of 35). It is likely that non-medicalized participants without mental health distress, including those whose gender distress resolved, would be least likely to return to the clinic
[31] The authors performed analyses following multiple strategies, reporting in the abstract only the version of the analysis that produced the most dramatic results (strongest aOR [adjusted odds ratio] and smallest p-values), raising concerns about data-dredging.
[32] Based on eTable 3 in the supplementary material, the estimated prevalence of depression in the control group was 59% at baseline, 76% at month 3, 58% at month 6, and 86% at month 12. The substantial fluctuation across time points indicates that the estimates for the control group were unstable and likely influenced by random error.
[33] There was incomplete data for 80% of patients in the untreated group. It is possible that patients whose GD resolved stopped attending appointments. Additionally, the 7 untreated patients with follow-up data at one year may not have been approved for medical transition because they did not have sufficient capacity for consent—the only scenario under which this pediatric gender clinic would not recommend medical transition if desired by the patient, according to the study's lead author ("In practice, the only instances when it would have been appropriate to delay initiation of PB/GAH is if there was a concern that a patient did not have the capacity to provide informed consent … which is exceedingly rare in adolescence" (Tordoff, 2022). Barriers to provision of informed consent can include active psychosis or mania and profound intellectual disability.
[34] Miroshnychenko, Ibrahim et al. (2025); Taylor, Mitchell, Hall, Langton et al. (2024). ROBIS: Risk of bias in non-randomized studies - of interventions.

quality ratings. Systematic reviews are not always able to capture serious problems with comparison groups of this type.

This study's misrepresentation of its own results, serious confounding, and the exceptionally high loss-to-follow-up for untreated youth have been highlighted by science journalists and discussed in peer-reviewed articles.[35] Despite these well-demonstrated problems, this study, published in the *Journal of the American Medical Association* (JAMA) Open Network, continues to be uncritically described, by authoritative sources, as evidence that PBs and CSH are beneficial to mental health, medically necessary, and lifesaving.[36]

### 6.2.3 Chen et al., 2023[37]

This study, published in the *New England Journal of Medicine* (NEJM), reported mental health outcome data for 315 adolescents and young adults aged 12-20 (65% female) who were treated with CSH for a period of 24 months. Following the study protocol, there was no control group. Chen et al. (2023) cast its results in a positive light: "our findings showed improvements in psychosocial functioning ... which supports the use of [CSH] as effective treatment for transgender and nonbinary youth."[38] The study's observational, uncontrolled methodology does not justify the authors' use of explicitly causal language when reporting their results (CSH "improved appearance congruence and psychosocial functioning"). The lack of a parallel control group is this study's biggest limitation.[39]

In contrast to the authors' positive description of the outcomes, two of the study subjects died by suicide within one year of initiating hormones, representing an annualized

[35] E.g., Abbruzzese et al. (2023); Biggs (2023b); Singal (2022a). The university that conducted the research was made aware of the study's problems but chose not to disrupt the very positive medical narrative that misrepresented the authors' findings (Singal, 2022b).
[36] E.g., American Psychiatric Association (2023); Boerner (2022); Stringer (2023); U.S. v. Skrmetti (No. 23-477), American Academy of Pediatrics and Additional National and State Medical and Mental Health Organizations, Amicus curiae brief (2024). To date, this study has been cited over 300 times in other peer-reviewed publications and viewed nearly half a million times.
[37] Chen et al. (2023). This was an NIH-funded multi-site study which recruited patients from four pediatric gender clinics: Benioff Children's Hospital, Boston Children's Hospital, Children's Hospital Los Angeles, and Lurie's Children's Hospital of Chicago. The original 2016 protocol and the final 2021 protocol can be found in the study's supplementary material.
[38] Chen et al. (2023, p. 249).
[39] Miroshnychenko, Ibrahim et al. (2025).

suicide rate of 317 per 100,000 patients. The suicide rate in Chen et al. was higher than rates that have been reported by PGM clinics in the U.K. and Finland (13 per 100,000 and 51 per 100,000).[40] One Belgian study[41] has also reported a comparatively high annual suicide rate (1,126 per 100,000); like in Chen et al., all patient suicides in that study were among patients taking CSH.[42]

Chen et al. reported only four out of more than 19 mental health outcomes described in the study's pre-registered protocol.[43,44] In particular, outcomes of GD, self-harm, and suicidality were not reported, and no explanation was provided for omitting these critical data. The only statistically significant improvement in both sexes was in "appearance congruence" as measured by the "transgender congruence scale," which has not been validated in minors.[45] The authors also reported that there were statistically significant improvements in depression, anxiety and life satisfaction.[46] However, these improvements were small[47] and of questionable clinical significance.[48] The statistically significant improvements were observed only in females, whereas males experienced

[40] Society for Evidence-Based Gender Medicine (2023a, 2024a).
[41] Van Cauwenberg et al. (2021).
[42] Society for Evidence-Based Gender Medicine (2024a). See also Section 4.3.4.
[43] The four reported outcomes were the Transgender Congruence Scale, the Revised Children's Manifest Anxiety Scale, the Beck Depression Inventory II, and the Life Satisfaction/Positive Affect scale from the NIH Toolbox Emotion Battery. A recent paper describing this same patient cohort published more information on the life satisfaction/positive affect results along with information on additional measures from the NIH Toolbox Emotion Battery (Olson-Kennedy et al., 2025), but it did not report the gender dysphoria, self-harm, or suicidality outcomes, nor did it reference the two patient suicides.
[44] See pp. 24–28 of the pre-registered final protocol (2021) for a description of all outcome measures.
[45] Strauss et al. (2024).
[46] In the case of positive affect, there was no statistically significant difference between the mean baseline measure and the endpoint at 24 months. See Table S5 (Corrected) of Chen et al. (2023). The authors chose instead to focus on the fact that the slope of the regression line for the data collected at all time points was statistically significant: "positive affect … increased significantly" (p. 243)."
[47] The mean Beck Depression Inventory score improved from 16.01 to 13.85 (63-point scale); the mean Revised Children's Manifest Anxiety Scale improved from 59.84 to 57.32 (T-score, where 50 is the population average and 10 is one standard deviation); and the mean life satisfaction score improved from 40.03 to 44.68 (T-score). For all these improvements, the reported Cohen's *d* effect sizes were small.
[48] For the Beck Depression Inventory, for example, researchers have suggested a 17.5% decrease from baseline score may represent a "minimal clinically important difference" (Button et al., 2015). The mean decrease of 2.16 points on this (63-point) scale in Chen et al. (2023) does not, according to this criterion, meet the threshold of clinical importance (McDeavitt, 2024). It is unclear whether improvements for females meet this threshold: see Figure S3 in the supplementary appendix to Chen et al. (2023).

no significant improvement in these measures. Additionally, follow-up data for these measures were unavailable for 31–34% of participants, introducing bias.[49]

According to the study's pre-registered protocol, the authors' original hypothesis was that after starting CSH, patients would exhibit "decreased symptoms of … gender dysphoria, self-injury, trauma symptoms, and suicidality" (among other changes) over time.[50] The hypothesis articulated in the published paper[51] instead focused on "appearance congruence," a phrase that did not appear in the original hypothesis. Chen et al. (2023) did not report important measures central to its protocol's hypothesis (e.g. GD, self-injury, trauma symptoms, suicidality), and these measures remain unreported even a decade after the research initiative was launched. As mentioned above, two young patients died by suicide within one year of initiating treatment, and the most frequently occurring adverse event during hormonal treatment was "suicidal ideation."[52] These latter findings, reported as adverse events, do not support the original hypothesis of reductions in self-injury and suicidality.

Although a recent systematic review was able to capture issues like study attrition in its risk of bias assessment for Chen et al.,[53] such reviews are unable to capture serious concerns that may be more related to research ethics than to methodology (e.g., the altering of hypotheses between the protocol and the published article raises the possibility of "HARKing"[54]). Peer-reviewed critiques addressing the issues with Chen et al. were eventually published in NEJM, but not until nearly a year after the article first appeared.[55]

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[49] Out of the total number of patients (315), these two-year follow-up data were recorded from a little over 200 (208–217). See Table S5 (Corrected) in the supplementary appendix to Chen et al. (2023).
[50] See p. 36 of the study's final protocol (2021).
[51] "We hypothesized that appearance congruence, positive affect, and life satisfaction would increase and that depression and anxiety symptoms would decrease" (Chen et al., 2023, p. 241).
[52] Chen et al. (2023, p. 241). Chen et al. do not explain how "suicidal ideation" was measured.
[53] Miroshnychenko, Ibrahim et al. (2025).
[54] "Hypothesizing after the results are known" (Kerr, 1998).
[55] E.g., Biggs (2023a); Hare (2023); Jorgensen (2023c); Dutch PMT researchers also published a commentary on Chen et al., which acknowledged the study's many problems (de Vries & Hannema, 2023).

The study continues to be widely cited and uncritically described as providing evidence of benefit for hormonal transition of minors.[56]

## 6.3 Publication bias

It is a well-documented problem in biomedical research that positive findings confirming an original hypothesis are much more likely to be published or published expeditiously, as compared to studies with inconclusive or negative results. “Publication bias” is not unique to this field. The U.K.’s national PGM clinic, the Gender Identity Development Service (GIDS), tried to replicate the seminal 2011 Dutch study, launching its own “early intervention” study of PBs in 2011. Although the results were available in 2016-2017, they were only released in 2021 following a complaint to the U.K. Health Research Authority.[57] Once published, the study acknowledged that the outcomes reported by the Dutch were not replicated.[58] The study also found that puberty blockade was associated with impaired bone density accumulation. Subsequent reanalysis of the same data showed that up to one-third of participants experienced a deterioration in mental health while on PBs.[59]

A similar pattern may be unfolding in the United States. The lead investigator of a NIH-funded PB study acknowledged delaying the publication of results—apparently due to fear that the unimpressive findings would undermine the field.[60]

A similar reluctance to report on disappointing findings is evident in other places, too. According to court disclosures, the World Professional Association for Transgender Health (WPATH) suppressed publication of SRs on at least 10 of 13 topics relating to endocrine treatment of adolescents with GD.[61] The unpublished SRs evaluated harms, including the effects of PBs on “clinical outcomes and harms”; the effects of estrogen on the risk of pulmonary embolism, deep-vein thrombosis, stroke, and myocardial

[56] E.g., U.S. v. Skrmetti (No. 23-477*),* Expert Researchers and Physicians*,* Amicus curiae brief (2024).
[57] Biggs (2023b).
[58] Carmichael et al. (2021).
[59] McPherson & Freedman (2023).
[60] As reported in *The New York Times* (Ghorayshi, 2024c). Of note, the investigator, Johanna Olson-Kennedy, denied having said this in a later deposition (Deposition of J. Olson-Kennedy in LB v Premera Blue Cross NO. 2:23:Cv-00953-TSZ, 2024).
[61] See Chapter 10.

infarction; the effects of testosterone on uterine, ovarian, cervical, vaginal, and breast pathology; and the effects of hormone therapy on fertility and metabolic syndrome.[62]

There also are instances of SRs arriving at conclusions that contradict the underlying evidence. One SR commissioned by WPATH found only "low" and "insufficient"[63] strength of evidence regarding the effects of hormonal interventions on mental health. Nevertheless, the SR's authors came to the unsupported conclusion that this treatment pathway "is likely associated with improvements" in quality of life, depression, and anxiety. The authors also asserted that "[t]hese benefits make hormone therapy an essential component of care that promotes ... health and well-being." Notably, there was no attempt to evaluate hormone effects on physical health.[64] The content of this SR was influenced by WPATH leadership, including approving the conclusion as a condition for eventual publication. This may explain the discrepancy between the SR's optimistic conclusion and its more problematic findings. Section 10.3.2 discusses evidence suppression by WPATH in detail.

Another 2021 SR, conducted by Bustos et al., examined postsurgical regret rates.[65] This SR is often cited as evidence that the regret rate after transition-related surgery is very low, about 1%.[66] But of the 27 studies included in Bustos et al., 23 were rated as "poor" or "fair" in quality. The few higher-rated studies suffered from substantial loss to follow-up and the reported results included deaths from suicide and complications. One included study contributed nearly half the total participants but reported a 36% loss to follow-up. The study authors acknowledged that the short follow-up period was a key limitation. However, the authors failed to address the most serious criticism, namely that their central conclusion of "extremely low regret" was unsupported.[67]

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[62] Sharma et al. (2018). See also Society for Evidence-Based Gender Medicine (2024b).
[63] Baker et al. (2021, p. 13).
[64] Appendix 4 includes a ROBIS assessment of Baker et al. (2021).
[65] Bustos et al. (2021) reported regret rates of around 1%. This SR was not included in this Review's overview of SRs as most of the included studies did not focus on the adolescent population.
[66] See examples of such statements in Cohn (2023).
[67] For the criticism, see Expósito-Campos & D'Angelo (2021). The authors provided a reply to the critique (Escandón et al., 2021), which addressed some but not all of the key concerns. See also footnote 109 in Section 7.6.2.

## 6.4 Summary

The quality of SRs in the field of gender medicine varies widely, but even the highest quality SRs typically find only “low certainty” evidence for most harms. However, there are familiar and plausible explanations for why evidence of harms may not have been sought, detected or reported. Reflecting on the state of evidence in PGM, the Cass Review noted, “it has been evident that there has been a failure to reliably collect even the most basic data and information in a consistent and comprehensive manner; data have often not been shared or have been unavailable.”[68]

Unless SRs specifically search for harms (and with the provisos above), they are not well-suited to detect complications or adverse effects. This is due to the relatively recent debut and rapid growth of the field of PGM, the tendency of the predominantly short-term observational studies to focus on benefits and underreport harms, and publication bias. EBM emphasizes the role of best available evidence. To address SRs’ limited ability to detect harms, decision-makers must consider other sources of scientific information. That is the topic of the following chapter.

[68] Cass (2024a, p. 39).

# Chapter 7 Evidence from Basic Science and Physiology

When clinical studies provide insufficient information about harms, and therefore systematic reviews (SRs) are unable to reliably collate information about harms, other types of evidence should be integrated. Trustworthy evidence from other sources, including basic sciences, should be considered to arrive at a more informed understanding of the plausible effects of interventions.[1] In the case of pediatric medical transition (PMT), this involves consideration of human physiology, development, and the well-established mechanisms of action of the drugs used. The consideration of such evidence aligns with the core requirement of evidence-based medicine (EBM): the judicious use of the "best available" evidence.

The following sections explain: normal pubertal development and the mechanisms of action of PMT interventions (Section 7.1); treatment of central precocious puberty with puberty blockers (PBs) (Section 7.2); biologically plausible implications of using PBs to arrest normally timed puberty and cross-sex hormones (CSH) (Sections 7.3 and 7.4); surgical implications, particularly when pubertal development has been arrested (Section 7.5); and psychological risks of undergoing PMT interventions given what is known about child and adolescent development (Section 7.6). Mortality is discussed in Section 7.7.

## 7.1 Puberty

This section overviews physiology and the implications of disrupting normally-timed puberty. Of note, there are three distinct waves of hypothalamic-pituitary-gonadal (HPG) axis activity over an individual's lifespan: in utero, during the first month after birth, and in late childhood-early adolescence.[2] Only the latter is referred to as "puberty."[3] Medications can be given to suppress the HPG axis.

[1] Sackett et al. (1996).
[2] Rohayem et al. (2024).
[3] The discussion in this section focuses on normal pubertal development. Individuals with disorders (differences) of sex development (DSDs) are not a focus of this chapter because the vast majority of adolescents with gender dysphoria do not have a DSD. Among those with DSDs, approximately 5% experience identity changes (Kreukels et al., 2018). As noted in the Cass Review, "Studies of children with DSD suggest that a complex interplay between testosterone levels, external genitalia, sex of rearing and socio-cultural environment all play a part in eventual gender identity" (Cass, 2024a, p. 102).

### 7.1.1 Overview of normal pubertal development

In mammals, puberty is defined as the period of time during which immature juveniles reach adult sexual maturity and become capable of reproduction. It is a transitional phase between childhood and adulthood. In humans, pubertal onset typically occurs between ages eight and 13 in females and nine and 14 in males. It is driven by increasing levels of sex steroid hormones—primarily estrogen and progesterone in females, and testosterone in males.[4]

During puberty, sex steroid hormones promote skeletal growth, muscular development, and neurologic development. In females, estrogen initiates breast development, menarche, ovulation, and changes in body composition and skeletal morphology.[5] In males, the androgenic surge results in testicular enlargement, penile growth, spermatogenesis, deepening of the voice, and the emergence of secondary sexual characteristics such as facial and body hair. Spermatogenesis in males and ovulatory cycles in females mark the attainment of fertility.

### 7.1.2 Tanner Stages of puberty

Physicians use a system known as Tanner Staging to document the physical progression of puberty based on a physical examination.[6] This framework delineates five stages of maturation, from a prepubertal baseline (Stage 1) to full adult development (Stage 5). Intermediate stages capture transitional morphological and physiological characteristics.

In females, Tanner Stage 2 commences with the growth of breast tissue (thelarche), followed by hair growth (pubarche), and then the first period (menarche), typically by Tanner Stage 3 or 4. Menarche typically occurs one to two years after thelarche, at an average age of 12-13 years. The first egg release (ovulation) generally occurs within the first year following menarche, typically at Tanner Stage 4. Ovulatory function stabilizes approximately one year after menarche. Female pubertal development is accompanied by bone growth, body hair growth, widening of the hips, redistribution of fat to the hips

[4] Breehl & Caban (2025).
[5] Kuohung & Hornstein (2024).
[6] Tanner (1962).

and breasts, and enlargement of both internal reproductive organs (uterus, ovaries) and external genitalia (labia, clitoris).[7]

In males, the initiation of Tanner Stage 2 is typically identified by increased testicular volume, followed by growth of the penis, emergence of pubic and later facial hair, and a rapid increase in lean body mass and skeletal size driven by androgens. There are significant increases in bone and muscle mass and thickening and elongation of the vocal cords results in voice deepening. First ejaculations (spermarche) generally occur about one year after the onset of puberty, with full gamete maturation following approximately one year later.[8] Spermatogenesis generally occurs during Tanner Stage 4.[9]

### 7.1.3 Neuroendocrine regulation of puberty

Puberty is initiated and sustained by complex endocrine signaling. In the brain, the anterior pituitary, in response to pulsatile gonadotropin-releasing hormone (GnRH) release from the hypothalamus, secretes luteinizing hormone (LH) and follicle-stimulating hormone (FSH). Collectively termed gonadotropins, LH and FSH act on the gonads (ovaries and testes) to stimulate the synthesis of sex steroids and promote gametogenesis.[10]

## 7.2 Puberty blockers and central precocious puberty

In central precocious puberty (CPP)—a condition occurring in one out of 5,000 to one out of 10,000 children, more often in girls[11]—the pituitary gland is activated prematurely, sometimes even during infancy or early childhood.[12] This leads to early-onset, or precocious, pubertal development. CPP is associated with several potential negative

[7] Breehl & Caban (2025).
[8] Breehl & Caban (2025); Kota & Ejaz (2023).
[9] Emmanuel & Bokor (2022).
[10] In males, LH stimulates Leydig cells to produce testosterone while FSH targets Sertoli cells to facilitate spermatogenesis. In females, LH and FSH coordinate estrogen production and follicular development in the ovaries.
[11] Eugster (2019). Although there are some genetic causes of CPP, it is usually idiopathic, meaning the cause is unclear. Females are generally treated for CPP with PBs if puberty occurs at age six or younger, males are generally treated if puberty occurs at age eight or younger (Ergun-Longmire et al., 2023).
[12] E.g., Nienaber & Van Der Walt (1991); Yoon & Kim (2016).

health outcomes, including decreased adult height due to early presence of sex hormones causing premature epiphyseal fusion.

GnRHa (puberty blockers or PBs) have been approved by the Food and Drug Administration (FDA) for use in the treatment of CPP. The evidence to date comparing large populations of untreated patients to treated patients suggests that, at least for appropriately chosen female patients, treatment of CPP with PBs is associated with increased height attainment and lower body mass index (BMI).[13]

When PBs are used for CPP, the medication is discontinued when the child reaches a more typical age for pubertal onset, allowing normal puberty to resume. The goals include facilitating normal timing of puberty, so that the patient goes through puberty alongside peers (as opposed to significantly before). Although FDA-approved for this indication, PBs—like all medications—are associated with risks and side effects, even when used for CPP.

## 7.3 Puberty blockers and gender dysphoria

The use of PBs to arrest normally timed puberty is the central element and original contribution of the Dutch Protocol. PBs act directly on the pituitary gland to significantly reduce the release of LH and FSH. Continuous administration of these agents desensitizes GnRH receptors, suppressing LH and FSH secretion, and consequently arresting the production of endogenous sex steroid hormones. In females, this causes the cessation of normal menstrual function, if it has begun. In males, sperm production is halted or forestalled. PBs have not been approved by the FDA for the indication of gender dysphoria (GD); they are used “off-label” in pediatric gender medicine (PGM).[14] Unlike in CPP, use of PBs for PMT is not FDA-approved and safety data are lacking.

Using PBs to stop normally timed puberty effectively induces hypogonadotropic hypogonadism (HH), a condition characterized by the failure of the pituitary to

[13] Luo et al. (2021).
[14] GnRHas have been approved by the U.S. Food and Drug Administration (FDA) for various indications, with effects that can differ significantly depending on their application. For instance, the GnRHa leuprolide (commonly marketed as Lupron) is FDA-approved for androgen deprivation therapy in adult males with prostate cancer and for estrogen deprivation in adult females with endometriosis. It has also been FDA-approved to treat central precocious puberty (CPP).

appropriately release gonadotropins. As a result, the gonads are unable to produce the sex-specific hormones testosterone or estrogen. Pubertal development is disrupted, halting the progression of physical and reproductive maturity. Left untreated, clinical research shows HH is associated with a range of risks including infertility and decreased bone mineral density, elevating the risk of osteoporosis and fractures.[15]

Although PBs for GD are typically indicated for short-term use (about two years), this time range may be considerably longer for some patients.[16] The reasons for the apparent deviation from the original Dutch Protocol in regard to the length of PB use remain unstudied, but may include increasingly younger social transition ages which 'necessitate' pubertal blockade at increasingly younger ages to allow young patients to continue living in "stealth,"[17] as well as the medical treatment of youth who identify as nonbinary and wish to maintain a sex-ambiguous appearance for an extended period of time.[18]

### 7.3.1 Developmental risks of blocking normal puberty

One of the key rationales for using PBs in CPP is to allow the child to experience normative psychosocial development alongside same-age peers. By contrast, in PMT, patients are maintained in a prepubertal or early pubertal stage while their peers developmentally progress. This has potential sequelae for the adolescent's psychosocial development.[19]

### 7.3.2 Bone mineral density and skeletal development

Puberty is recognized as providing a critical window for the accrual of peak bone mass. Sex steroid hormones play an essential role in the mineralization of the skeleton.[20] Failure to reach peak bone density may lead to increased risk of osteopenia,

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[15] Zhu & Chan (2015).
[16] A Cambridge Health Alliance fact sheet, for example, discusses using puberty blockers for up to four years (Cambridge Health Alliance, n.d.).
[17] The Cass Review's qualitative research program found that for prepubertal children who underwent full social transition "living in stealth appears to increase a child's level of stress and anxiety with resultant behaviour and mental health problems. These included social withdrawal, with children becoming increasingly isolated, including resorting to home-schooling or tutoring and even rarely leaving their house" (Cass, 2024a, p.159).
[18] Notini et al. (2020).
[19] This is noted in Vrouenraets et al. (2022), for example.
[20] Elhakeem et al. (2019).

osteoporosis, and fractures later in life, including debilitating fractures of the spine and hip. In older adults, hip fractures are particularly concerning, as they significantly elevate the risks of morbidity and mortality.[21]

Because of the known physiological role of sex steroid hormones in skeletal development, the original Dutch research acknowledged the possibility of negative effect on bone mineralization. Researchers measured 'Z-scores,' a measure comparing individual bone density to age- and sex-matched population norms, and these scores decreased after PBs in the original Dutch cohort.[22] Since then, multiple longitudinal, observational studies on pediatric patients undergoing medical transition have consistently demonstrated decreases in Z-scores with PB use.[23] In addition to decreases in the *average* scores, a re-analysis of the United Kingdom (U.K.) data found that one third of the puberty-blocked patients had a Z-score of below -2 (indicating osteoporosis) for hip, and more than one quarter of patients had low Z-scores for spine.[24] Fracture rates have not been reported alongside Z-scores in this literature.[25]

When PBs are followed by CSH, as has occurred in studies over 90% of the time, bone mineralization will increase, but a critical developmental window for bone density accrual during adolescence may have been missed or foreshortened, as bone density accrual slows during the 20s and then begins to decline. These patients may never reach the peak bone density they otherwise would have achieved. Research on medium and long-term outcomes is limited.[26] Due to the novel nature of PMT, no studies have yet followed patients into middle age or late adulthood.

### 7.3.3 Neurocognitive and psychosocial development

The human brain undergoes substantial reorganization during adolescence, including synaptic pruning and myelination, processes that are influenced by sex steroid

[21] Bentler et al. (2009).
[22] Delemarre-van de Waal & Cohen-Kettenis (2006).
[23] E.g., Boogers et al. (2023); Carmichael et al. (2021); Ciancia et al. (2024); Delemarre-van de Waal & Cohen-Kettenis (2006); Joseph et al. (2019); Klink et al. (2015); Navabi et al. (2021); Schagen et al. (2020); Stoffers et al. (2019); Van der Loos, Vlot et al. (2023); Vlot et al. (2017).
[24] Biggs (2021).
[25] E.g., Roy et al. (2024).
[26] Two longer-term studies (Schagen et al., 2020; van der Loos, Vlot et al., 2023) found Z-scores returned to pre-treatment baseline after 3-11 years of subsequent CSH treatment in females, but not in males.

hormones. Research suggests that sex steroid hormones impact brain regions associated with executive function, emotion regulation, and social cognition.[27] The precise neurocognitive effects of puberty suppression remain understudied,[28] and researchers in this field have recognized the limitations of the evidence in this area.[29] A recent literature review concluded that the effect of PBs on neurocognitive development is unknown, but that "there is some evidence of a detrimental impact of pubertal suppression on IQ [intelligence quotient] in children."[30] However, a 2022 Dutch study found that in patients treated with PBs the associations between pretreatment IQ and eventual education achievement were similar to population norms (the study did not longitudinally measure IQ).[31] The Cass Review has raised concern over the potential harm and unknown effects of pubertal suppression on the developing brain,[32] noting that "[t]here is increasing evidence that the changes in brain maturation described above are driven by a combination of chronological age and sex hormones released through puberty."[33]

### 7.3.4 Reproductive maturation

By halting the development of sex characteristics, PBs interrupt the maturation of reproductive anatomy and function. Suppression of the HPG axis can impair gametogenesis, potentially resulting in permanent infertility if CSH are started thereafter, particularly when gonadal maturation is not completed prior to the interruption of normally-timed puberty.

In adult males initiating estrogen for medical transition, testicular atrophy results, leading to impaired fertility or infertility that may be irreversible (even if estrogen were to

[27] Cservenka et al. (2015); Gonnabathula & Yakubu (2023); Macoveanu et al. (2016); Pillerová et al. (2022).
[28] One cross-sectional study (which cannot methodologically suggest causation) found poor executive functioning in patients taking PBs >1 year, but their baseline functioning before PBs was unknown (Strang et al., 2022). Another cross-sectional study reported similar executive functioning between patients on PBs and patients not on PBs (Staphorsius et al., 2015). Arnoldussen et al. (2022), another study, is discussed in the text.
[29] Chen et al. (2020).
[30] Baxendale (2024).
[31] Arnoldussen et al. (2022).
[32] Cass (2024a, p. 115).
[33] Cass (2024b, p. 104).

be discontinued).[34] However, adult males may choose to cryopreserve sperm prior to initiation of estrogen. This is not the case with children or early adolescents.[35] Spermatogenesis generally occurs in Tanner Stage 4 of puberty.[36] In PMT, if PBs are started in Tanner Stage 2, prior to gamete maturation, and estrogen is started thereafter (as is likely), cryopreservation of sperm cannot be completed beforehand.[37] Additionally, fertility may be affected in females initiated on PBs who proceed to take testosterone.[38] Effect of testosterone on the reproductive tract makes the likelihood of conception, pregnancy, and birth uncertain.[39] Maternal and fetal outcomes under these circumstances are also poorly studied.

It is possible that CSH use after pubertal arrest could permanently damage the immature gonadal tissues, leading to sterilization.[40] If the gonads are arrested in an immature state due to prolonged use of PBs, and this is followed by administration of CSH, there is no proven physiological mechanism by which fertility can reliably be re-established. The likelihood of permanent infertility will be substantially increased.[41,42]

With respect to fertility preservation (FP), techniques can range from relatively simple to technically challenging to not currently viable, depending on the patient's sex and Tanner Stage of development. For example, males who have undergone spermarche can produce a semen sample for long-term storage. However, males who have puberty

[34] Cheng et al. (2019); Deutsch (2020a).
[35] Fertility preservation for natal males in early puberty remains a theoretical and experimental undertaking, with no clinically validated protocol currently available (Laidlaw et al., 2025).
[36] See above, Section 7.1.2.
[37] The original Dutch research acknowledged that infertility would result for males initiated on PBs in Tanner Stage 2 and on estrogen thereafter: "In early pubertal boys, the hypogonadotrophic state will block the development of fertility" (Delemarre van de Waal & Cohen-Kettenis, 2006, p. S134).
[38] Cheng et al. (2019). Although pregnancies can occur in adult females taking testosterone, less is known about pregnancy in females who underwent PMT in childhood/adolescence.
[39] Laidlaw et al. (2025).
[40] See the subsequent section for specific effects of CSH.
[41] It should be noted that PBs for CPP does not negatively impact fertility. In pediatric medical transition, because PBs are generally the first part of a continuum including CSH, infertility is a likely result of treatment (depending on sex and Tanner Stage of patient).
[42] There is controversy regarding minors' capacity to provide informed consent to potential loss of fertility with respect to PMT. E.g., "Can these minors make adequately autonomous decisions in the present that may impact their opportunities in the future? This is less a question of decision-making capacity…than a matter of sufficient life experience to know their future desires … How to maintain an "open future" for transgender youth is a common concern of parents and healthcare professionals" (Harris et al., 2020, p. 2459). See also Jorgensen & Masson (2024). In a study of patients in their early 30's who had begun hormonal interventions at age 15, 23% expressed regret about infertility (de Nie et al., 2024).

blocked at Tanner Stage 2 will have immature testicles; FP necessitates testicular tissue cryopreservation, which currently remains entirely experimental.[43] For the mature female patient, oocyte preservation involves an invasive procedure (and is costly). For females in early Tanner Stages, techniques such as ovarian tissue cryopreservation, although technically possible,[44] have yet to be shown to result in viable pregnancies in patients who have undergone PMT.

Most studies on fertility preservation in adolescents with GD undergoing PMT have shown very low rates of FP, between 0% and 4.7% of patients.[45] One study in which male patients were able to access fertility preservation via testicular biopsy reported that 10 out of 23 patients (43%) were able to have gametes cryopreserved prior to PB initiation (Tanner Stages were not reported).[46]

### 7.3.5 Risks of sexual dysfunction

Concerns have been raised about the potential consequences of PMT on sexual function, particularly with respect to development of the capacity for sexual desire, arousal, and orgasm (phases of the sexual response cycle). The Tanner Stage (see Section 7.1.2) in which PBs are initiated is an important consideration:

> ... the extent to which individuals have experienced endogenous puberty could influence later sexual functioning. [PBs] inhibit sex steroid exposure of genitalia, which are highly sensitive to androgens during the typical pubertal timeframe ... Interference through [PBs] affects genital growth and development during a possibly critical period, with potential effects on subsequent sexual function.[47]

In females undergoing PMT, suppression of sex hormones with PBs may impede growth of genitalia,[48] and may also result in decreased blood flow to the clitoris and decreased sensation (as occurs in post-menopausal women).[49] In males undergoing PMT, suppression of sex hormones with PBs arrests genital development. As most males

[43] Klipstein et al. (2020).
[44] Practice Committee of the American Society for Reproductive Medicine (2019).
[45] Chen et al. (2017); Chiniara et al. (2019); de Nie et al. (2024); Nahata et al. (2017).
[46] Pang, Peri et al. (2020).
[47] van der Meulen, Arnoldussen et al. (2025, p. 1494).
[48] van der Meulen, Arnoldussen et al. (2025).
[49] See Section 7.5.1.

proceed to estrogen after PBs, the ongoing androgen deprivation (which is expected to be lifelong) may have ramifications for development of sensation in the genitals, as well as for capacity to experience sexual desire and/or arousal.

In 2021, Marci Bowers—a leading vaginoplasty surgeon and then-president-elect of the World Professional Association for Transgender Health (WPATH)—voiced concerns that male patients who commenced PBs at Tanner Stage 2 and subsequently received CSH were physiologically anorgasmic, prior to and following vaginoplasty surgery.

Many of these patients reported no history of genital sexual sensation before undergoing vaginoplasty. After vaginoplasty, the constructed clitoris provided no meaningful tactile or erogenous response. Bowers suggested that this issue had not been adequately addressed in discussions of informed consent for youth undergoing puberty suppression.[50]

Despite these concerning clinical observations, there is a striking paucity of research on sexual function outcomes in this population.[51] The potential for anorgasmia and sensory

[50] Shrier (2021b). It has been questioned "whether even highly intelligent children who have not had sexual experiences can meaningfully comprehend the loss of future sexual function and reproductive abilities" (Levine et al., 2022a, p. 720).

[51] Two Dutch studies have published data from one small patient cohort: Bungener et al. (2020); van der Meulen, Bungener et al. (2025). Although the researchers found that for the males, sexual function outcomes after vaginoplasty were similar regardless of which Tanner Stage of puberty PBs had been started in, experts pointed out that the small study was methodologically limited due to sample size (therefore unable to reliably compare different subgroups) and that the patients frequently reported serious sexual difficulties/dysfunction (orgasm difficulties, pain, shame about genitalia) (Clayton et al., 2025). A subsequent article (van der Meulen, Arnoldussen et al., 2025) assessed an overlapping cohort from the Amsterdam clinic at an older age (around 29). Although the claimed findings were positive—the timing of puberty suppression did not affect sexual function—the sample included only 20 males, for whom the nonresponse rate was 68%. The study had many other methodological limitations (e.g. related to small sample size and lack of statistical power, absence of separate analysis of subgroup blocked at Tanner Stage 2, misleading comparisons to population-level sexual dysfunction rates) (Society for Evidence-Based Gender Medicine, 2025). These three studies of overlapping patient cohorts comprise the entirety of the peer-reviewed longitudinal clinical research on sexual function outcomes after PMT. Although van der Meulen, Arnoldussen et al. (2025) hypothesized, based on evidence from physiology of sexual development, that "[patients] treated with [PBs] in early puberty will report lower rates of sexual satisfaction and more sexual dysfunctions than those treated with [PBs later in puberty] or started [on CSH] in adulthood," the authors then *rejected* this hypothesis ("... in contrast to what is hypothesized ... suppressing endogenous puberty early does not seem to result in an increased risk of sexual dysfunctions") even though the study was underpowered and the between-group comparisons did not meet the threshold for statistical significance. Hypothesis rejection in this setting is inconsistent with research norms.

dysfunction merits serious consideration, especially given the irreversible nature of some interventions and the centrality of sexual health to overall quality of life.

There is also a lack of published research regarding sexual function outcomes in females who underwent PMT with PBs followed by CSH.[52]

## 7.4 Cross-sex hormones and gender dysphoria

Testosterone for females and estrogen for males are routinely used in PGM to induce changes in the secondary sex characteristics that resemble those typical of the opposite sex. In males, estrogen is frequently used alongside a testosterone blocker or PB to enhance estrogen's effects.

### 7.4.1 Physical effects of cross-sex hormones

As described above, puberty involves the maturation of primary sex characteristics—the male and female genitalia—and the entire reproductive system, enabling the production of mature gametes: sperm in males and ova in females. The ES guidelines for PMT describe titration of testosterone for females and estrogen for males as the "Induction of Puberty," a term that is misleading.[53] Under the influence of high doses of testosterone, females may develop facial and body hair, cystic acne, male pattern scalp hair distribution, clitoral growth, changes in musculature, thickening of vocal cords leading to voice deepening, and alterations in fat deposition. Similarly, males receiving high doses of estrogen may experience significant breast tissue growth (gynecomastia), reduced muscle mass, change in skin texture, and may develop a more typically female pattern of fat distribution. These physical changes reflect the body's response to unusually high levels of sex steroids, not actual opposite-sex pubertal development. In fact, development of reproductive capacity—definitionally, the purpose of puberty—may be hindered. The physiological end point of puberty—sexual maturation that makes possible reproduction—is not and cannot be obtained via PMT.

[52] Two of the above-cited methodologically limited studies (Bungener et al., 2020; van der Meulen, Arnoldussen et al., 2025) also reported outcomes for female patients.
[53] Hembree et al. (2017, p. 3884), for example. See also Coleman et al. (2022, p. S115), and Chapter 2.

### 7.4.2 Dosing of cross-sex hormones

In WPATH and ES guidelines, the principal goal of CSH administration is to induce physical characteristics typical of the opposite sex. When hormone levels rise beyond the typical reference range for a person's sex, they are considered supraphysiologic. ES guidelines suggest that the sex an individual identifies as—as opposed to their biological sex—should determine the target reference range for hormonal concentrations.[54] Critics have argued that perceived identity does not alter physiological processes and that such a belief can result in inappropriate and potentially dangerous hormone dosing.[55]

### 7.4.3 Hyperandrogenism in females

Hyperandrogenism refers to the condition of abnormally elevated androgen levels—most commonly testosterone—in the bloodstream. Among adult females, typical serum testosterone levels range between 10–55 ng/dL.[56] In certain pathological conditions, testosterone may rise well above this range.

ES guidelines for cross-sex hormone administration in females recommend testosterone between 320–1000 ng/dL, comparable to, or exceeding levels found in endocrine disorders.[57] These concentrations represent a six to 100-fold increase above physiologic norms for females, inducing hyperandrogenism. Hyperandrogenism is also associated with health risks, discussed below.

### 7.4.4 Hyperestrogenemia in males

Hyperestrogenemia is defined as elevated blood levels of estrogens, such as estradiol, above the normal physiological range. In males, a standard reference range for total estrogen is approximately 56–213 pg/mL.[58] Certain disease states are known to cause

[54] Rosenthal et al. (2019).
[55] Laidlaw et al. (2021).
[56] Labcorp (2025b). There is variability in laboratory reference ranges for testosterone (as well as for estrogen; see Section 7.4.4 below).
[57] Hembree et al. (2017).
[58] Labcorp (2024).

excess estrogen. For instance, some adrenal tumors can elevate estrogen levels by a factor of three to ten.[59]

In PMT, supraphysiologic estrogen levels are intentionally induced through the off-label use of high doses of estrogen. ES guidelines advise titration of estradiol to levels between three and 25 times higher than the typical male range to induce the development of female-typical secondary sex characteristics such as breast tissue.[60]

### 7.4.5 Effects of testosterone on the female reproductive system

Testosterone use causes histopathological changes in the female reproductive tract.[61] Given the potential—though not well-defined—risk of cancer in the female reproductive tract, ES guidelines recommend that "health care providers should determine the medical necessity of a laparoscopic total hysterectomy as part of a gender-affirming surgery to prevent reproductive tract cancer."[62] WPATH's clinical practice guideline[63] has not adopted the same recommendation, but there is limited reliable evidence regarding the long-term cancer risks associated with testosterone use in the female reproductive tract. Testosterone can cause reproductive organ atrophy, including thinning and atrophy of vaginal epithelium,[64] persistent pelvic pain and discomfort,[65] and pelvic floor dysfunction.[66]

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[59] Cavlan et al. (2010).
[60] Based on adult male estradiol reference range 8-35 pg/mL (Labcorp, 2025a). ES guidelines: Hembree et al. (2017).
[61] A review of 11 histopathologic studies of resected ovaries found that 34.9% exhibited polycystic-appearing ovaries, and 0.7% had benign ovarian neoplasms (Toland et al., 2023). In another study of females aged 18-56, 57% of 35 ovariectomy cases showed multiple bilateral cystic follicles, and 80% of 40 uterine resections displayed endometrial stromal fibrosis. Abnormal tissue growth was also noted in the vagina and cervix following hysterectomy and vaginectomy. The most common findings included transitional cell metaplasia and the development of prostatic-type glands (Lin et al., 2022). A separate study found that 100% of vaginectomy specimens contained abnormal prostatic tissue growth (Xu et al., 2022).
[62] Hembree et al. (2017).
[63] Coleman et al. (2022).
[64] In 2020, a whistleblower from Washington University in St. Louis clinic described a case in which a female minor taking testosterone called the clinic due to vaginal bleeding: "In less than an hour she had soaked through an extra heavy pad, her jeans, and a towel she had wrapped around her waist … We found out later this girl had had intercourse, and because testosterone thins the vaginal tissues, her vaginal canal had ripped open. She had to be sedated and given surgery to repair the damage" (Reed, 2023a). Reportedly, multiple patients at this clinic had problems with vaginal lacerations.
[65] Patients have sought hysterectomies due to these symptoms; e.g., Zwickl et al. (2023).
[66] Da Silva et al. (2024); Tordoff et al. (2023); Zwickl et al. (2023).

### 7.4.6 Effects of estrogen on the male reproductive system

Testicles have two primary functions: producing testosterone and generating sperm capable of fertilizing an ovum. The use of estrogen in accordance with the ES and WPATH guidelines results in impairment of normal testosterone production and significant abnormal histologic changes to the male reproductive system.[67] These findings point to widespread structural reconfiguration of testicular tissue in response to prolonged exposure to the high levels of estrogen used in medical transition.

### 7.4.7 Cardiovascular and metabolic risks

Among the most significant long-term risks associated with CSH is an increase in cardiovascular risk factors. A 2018 review found that patients taking CSH had an elevated risk of heart attack and CV mortality compared to controls.[68]

Several studies and reviews have found increased risk of CV events like heart attacks and strokes in females taking testosterone.[69] This is thought to result from testosterone's effects on underlying metabolic factors related to CV risk. In females, testosterone can cause elevated blood pressure, polycythemia, and atherogenic

[67] In one study of 99 testicle specimens, Leydig cells (crucial for producing testosterone) were completely absent or extremely diminished in 80% of cases. There was a significant average decrease in the diameter of the seminiferous tubules (site of spermatogenesis) when compared with controls, with 82% showing peritubular fibrosis, which interferes with tubular function (Matoso et al., 2018). In another study, 74% of specimens had abnormal basement membrane thickening (Riva-Morales et al., 2025). This mimics findings seen in conditions like cryptorchidism (undescended testes), which are associated with infertility (Mittal et al., 2017). In one of the abovementioned studies, all 125 testicular specimens showed atrophic changes and decreased spermatogenesis, with 71.2% having no sperm production at all (Riva-Morales et al., 2025). In another study, 80% of testicular tissue samples from males on estrogen showed maturation arrest, meaning that although the early stages of the sperm development may have begun, maturation to fully functioning spermatozoan did not occur (Matoso et al., 2018). These findings point to widespread structural reconfiguration of testicular tissue in response to prolonged exposure to high levels of estrogen used in medical transition. Other structures affected by estrogen (and/or androgen deprivation) include the epididymis, rete testes, and prostate (Crowley et al., 2023; Matoso et al., 2018). A long-term analysis involving 86 patients who underwent orchiectomies after a median duration of 7.5 years on estrogen therapy found a clear correlation between the length of hormonal treatment and the degree of tissue abnormality (Marins et al., 2024). This study discussed "[c]ompromise in integrity of blood-testis-barrier with *increased vulnerability to cytotoxic and immune damage*; impaired adhesion with premature detachment of spermatids from Sertoli cells, causing altered shaping in spermatids; germ cells phagocitation" as theoretical mechanisms of impaired spermatogenesis (emphasis added).

[68] Irwig (2018).

[69] E.g., Nota et al. (2019), van Zijverden et al. (2025). A systematic review found moderate and high certainty evidence of some incidence of cardiovascular events in young females under 26 years old (Miroshnychenko, Ibrahim et al., 2025).

changes in the lipid profile.[70] Longitudinal studies of PMT have reported increases in BMI (and/or fat mass) after initiation of CSH[71] and PBs.[72] Atherogenic changes to the lipid profile have also been reported.[73]

With respect to polycythemia, elevated hematocrit levels are known to increase blood viscosity, raising the risk of thromboembolic and CV complications. Among females, even modest elevations in hematocrit levels have been independently associated with heightened risks of CV disease, coronary events, and CV-related mortality.[74]

In males taking estrogen, studies have shown increased risk of CV events like venous thromboembolism and stroke.[75] One recent study found that, after adjusting for socioeconomic status, there was a decreased risk of heart attacks, although the risk of venous thromboembolism remained elevated.[76]

### 7.4.8 Other risks associated with cross-sex hormones

In both sexes, CSH use may be associated with early mortality.[77] In females taking testosterone, breast tissue undergoes structural remodeling, often with increased fibrous connective tissue and decreased glandular volume.[78] There is also some concern about possible increased risk of breast and ovarian cancer.[79] In males, some studies suggest that estrogen may increase risk of developing multiple sclerosis[80] and

[70] Glintborg et al. (2024); Safer & Tangpricha (2019).
[71] Boogers et al. (2024); Jarin et al. (2017); Klaver et al. (2018, 2020).
[72] Carmichael et al. (2021); Ciancia et al. (2024); Delemarre-van de Waal & Cohen-Kettenis (2006); Fisher et al. (2024).
[73] Klaver et al. (2020); Olson-Kennedy, Okonta, et al. (2018). Millington et al. (2021) found atherogenic changes only in females, not in males.
[74] Gagnon et al. (1994). In a longitudinal cohort study of 1,073 adult females taking testosterone (Madsen et al., 2021), approximately 24% of participants developed hematocrit values ≥50%, a threshold commonly used to define severe erythrocytosis. While the study did not report prevalence in the intermediate range (hematocrit levels between 45% and 50%) it is reasonable to infer that a similar or greater proportion of individuals would fall within this bracket.
[75] Nota et al. (2019) reported a nearly five-fold (4.6x) elevation in risk of venous thromboembolism, and Getahun et al. (2018) reported a nearly ten-fold (9.9x) elevation in risk of stroke. van Zijverden et al. (2025) reported that after adjusting for socioeconomic status (estimated by education, employment, and income) there was a nearly two-fold (1.8x) elevation in risk of venous thromboembolism, but (in contrast to the other studies) no elevation in risk of stroke.
[76] van Zijverden et al. (2025) reported a two-fold decrease (1.5x) in risk of heart attacks after adjusting for socioeconomic status.
[77] C. J. de Blok et al. (2021).
[78] Grynberg et al. (2010).
[79] Hembree et al. (2017).
[80] Papkoor et al. (2016); White et al. (2022).

thyroid cancer,[81] and that it may lead to a decrease in brain volume.[82] However, research in these areas is still preliminary. While breast cancer is uncommon in natal males, data suggest that high-dose estrogen therapy increases this risk.[83] Other effects of estrogen may include diminished libido, erectile dysfunction, and loss of spontaneous erections.[84]

## 7.5 Surgery and gender dysphoria

WPATH provides an extensive list of surgeries it considers appropriate treatments for GD.[85] All surgeries carry risks,[86] some of which are amplified when surgery follows PBs and CSH. Further, surgeries to remove healthy and functioning organs introduce a unique set of iatrogenic harms not encountered in other areas of medicine. An example is mastectomy performed as part of PMT, which results in an inability to breastfeed and potential loss of nipple sensation.[87]

### 7.5.1 Surgical problems related to early pubertal blockade

Males who initiate PBs at Tanner Stage 2 and then proceed to estrogen have narrowed options for future genital surgery, should this be desired. PBs arrest development of male genitalia. If PBs are started in Tanner Stage 2 and estrogen is started some time thereafter, the male genitalia will never develop beyond the prepubertal or early-pubertal state. For patients who proceed with vaginoplasty later in life, this may foreclose the

[81] Derwahl & Nicula (2014).
[82] Pol et al. (2006); Seiger et al. (2016); Zubiaurre-Elorza et al. (2014).
[83] C. J. M. de Blok et al. (2019).
[84] Hembree et al. (2017). Of note, some or all of these effects on sexual function (diminished erections, for example) may be desired by certain patients.
[85] According to WPATH's SOC-8, even highly unusual surgeries such as non-binary mastectomies (where female breasts are reshaped to resemble gynecomastia in males), penis-preserving vaginoplasty, and vagina-preserving phalloplasty (to provide patients with both sets of genitals), and genital nullification procedures (involving genital removal) are considered medically-necessary procedures for some patients. Only phalloplasty for females has a minimum recommended age of 18 (Coleman et al., 2022). In 2024, a Canadian patient successfully sued a provincial health insurer, who had declined to cover "penile-preserving vaginoplasty" surgery, considering it experimental. Media coverage noted that "…the court decided that [this] procedure…[was] consistent with the World Professional Association for Transgender Health (WPATH) Standards of Care, the leading authority on gender-affirming medical and surgical care, especially as it recommends individualized treatment plans" (Arsenych, 2024).
[86] E.g., bleeding, infection, scarring, and risks related to anesthesia.
[87] A mastectomy removes the mammary glands together with the ducts that transfer milk from them to the nipple. Loss of nipple sensation is invariably mentioned by surgeons performing "top surgery" as a potential side effect, although there is very low certainty evidence about the magnitude of the risk in adolescents and young adults (Miroshnychenko et al., 2025).

surgical option of penile inversion vaginoplasty due to lack of sufficient genital tissue for this procedure. This issue was recognized in the original Dutch papers,[88] but over subsequent decades almost no research has been published on this topic. A single Dutch study found greatly increased odds of receiving intestinal vaginoplasty (compared to penile inversion) in male patients with history of pubertal blockade.[89] Intestinal vaginoplasty is a more technically complex and risky procedure.[90] One notable and tragic case involved a member of the original Dutch Protocol research cohort who died from necrotizing fasciitis at age 18 following an intestinal vaginoplasty conducted because of inadequate genital tissue.[91]

## 7.6 Other risks associated with hormonal interventions or surgeries

The use of endocrine interventions affects multiple organ systems beyond the reproductive tract. In addition, there are psychological risks associated with PMT.

### 7.6.1 Adverse psychiatric effects

The FDA-mandated labeling for testosterone cautions about abuse potential, noting: "Testosterone has been subject to abuse, typically at doses higher than recommended for the approved indication ... Anabolic androgenic steroid abuse can lead to serious cardiovascular and psychiatric adverse reactions."[92] These effects have been reported in males and females, including adolescents.

Research on anabolic steroid misuse has demonstrated associations with severe psychiatric problems, including mood instability, psychosis,[93] and dependence.[94] The most frequently observed symptoms include irritability, aggression, euphoria, inflated self-perception, impulsivity, and risk-taking behaviors. Additional manifestations may include acute psychotic episodes, worsening of tic disorders or depression, and

[88] Delemarre-van de Waal & Cohen-Kettenis (2006).
[89] van de Grift et al. (2020).
[90] Lee et al. (2023).
[91] Negenborn et al. (2017).
[92] Actavis Pharma, Inc. (2018).
[93] R. C. W. Hall et al. (2005).
[94] Skauen et al. (2023).

delirium-like states. One study assessing medium (300–1000 mg/week) and high (>1000 mg/week) anabolic steroid use in men found that 23% of users met diagnostic criteria for a major mood disorder, including mania, hypomania, or depression, while 3.4-12% developed psychotic features.[95]

In an analysis of the FDA's Event Reporting System (FAERS) database for people using CSH for medical transition, 88% of adverse drug reactions were classified as serious.[96] Without an idea of denominators, individual risks are not possible to quantify. Among the 83 reports regarding females using testosterone, 87.8% of the events were deemed serious, with two reported deaths (2.4%) and 25 hospitalizations (30.5%).[97] Reported psychological harms included anxiety, depression, mood swings, suicidal ideation and behavior, aggression, dissociation, and self-harm. More extreme symptoms, such as antisocial behavior and homicidal ideation, were also documented.[98] It is unknown whether these patients had testosterone levels between 320 to 1000 ng/dL (the range recommended by the Endocrine Society for females undergoing medical transition), or levels outside of this range. What is known is that the patients were female, were categorized as having a "transgender" related treatment indication, presented with psychiatric problems, and were on testosterone.[99] Although it is not possible to determine causation from FAERS data, this underscores the importance of considering adverse psychiatric events as a potential risk in female patients initiating testosterone for medical transition.

A separate study from Sweden found an elevated rate of criminal convictions in natal females who had taken testosterone and undergone gender-transition surgery, compared to age-matched controls. This study also found that adults who had undergone medical and surgical transition had 19 times the rate of suicide deaths and nearly three times the rate of all-cause mortality and inpatient psychiatric care compared to age and sex-matched controls.[100] Elevated suicide rates (compared to the

[95] R. C. W. Hall et al. (2005).
[96] Gomez-Lumbreras & Villa-Zapata (2024).
[97] Laidlaw & Jorgensen (2024).
[98] Laidlaw & Jorgensen (2024).
[99] See Gomez-Lumbreras & Villa-Zapata (2024), Table 2.
[100] Dhejne et al. (2011).

general population) have also been reported in other studies.[101] As with FAERS data, it is impossible to determine causation, in part due to presence of confounders such as co-occurring mental health conditions.

### 7.6.2 Detransition and regret

In males, estrogen causes breast growth and infertility that may be irreversible even with cessation of CSH.[102] In females, irreversible virilizing effects of testosterone include face and body hair growth, deepening of the voice, clitoral growth, and male-pattern baldness.[103] Patients of any age may experience regret regarding the permanent physical and physiologic effects of CSH, regardless of how they identify. For example, stably transgender-identified patients may regret loss of fertility. Developing baldness, or chafing/discomfort caused by clitoromegaly, may lead a patient who identifies as a transgender man to regret taking testosterone. Such a patient, or (especially) a detransitioned female, may regret having had a mastectomy with the consequent loss of the ability to breastfeed.

If patients do detransition,[104] they may experience regret,[105] but some patients may integrate the physical changes into their self-concept and not experience regret.[106] Even

[101] C. J. de Blok et al. (2021) found that the standardized mortality ratio for suicide among transgender adults was 3.1 compared to the general population of the Netherlands. In Van Cauwenberg et al. (2021), five out of 177 adolescent patients died by suicide. All suicide deaths were in patients who had been started on CSH (Society for Evidence-Based Gender Medicine, 2024a). Biggs (2022) reported that four out of 15,032 patients referred to the U.K.'s pediatric gender medicine (PGM) clinic died by suicide over a ten-year period. Two of the suicides were in waitlisted patients (so probably not taking CSH). A recent U.S. study reported a suicide rate of two out of 315 patients taking CSH over a two-year period (Chen et al. 2023). See Section 4.3.4.
[102] Cheng et al. (2019); Deutsch (2020a).
[103] Deutsch (2020b).
[104] Detransition refers to reverting back to living as one's sex after having medically and/or surgically transitioned. For discussion of detransition as a phenomenon see Butler & Hutchinson (2020); Irwig (2022); MacKinnon, Expósito-Campos et al. (2023). For research based on survey data from detransitioners or their parents, see Bailey & Diaz (2023); Littman (2018), (2021); Vandenbussche (2022).
[105] Some detransitioners have described adverse experiences with CSH as well as regret; e.g., in a recent court case (DH v. Snyder Case: 21-15668, 07/07/2021, ID: 12164749, DktEntry: 22, n.d.) one patient described that testosterone "exacerbated her anxiety and depression" in addition to prompting increased aggression, risk-taking, and suicidal ideation (p. 22); another patient experiencing depression after several months of euphoria, (p. 24) and another described ongoing regret and distress due to a permanently deepened voice from testosterone and numb scars and absent breasts from mastectomy surgery (p. 18).
[106] MacKinnon et al. (2022).

proponents of PMT acknowledge that regret is a risk (e.g., the phrase “Some adolescents may regret the steps they have taken” in WPATH’s guidelines).[107]

This serious issue has been minimized with the claim that detransition and regret rates are vanishingly low. In fact, the detransition rate is unknown.[108] The ubiquitous claim that the detransition and regret rates are vanishingly low is unsupported by the evidence.[109] A U.K. population-based study not focused on minors found that about one-fifth of patients discontinued hormonal interventions within five years, with more than half of them reporting experiences of detransition and/or regret.[110] Reasons for detransition are complex[111] and can be related to external[112] or internal[113] factors. With respect to clinical research studies of children and adolescents, one study reported a 7.1% regret rate,[114] two found low rates of CSH discontinuation or reidentification with birth sex (<5%),[115] and one found a higher rate of CSH discontinuation (25%).[116]

## 7.7 Mortality risk

Four population-based cohort studies have found that transgender individuals appear to have higher mortality risk when compared to members of the general population of

[107] Coleman et al. (2022, p. S47).
[108] Cohn (2023).
[109] The detransition rate after PBs and CSH has been described as very low, but this is backed by little evidence. A few sources are frequently cited. One is an SR of surgery studies with limited (if any) relevance to PMT, which reported a regret rate of around 1% (Bustos et al., 2021). This SR had methodological problems, calculation errors, and included mostly studies of poor or moderate quality, many with follow-up times that were inadequate for capturing regret (Cohn, 2023; Expósito-Campos & D’Angelo, 2021). Additionally, there were issues with the ways included studies defined regret; in Wiepjes et al. (2018), for example, patients needed to report regret to their clinician and ask to start natal sex hormones. Another study was based on survey research of individuals who identified as transgender *at the time of survey completion*. Some respondents had detransitioned in the past (usually due to factors like stigma or other external difficulty) before re-identifying as transgender (Turban et al., 2021).
A survey of surgeons found respondents had rarely been asked to perform reversals (Narayan et al., 2021); Cohn (2023) noted that these findings were hard to interpret because of “unclear follow-up time, loss to follow-up, and even measurement instrument (Were questions about regret routinely asked and was there a consistent definition of regret in use?)” (p. 1944). Another study of surgical regret partly quantified regret via request for surgical reversals (Jedrzejewski et al., 2023), which Cohn pointed out would have excluded patients who do not return to their surgeons.
[110] Boyd et al. (2022).
[111] MacKinnon, Gould et al. (2023).
[112] Turban et al. (2021).
[113] Littman (2021); Littman et al. (2024).
[114] Crabtree et al. (2024).
[115] Cavve et al. (2024); van der Loos et al. (2022).
[116] Roberts et al. (2022).

similar age and sex. In the U.S., private insurance data from 2011 to 2019 indicated that transgender persons were nearly twice as likely to die as age- and sex-matched controls.[117] A Dutch cohort study that included five decades of data found that compared to their natal sex peers, transgender people had an elevated standardized mortality ratio (higher risk of death).[118] A 2023 cohort study from the U.K. found that compared to their natal sex peers, transgender people had higher risk of mortality (34 % higher for females, 60% higher for males).[119] Finally, a Swedish study that included three decades of data found that the mortality risk for transgender persons was 2.8 times that of age and natal sex matched population controls.[120]

This Review does not assess the methodological quality of these epidemiological studies or quantitatively synthesize their findings. The magnitude of the mortality risk for maintaining a transgender identity remains uncertain, as do the underlying causal factors (causes of death found to be elevated among transgender persons included suicide, cardiovascular disease, and HIV[121]). Moreover, in light of ongoing epidemiological shifts (see Section 4.3.1.1), it is unclear whether these findings extend to children and adolescents with GD. These studies further support a cautionary stance toward PMT, however, especially insofar as the Dutch cohort study found that despite changes in care of the transgender population over five decades, the elevated mortality risk has persisted, not declined.[122]

[117] Hughes et al. (2022).
[118] de Blok et al. (2021).
[119] Jackson et al. (2023).
[120] Dhejne et al. (2011).
[121] See de Blok et al., 2021; Dhejne et al., 2011; Hughes et al., 2022; Jackson et al. 2023.
[122] de Blok et al. (2021).

# Chapter 8 Summary and Implications of Evidence Review

Medical and surgical interventions for children and adolescents with gender dysphoria (GD) are widely promoted as essential and even lifesaving, yet the evidence base does not support strong conclusions about their effectiveness in improving mental health or reducing GD. Analysis of the biological plausibility of harms is necessary, and suggests that some short- and long-term harms are likely (in some cases expected) sequelae of treatment.

The Food and Drug Administration (FDA) also looks at risks in this manner when making a risk/benefit determination:

> Benefit-risk planning is most valuable in cases where a challenging benefit-risk assessment can be reasonably anticipated, either because the extent of benefit is expected to be modest or is highly uncertain, or when serious adverse events of the drug can be anticipated (e.g., based on a suspected class effect, understanding of the mechanism of action, and/or early-phase or non-clinical safety findings).[1]

The FDA states that with respect to risks, it is important to understand suspected class effects, meaning the types of predicted effects that are known to occur within the same class of medications. For example, the class of diuretics called thiazides are known to cause hypokalemia (low potassium), and so this potential adverse effect must be taken into account when making a risk/benefit determination regarding thiazides.

The FDA also emphasizes the importance of understanding the physiological mechanism of action, meaning the known way in which a drug affects the body. For example, medications called beta blockers affect the beta-adrenergic receptor and by their known mechanism of action cause effects such as slowed heart rate and decreased cardiac contractility. These physiological mechanisms—and the potential adverse effects of bradycardia (slow heart rate) and reduced cardiac output (amount of

[1] Center for Biologics Evaluation and Research (CBER) and Center for Drug Evaluation and Research (CDER) (2023).

blood pumped by the heart)—must be taken into account when making a risk/benefit determination regarding beta blockers.

Similarly, risk/benefit determinations regarding PMT must take into account both class effects and known mechanism of action for these interventions. Moreover, as the FDA also emphasizes, when the risks of a treatment are serious, anticipated effects must be proportionate:

> In cases where serious risks are anticipated, it is important to consider whether the risk can be outweighed by a benefit of sufficient certainty, magnitude, and clinical relevance to patients.[2]

Some of the plausible harms of PMT are serious. The likelihood of infertility when puberty blockers (PBs) are provided at the early stage of puberty and followed by cross-sex hormones (CSH) does not have to be demonstrated in a clinical trial. This is because the mechanism is well-understood and conducting a trial would amount to an unethical "parachute test."[3]

Analysis of all available data described in this section of the Review suggests that the risk/benefit profile of medical and surgical interventions for children and adolescents with GD is unfavorable.

This has implications for decision-makers—ranging from individual clinical care to guideline development, health policy, and regulation.[4] The findings of this evidence review also underscore the importance of clearly distinguishing how values and preferences are incorporated at different levels of decision-making.

At the individual level, shared decision-making must be grounded in transparency. This means that patients and their families need to be fully informed—not just about available interventions, but also about their potential benefits, harms, alternative

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[2] Center for Biologics Evaluation and Research (CBER) and Center for Drug Evaluation and Research (CDER) (2023). See Chapter 13 for discussion of ethical implications.
[3] Smith & Pell (2003). The paper highlights the limitations of "gold-standard" research designs such as randomized controlled trials (RCTs) by pointing out that no RCTs have been done on the effects of jumping from a plane without a parachute. Narrow (mis)application of EBM would conclude that there is "very low certainty evidence" of death, given the dearth of high quality studies.
[4] Zeng et al. (2023); Zhang et al. (2017).

options, and the certainty or uncertainty of the supporting evidence. When this information is missing or inaccurate, the values and preferences people express may be influenced by incomplete understandings.[5]

At the level of clinical practice guidelines and health policy, values and preferences should reflect those of a population well-informed about the strength of evidence. Weak or uncertain evidence for benefits requires greater caution and flexibility, not stronger recommendations.[6]

At the regulatory level, because decisions must prioritize public health and safety, the strength of the evidence is especially important. When evidence for benefit is lacking or of very low certainty, regulatory frameworks should focus on ongoing evaluation, risk mitigation, and the collection of more robust data before allowing broad implementation. At all levels, responsible decision-making requires a clear grasp of what is known, what remains uncertain, and how this understanding informs ethical obligations of clinicians. Several of the other chapters in this Review explore these issues in greater depth.

[5] Zhang, Alonso-Coello, et al. (2019); Zhang, Coello, et al. (2019).
[6] Guyatt et al. (2008).

PART 3

# CLINICAL REALITIES

# Chapter 9 Review of International Guidelines

Like in other areas of medicine, clinical care for gender dysphoric (GD) youth is typically guided by clinical practice guidelines (CPGs). The aim of such guidelines is to promote practices that are proven to improve patient outcomes and reduce unwarranted variation in care. Although guidelines are not mandates and clinicians must still exercise professional judgment, they serve as important reference points that influence treatment decisions, institutional protocols, insurance coverage policies, and broader standards of medical practice.

This chapter provides an overview of CPGs that address care for youth with GD. Section 9.1 is a primer on the purpose and characteristics of trustworthy evidence-based guidelines. Section 9.2 provides an overview of the quality of the existing guidelines in pediatric gender medicine as assessed by a systematic guideline appraisal. It also discusses the newest guidelines not included in this appraisal. Section 9.3 profiles the clinical recommendations set out in the only two guidelines rated as trustworthy (both from Nordic countries).

## 9.1 The role and process of clinical practice guidelines

Clinical practice guidelines are a set of clinical care recommendations intended to optimize patient care.[1] While used primarily by healthcare providers, CPGs also guide hospitals in standardizing care, informing insurance coverage decisions, shaping health policy, and supporting medical education. Researchers use them to identify knowledge gaps, and legal professionals may cite them in malpractice cases. Informed patients and caregivers may also rely on CPGs to participate in shared decision-making and advocate for appropriate care.

The field of evidence-based medicine (EBM) provides several sources describing the characteristics of a trustworthy guideline.[2] According to the National Academy of Medicine (NAM),[3] trustworthy CPGs:

[1] Brignardello-Petersen et al. (2021).
[2] Brignardello-Petersen et al. (2021); Brouwers et al. (2010); Lima, Mirza et al. (2023).
[3] Formerly the Institute of Medicine.

> should be *based on a systematic review of the existing evidence*; be developed by a knowledgeable, multidisciplinary panel of experts and representatives from key affected groups; consider important patient subgroups and patient preferences, as appropriate; be based on an explicit and transparent process that *minimizes distortions, biases, and conflicts of interest*; provide a clear explanation of the logical relationships between *alternative care options* and health outcomes, *provide ratings of both the quality [certainty] of evidence and the strength of the recommendations*; and be reconsidered and revised as appropriate when important new evidence warrants modifications of recommendations.[4]

Most guideline users will focus on two core elements of guidelines: the content of the recommendations, and their strength. One of the most widely accepted approaches to rating the strength of recommendations is the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) approach. GRADE classifies recommendations according to their direction and strength into four categories: (1) strong recommendation for an intervention; (2) conditional or weak recommendation for an intervention; (3) conditional recommendation against an intervention; and (4) strong recommendation against an intervention.[5]

In addition, there is a GRADE recommendation known as “only in research.”[6] It is used sparingly in situations in which an intervention may be promising but lacks sufficient evidence to support its general use. The “only-in-research” recommendation is appropriate when three conditions are met: (1) the available evidence is of low or very low certainty, making it unclear whether the intervention provides meaningful benefit; (2) further research has a large potential to reduce this uncertainty and produce more definitive evidence; and (3) conducting such research is deemed valuable given anticipated costs and risks. This recommendation may be accompanied by a second strong recommendation not to use the intervention outside the research context.[7]

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[4] Graham et al. (2011, p. 5, emphasis added).
[5] Andrews, Schünemann et al. (2013).
[6] Agarwal et al. (2020).
[7] Andrews, Guyatt et al. (2013, p. 724); Guyatt, Oxman, Kunz et al. (2008, p. 1051).

In addition to interpreting evidence of benefits and harms, guideline panels that develop CPGs also must "trade off the benefits and risks, burden, and costs associated with alternative management strategies and, in doing so, consider their patients' unique predicament and values and preferences" to make their final recommendations and GRADE them for strength.[8] Guideline development groups must be free from or carefully manage financial, intellectual, and personal conflicts of interest, and should represent diverse and balanced views.

The credibility of guidelines should be assessed before their recommendations are accepted as trustworthy. A guideline's trustworthiness and authority depend on how closely the development group adhered to best practices for guideline development.[9] The Appraisal of Guidelines for Research and Evaluation (AGREE II) instrument is one of the most well-established validated tools for assessing the quality and methodological rigor of CPGs. The AGREE II instrument evaluates guidelines across six domains: scope and purpose, stakeholder involvement, rigor of development, clarity of presentation, applicability, and editorial independence. Each domain is rated on a standardized 7-point scale, with higher scores indicating greater methodological quality and trustworthiness. AGREE II further provides two overall assessments, one summarizing the guideline's overall quality and another evaluating whether the guideline should be recommended for implementation in clinical practice. By promoting transparency and consistency in guideline appraisal, AGREE II helps healthcare providers, policymakers, and patients identify guidelines most likely to improve patient outcomes and quality of clinical decision-making. Other approaches for evaluating the trustworthiness of CPGs emphasize related but distinct dimensions.[10]

## 9.2 Summary of systematic appraisal of clinical guidelines and guidance documents

At least two systematic reviews (SRs) have evaluated the quality (trustworthiness) of CPGs addressing the care of patients with GD. One focused on guidelines applying to

[8] Guyatt et al. (2015).
[9] Graham et al. (2011).
[10] Brignardello-Petersen et al. (2021); Lima, Mirza et al. (2023).

all age groups,[11] and the other on guidelines devoted specifically to the care of youth.[12] Both relied on AGREE II.[13] This section focuses on the SR that assessed guidelines for pediatric GD, which was conducted by researchers at the University of York to inform the development of the Cass Review.[14]

The York analysis identified 23 and appraised 21 clinical guidelines and clinical guidance documents for their methodological rigor and quality. York's analysis revealed three main findings: (1) all the guidelines, with the exception of two (from Sweden and Finland), were found to be untrustworthy due to serious deviations from the methodological standards for trustworthy guideline development; (2) most international guidance documents have relied heavily on the World Professional Association for Transgender Health (WPATH) and Endocrine Society (ES) guidelines,[15] which were themselves closely linked through overlapping authors and with WPATH acting as a sponsor for the development of ES guidelines; and (3) none of the three guidance documents that have shaped the United States's approach to pediatric GD are trustworthy due to serious problems in their development methodology.[16]

### 9.2.1 Methodological quality of existing guidelines and guidance documents

All guidelines and guidance documents assessed by the York appraisal were evaluated across AGREE II's six domains. The researchers also provided two assessments, one on quality of the guideline overall, and the other on whether the guideline can be recommended for clinical implementation.

The reviewers noted that while generally most guidelines scored well in the domain of "clarity of scope and purpose," most scored poorly in the domains of "rigour of

[11] Dahlen et al. (2021).
[12] Taylor, Hall, Heathcote et al. (2024a, 2024b).
[13] Brouwers et al. (2010).
[14] Taylor, Hall, Heathcote et al. (2024a, 2024b). In this chapter, as in this two-part systematic review (SR), the word "guidelines" will be used to refer to the various documents that were appraised, some of which were not formal clinical practice guidelines (CPGs). The reviewers included "published articles or documents that [provided] at least one specific recommendation for the assessment and/or care of children and/or adolescents (age 0–18) experiencing gender dysphoria/incongruence, and which were developed by or for a professional, healthcare or government organisation or from a research study" (Taylor, Hall, Heathcote et al., 2024a, p. s66).
[15] Coleman et al. (2012); Hembree et al. (2009); Hembree et al. (2017).
[16] See Taylor, Hall, Heathcote et al. (2024a).

development," "editorial independence," and "applicability" (see Figure 9.1 below). These are the domains that tend to most strongly influence the overall rating and the recommendation for use in clinical practice.[17]

Only the Swedish and the Finnish guidelines were rated as "recommended for implementation" by all reviewers; they also received the highest overall quality score, with Sweden rated as six and Finland rated as five (out of seven) (see Figure 9.2 below). The Swedish and Finnish guidelines were the only guidelines that described how the evidence base was reviewed and that linked the evidence to clinical recommendations. All other guidelines and guidance documents scored between two and four and were not recommended for implementation by one or more reviewers.[18]

Overall, the researchers described existing guidance documents that recommend pediatric medical transition (PMT) as "[lacking] an independent and evidence-based approach," noting that it was difficult to detect what evidence had been reviewed and how this informed development of recommendations. Moreover, they reported that the links between specific recommendations and evidence were often unclear or missing. See Figure 9.2 below.

[17] Hoffmann-Eßer et al. (2018).
[18] Taylor, Hall, Heathcote et al. (2024a, p. s65).

**Figure 9.1**[19]

**Table 1** Critical appraisal domain scores

| Guideline ID | Scope and purpose | Stakeholder involvement | Rigour of development | Clarity of presentation | Applicability | Editorial independence |
|---|---|---|---|---|---|---|
| AACAP 2012 | 65 | 39 | 44 | 63 | 7 | 31 |
| American Academy of Paediatrics 2018 | 70 | 26 | 12 | 30 | 6 | 69 |
| American Psychological Association 2015 | 74 | 74 | 24 | 50 | 18 | 14 |
| Council for Choices in Healthcare Finland 2020 | 91 | 69 | 51 | 72 | 56 | 0 |
| de Vries 2006 | 63 | 31 | 10 | 74 | 17 | 6 |
| Endocrine Society 2009 | 65 | 33 | 44 | 70 | 22 | 31 |
| Endocrine Society 2017 | 63 | 33 | 42 | 72 | 21 | 92 |
| European Society for Sexual Medicine 2020 | 63 | 52 | 39 | 70 | 7 | 58 |
| Fisher 2014 | 65 | 20 | 12 | 35 | 17 | 44 |
| Health Policy Project 2015 | 63 | 63 | 16 | 24 | 33 | 6 |
| Norwegian Directorate of Health 2020 | 76 | 81 | 30 | 57 | 47 | 17 |
| Oliphant 2018 | 44 | 39 | 12 | 33 | 21 | 0 |
| Pan American Health Organisation 2014 | 52 | 44 | 13 | 31 | 21 | 0 |
| Royal Children's Hospital Melbourne 2018 | 81 | 59 | 19 | 41 | 19 | 14 |
| Society for Adolescent Health and Medicine 2020 | 41 | 24 | 17 | 41 | 7 | 0 |
| South African HIV Clinicians Society 2021 | 59 | 59 | 21 | 43 | 24 | 69 |
| Strang 2018 | 87 | 31 | 18 | 37 | 15 | 19 |
| Swedish National Board of Health & Welfare 2022 | 91 | 87 | 71 | 83 | 25 | 36 |
| UCSF 2016 | 70 | 41 | 23 | 37 | 26 | 0 |
| WPATH 2012 | 85 | 61 | 26 | 56 | 17 | 17 |
| WPATH 2022 | 83 | 63 | 35 | 56 | 24 | 39 |

≥70%, 31%–69%, ≤30%.
AACAP, American Academy of Child & Adolescent Psychiatry; UCSF, University of California, San Francisco; WPATH, World Professional Association for Transgender Health.

[19] Taylor, Hall, Heathcote et al. (2024a, Table 1).

**Figure 9.2**[20]

| Guideline ID | OQA1 | R1 | OQA2 | R2 | OQA3 | R3 |
|---|---|---|---|---|---|---|
| AACAP 2012 | 3 | No | 3 | No | 4 | Yes (mod) |
| American Academy of Paediatrics 2018 | 2 | No | 3 | No | 1 | No |
| American Psychological Association 2015 | 3 | No | 2 | No | 3 | No |
| Council for Choices in Healthcare Finland 2020 | 5 | Yes (mod) | 5 | Yes | 5 | Yes (mod) |
| de Vries 2006 | 2 | No | 3 | No | 2 | No |
| Endocrine Society 2009 | 3 | No | 4 | No | 4 | Yes (mod) |
| Endocrine Society 2017 | 4 | Yes (mod) | 4 | No | 4 | Yes (mod) |
| European Society for Sexual Medicine 2020 | 3 | Yes (mod) | 2 | No | 3 | No |
| Fisher 2014 | 2 | No | 3 | No | 1 | No |
| Health Policy Project 2015 | 2 | No | 1 | No | 2 | No |
| Norwegian Directorate of Health 2020 | 3 | No | 3 | Yes (mod) | 4 | Yes (mod) |
| Oliphant 2018 | 2 | No | 3 | No | 1 | No |
| Pan American Health Organisation 2014 | 2 | No | 2 | No | 1 | No |
| Royal Children's Hospital Melbourne 2018 | 3 | No | 3 | No | 2 | No |
| Society for Adolescent Health and Medicine 2020 | 2 | No | 2 | No | 1 | No |
| South African HIV Clinicians Society 2021 | 3 | No | 3 | No | 2 | No |
| Strang 2018 | 3 | Yes (mod) | 2 | No | 2 | No |
| Swedish National Board of Health & Welfare 2022 | 6 | Yes (mod) | 6 | Yes | 6 | Yes |
| University California San Francisco 2016 | 3 | No | 2 | No | 3 | No |
| WPATH 2012 | 3 | Yes (mod) | 3 | No | 2 | No |
| WPATH 2022 | 3 | Yes (mod) | 3 | No | 3 | No |

OQA: Overall quality assessment - 1-7 where 1 is lowest possible score and 7 is the highest possible score

R: Recommend guideline for use - Possible responses are Yes, Yes with modifications (Yes (mod)), No

The numbers 1-3 refer to the three reviewers who appraised the guidelines

Abbreviations
AACAP – American Academy of Child & Adolescent Psychiatry
WPATH – World Professional Association for Transgender Health

### 9.2.2 Interdependence of the existing guidelines and guidance documents

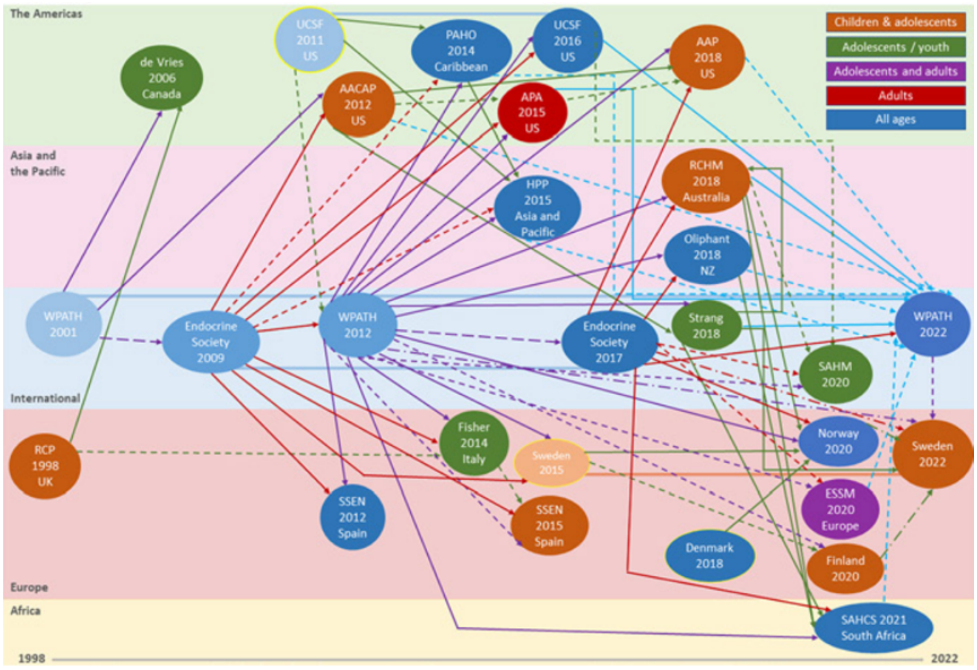
The guideline appraisal noted an unusual interdependence between much of the published guidance supporting the management of children and adolescents with GD (see Figure 9.3).[21] There was a marked pattern of "circular referencing and mutual endorsements"[22] between guidelines recommending PMT for routine care, with WPATH and the ES guidelines influencing all other guidelines and guidance documents.

The pattern of "links and influences between guidelines"[23] had been established early in the field's tenure with the ES 2009 and WPATH 2012 guideline versions.[24] The pattern persisted as both ES and WPATH updated their guidelines in 2017 and 2022

[20] Supplementary Table S3 in Taylor, Hall, Heathcote et al. (2024a).
[21] Taylor, Hall, Heathcote et al. (2024a, pp. s69–s70).
[22] Donkin et al. (2025, p. 3).
[23] Taylor, Hall, Heathcote et al. (2024a, p. s69).
[24] Coleman et al. (2012); Hembree et al. (2009).

respectively.[25] Moreover, the 2009 and 2017 ES guidelines state that WPATH was a guideline sponsor.[26] The University of York researchers noted that this represents problematic circularity, "with WPATH adopting Endocrine Society recommendations in its own guideline and acting as a cosponsor for and providing input on drafts of the Endocrine Society guideline."[27]

**Figure 9.3**[28]




The Cass Review emphasized the interdependence and circularity of the guidance documents:

> The circularity of this approach may explain why there has been an apparent consensus on key areas of practice despite the evidence being poor … the guideline appraisal raises serious questions about the reliability of current guidelines.[29]

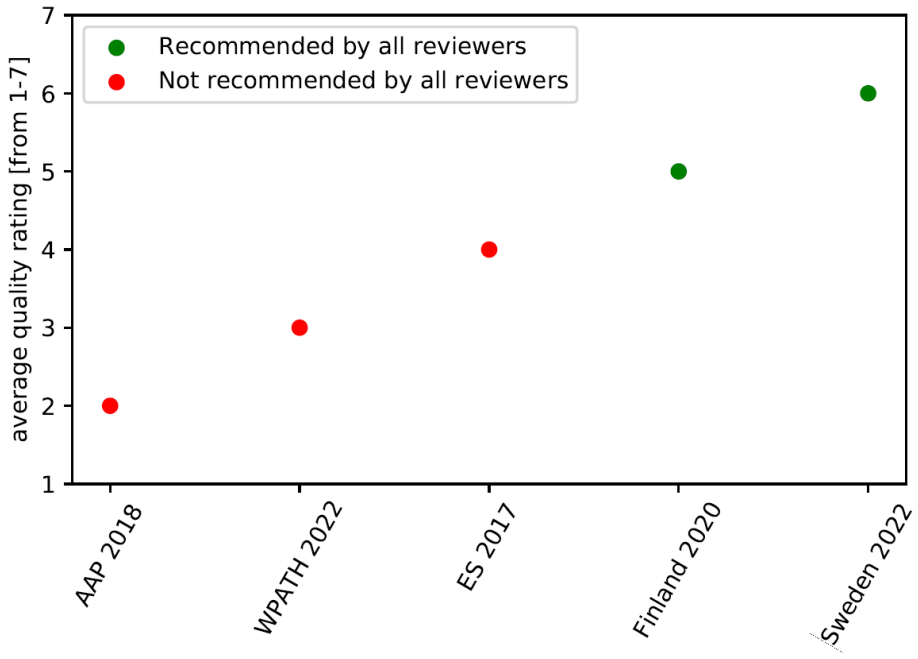
[25] Coleman et al. (2022); Hembree et al. (2017).
[26] Hembree et al. (2009); Hembree et al. (2017).
[27] Taylor, Hall, Heathcote et al. (2024a, p. s69).
[28] Taylor, Hall, Heathcote et al. (2024a, p. s69).
[29] Cass (2024a, pp. 129–130).

### 9.2.3 WPATH, Endocrine Society, and the American Academy of Pediatrics (AAP) guidelines and practice statements

The most influential sources of clinical guidance for treating pediatric GD in the U.S. are the WPATH and ES CPGs and the American Academy of Pediatrics' (AAP) guidance document.[30] The York appraisal assessed all three documents as very low quality and did not recommend them for implementation.

Figure 9.4 plots the overall rating of the quality of these three guidance documents relative to the only two guidelines that have been recommended for implementation by the York appraisal.[31]

**Figure 9.4**[32]




Legend**:** AAP: American Academy of Pediatrics; WPATH: World Professional Association for Transgender Health; ES: The Endocrine Society

[30] The American Academy of Pediatrics' (AAP) 2018 Policy Statement was reaffirmed in 2023 (Rafferty et al., 2018); the Endocrine Society's (ES) published in 2017 represents the most recent published version (Hembree et al., 2017); the World Professional Association for Transgender Health's (WPATH) most recent clinical practice guideline is *Standards of Care*, Version 8 (SOC-8) (Coleman et al., 2022).
[31] Taylor, Hall, Heathcote et al. (2024a).
[32] Figure 9.4 plots data from Supplementary Table S3 in Taylor, Hall, Heathcote et al. (2024a).

The York appraisal found that WPATH's guideline, *Standards of Care*, Version 8 (SOC-8) and the ES guidelines were both "[lacking] in developmental rigour." SOC-8 was given an overall score of three out of seven; the ES guideline scored four out of seven. The extensive problems in the SOC-8 development process, which included the failure to base recommendations on SRs and numerous other serious limitations in the process, ultimately led to this low rating and the status of "not recommended for implementation." These problems are discussed in more detail in Chapter 10.

The ES 2017 guideline, which used the GRADE framework, has been criticized for making strong recommendations for hormonal interventions in the setting of a weak evidence base.[33] Notably, none of the systematic reviews that supported the ES guidelines were based on outcomes for children or adolescents.[34] The ES recommendation to initiate puberty blockade using gonadotropin-releasing hormone agonists was derived by putting a higher value on achieving a "satisfactory physical appearance" while putting the lowest value on avoiding physical harms.[35] The ES recommendation for the initiation of cross-sex hormones no earlier than age 16 was justified by placing a higher value on adolescent's purported ability to meaningfully consent to cross-sex hormones (CSH) and placing a lower value on avoiding harm from potentially prolonged pubertal suppression.[36]

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[33] E.g. Block (2023c). If such recommendations are made, which the GRADE framework allows in specific circumstances, the reasoning for this must be clear. The ES guidelines did not do this.

[34] Maraka et al. (2017); Singh-Ospina et al. (2017); Of note, the only study of adolescents included in these systematic reviews, Klink et al. (2015), concluded that puberty blockers impede the development of bone mass density (BMD) and cross-sex hormones fail to bring up BMD to its pretreatment potential: "Between the start of GnRHa and age 22 years the lumbar areal BMD z score (for natal sex) in transwomen decreased significantly from 0.8 to 1.4 and in transmen there was a trend for decrease from 0.2 to 0.3. This suggests that the BMD was below their pretreatment potential and either attainment of peak bone mass has been delayed or peak bone mass itself is attenuated" (Klink et al., 2015, p. E270).

[35] Full quotation: "These recommendations place a high value on avoiding an unsatisfactory physical outcome when secondary sex characteristics have become manifest and irreversible, a higher value on psychological well-being, and a lower value on avoiding potential harm from early pubertal suppression" (Hembree et al., 2017, p. 13). Published gender-affirming care literature has also described a prioritization of aesthetic outcomes, e.g., a research paper noted gender-affirming care can be beneficial because (among other reasons) "The combination of pubertal suppression and cross-sex hormones] may … increase the concordance of youths' appearance with cisgender norms …" (McGregor et al., 2024, p. 5).

[36] Full quotation: ""The recommendation to initiate pubertal induction [cross-sex hormones] only when the individual has sufficient mental capacity (roughly age 16 years) to give informed consent for this partly irreversible treatment places a higher value on the ability of the adolescent to fully understand and oversee the partially irreversible consequences of sex hormone treatment and to give informed consent. It

"Panel stacking" refers to the practice of populating clinical practice guideline development groups with individuals who share a similar position regarding the treatment under consideration, often due to having financial or non-financial conflicts of interest. Because of its tendency to perpetuate groupthink, panel stacking represents a threat to the trustworthiness of any CPG, especially in the absence of systematic reviews of evidence.[37] Managing conflicts of interest is essential in CPG development because CPGs make recommendations factoring in not only the evidence, but a range of other considerations, such as "values and preferences" (see Section 10.3.1).

ES guidelines for this area of medicine have been heavily influenced by the Dutch clinician-researchers who pioneered the practice of PMT. Three of the eight authors of the 2009 ES guidelines, which first introduced PMT into clinical practice, were the founders of the Dutch protocol: Peggy Cohen-Kettenis, Henriette A. Delemarre-van de Waal, and Louis J. Gooren.[38] The group also included Norman Spack, who co-founded the first U.S. pediatric gender clinic. Most of the authors were also prominent WPATH members and leaders. The 2017 update to the ES guidelines continued to maintain a strong link with the Dutch clinical team and further cemented the relationship with WPATH through common authorship.

The intellectual commitments of ES guideline panel members find expression in the fact ES recommended PMT despite not having conducted SRs of evidence for benefits and most risks—a strong departure from norms governing how CPGs should be drafted—and the unusual "values and preference" statements mentioned above.

The AAP 2018 policy statement is not technically a CPG but has been widely cited in the U.S. as influential in establishing how pediatricians respond to children and adolescents with GD.[39] Because the document offers extensive clinical recommendations regarding every step of PMT—from social transition to PBs, CSH,

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places a lower value on the possible negative effects of delayed puberty. We may not currently have the means to weigh adequately the potential benefits of waiting until around age 16 years to initiate sex hormones vs the potential risks/ harm to BMD and the sense of social isolation from having the timing of puberty be so out of sync with peers" (Hembree et al., 2017, p. 3885).

[37] Kepp et al. (2024).

[38] Hembree et al. (2009).

[39] Rafferty et al. (2018).

and surgery—the York team assessed the trustworthiness of the AAP guidance using the same criteria they applied to CPGs. Using the AGREE II criteria, the AAP policy statement received the second-lowest average score among all international guidelines: 2 out of 7.

As noted in Chapter 2, the AAP's policy statement's use of "gender diverse" casts a very wide net regarding which patients the organization considers eligible for medical intervention. The statement has been heavily criticized in peer-reviewed articles, which have pointed out that it is rife with referencing errors and inaccurate citations.[40] Despite persistent advocacy among its members, who have petitioned the organization to release updated, evidence-based guidance for treating pediatric GD,[41] the organization chose to reaffirm their policy statement in 2023.[42]

### 9.2.4 More recent international guidelines

Since the publication of the York reviews, several new European guidelines have been issued in final or draft form, including those from the German AWMF, the French Society of Pediatric Endocrinology and Diabetology, the Polish Sexological Association, the European Society for Paediatric Endocrinology (ESPE), and the forthcoming final version of the French National Authority for Health (HAS) guidelines.[43] These reviews have been developed amid growing international awareness of the weaknesses of WPATH's SOC-8 and the outdated nature of the Endocrine Society's guidelines, reflecting the need to have defensible, localized, up-to-date guidelines that set the standards of care for youth with GD.

[40] E.g., Cantor (2020); McDeavitt (2025).
[41] See description of efforts led by pediatrician Julia Mason in Block (2023c).
[42] Block (2023c).
[43] The AWMF German guidelines (German Society for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy [DGKJP], 2025) are comprehensive; the guidelines by the French Society of Pediatric Endocrinology and Diabetology (SFEDP; Brezin et al., 2024) are limited to hormonal interventions and is currently available only as a preprint; the Polish guidelines, supported by the Polish Sexological Association, the Polish Psychiatric Association, and the Polish Society of Paediatric Endocrinology and Diabetology cover most aspects of PMT but are almost entirely derivative (Gawlik-Starzyk et al., 2025); the ESPE guidelines (Hannema et al., 2024) primarily focus on endocrine (medical/hormonal) interventions; the draft French national HAS guidelines became publicly available when a French newspaper published a draft in November 2024 (Sugy, 2024); the final version has not yet been released.

Unfortunately, these recently-published (or as yet to be finalized) guidelines suffer from the same or similar methodological weaknesses that have rendered the WPATH and the Endocrine Society's guidelines not trustworthy and not recommended for implementation. All suffer from non-evidence-based approaches to guideline development and exhibit one or more of the following problems: (1) guideline development groups are composed of individuals with unmanaged conflicts of interest relating to the provision of pediatric gender transition services; (2) the guideline takes an a priori WPATH-aligned position that medicalized pathway of hormones (and surgery) is the recommended treatment approach;[44] (3) the recommendations are not based on rigorously-conducted systematic reviews of evidence;[45] (4) individual studies that drive treatment recommendations are not appraised for quality, and their conclusions are accepted at face value; (5) the recommendations are not graded for strength, resulting in ambiguity in clinical decision-making.

While some guidelines, in response to criticism of the draft version, have added references to systematic reviews of evidence, it is apparent that SRs were not utilized to make treatment recommendations, with apparent and unreconciled contradictions between the findings of the SRs and the treatment recommendations.[46] Alternatives such as psychological support are in nearly all cases marginalized or even entirely absent. Ongoing reliance on the "consensus-based" non-evidence-based process underlines the trustworthiness of these guidelines, raising questions about the rigor of guideline development in pediatric gender medicine not just in the U.S., but worldwide.

[44] For example, the German AWMF guidelines state that the members of the guideline development group adhere to the WPATH positions (Society for Evidence-Based Gender Medicine, 2025).The Polish guideline explicitly bases itself on WPATH SOC-8, without independent review, stating, "This document is based on the Standards of Care for the Health of Transgender and Gender Diverse People, Version 8 (2022) [1] and an Endocrine Society Clinical Practice Guideline … The person conducting psychological or sexological assessment and care should be familiar with the content of the current standards of care of the World Professional Association for Transgender Health and comply with them" (Gawlik-Starzyk et al., 2025, pp. 4, 8).

[45] The German guidelines methodological report explicitly states that no evidence-based recommendations were developed (German Society for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy (DGKJP), 2025, p. 6).

[46] Society for Evidence-Based Gender Medicine (2025).

## 9.3 Overview of recommendations in the high-quality guidelines

Of the 23 guidelines that were appraised in the systematic evidence review, only two were recommended for practice by all three reviewers: the guidelines from Finland (which were scored five out of seven), and those from Sweden[47] (which were scored six out of seven). Both guidelines recommend that psychotherapy—not hormones or surgeries—should be the standard of care for youth with GD, and that any use of hormones should be limited to nationally overseen research or exceptional circumstances. As described in the systematic review, the two Scandinavian guidelines were the only ones that based their treatment recommendations on systematic evidence reviews, a key element of trustworthy clinical practice guidelines.

### 9.3.1 Finland

In 2020, Finland's Council for Choices in Health Care (PALKO/COHERE) issued national guidelines for treating gender dysphoria in minors, representing a major shift away from the model endorsed by WPATH's *Standards of Care* Version 7.[48] Finland's guidelines emphasize that the first-line treatment for adolescents experiencing gender distress should be psychosocial support and psychotherapy, not early medical intervention.[49]

Based on a commissioned SR, Finnish authorities concluded that the body of evidence supporting puberty blockers and cross-sex hormones for youth is inconclusive. Importantly, the guidelines explicitly state that "in light of available evidence, gender reassignment of minors is an experimental practice."[50] While medical transition remains possible, it is restricted to highly select cases—specifically, adolescents with persistent, childhood-onset gender dysphoria, no major psychiatric comorbidities, and stable identity development through adolescence.

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[47] In 2022, Sweden's healthcare authority, Socialstyrelsen, issued guidelines recommending that "Psychosocial support that helps adolescents deal with natal puberty without medication needs to be the first option when choosing care measures" (Socialstyrelsen, 2022b, p. 45).
[48] Council for Choices in Health Care Finland (2020a). There is an official English-language summary (Council for Choices in Health Care Finland, 2020c), as well as an unofficial English translation of the complete guideline document (Council for Choices in Healthcare Finland, 2020b).
[49] Council for Choices in Healthcare Finland (2020a).
[50] Council for Choices in Healthcare Finland (2020b, p. 8).

Surgery is not offered to minors in Finland. Furthermore, the guidelines stress that psychiatric conditions must be treated and stabilized before considering hormonal interventions. Special caution is placed on the use of puberty blockers, given emerging evidence about their potential impact on brain maturation and long-term decision-making capacity.

Adherence to this strict protocol is assured because Finland has only two centers that provide assessments and approve treatment indications for youth with GD, with highly coordinated clinical teams that adhere to the strict Finnish protocol.

Since the publication of the Finnish guidelines, two major register studies have provided additional support for their cautious approach. One explored psychiatric needs among gender clinic-referred patients, finding high rates of psychiatric comorbidities and suggesting that the rising number of referrals includes increasingly complex clinical cases.[51] The second examined suicide mortality among individuals under 23 and found that, after adjusting for psychiatric needs, there was no statistically significant difference in suicide rates between gender-referred youth and matched controls from the general population.[52]

Finland's cautious, evidence-focused guidelines stand in stark contrast to the WPATH model. Rather than expanding access amid uncertain outcomes, Finland has re-centered pediatric care around rigorous assessment, psychotherapeutic exploration, and prioritizing long-term health.

### 9.3.2 Sweden

In 2022, Sweden's National Board of Health and Welfare (Socialstyrelsen) issued an update to its national guidelines for the treatment of children and adolescents with gender dysphoria.[53] This update was motivated in part by shifts in epidemiology and uncertainty about the recent rise in cases, and limited data regarding rates of detransition or regret among young adults. Grounded in a systematic review of the

[51] Kaltiala et al. (2023).
[52] Ruuska et al. (2024).
[53] The official Swedish-language guidelines are Socialstyrelsen (2022c). Page numbers in this section refer to a certified, complete, unofficial translation that was submitted as evidence in a U.S. court case (Socialstyrelsen, 2022b). There is also an official English-language summary (Socialstyrelsen, 2022a).

evidence,[54] the new framework departs sharply from the SOC-8. Unlike WPATH's affirmation-based model, Sweden's guidelines conclude that the risks associated with puberty blockers and cross-sex hormones likely outweigh the expected benefits for young people. As with Finland, such interventions are now restricted to research settings, with exceptions permitted under strict clinical oversight.

The Swedish guidelines prioritize a comprehensive psychosocial evaluation and support. Clinicians are instructed to conduct thorough assessments of psychological, psychosocial, and psychiatric factors, utilizing validated instruments, investigative interviews, and detailed life histories from both the young person and their guardians.[55] Rather than presuming a fixed outcome, the guidelines emphasize the importance of supporting the open-ended exploration of gender identity.[56] Systematic screening for neurodevelopmental conditions, including autism spectrum disorder (ASD) and attention deficit hyperactivity disorder (ADHD), is required early in the evaluation process, with full neuropsychiatric assessments initiated when indicated.[57] Moreover, concurrent psychiatric conditions must be identified and addressed as early as possible, ensuring that psychosocial support and psychiatric interventions are available to bolster overall mental health throughout the evaluation.

Medical and surgical interventions are subject to equally rigorous restrictions. Treatment with puberty blockers is confined to the context of clinical research. Until such research protocols receive ethics board approval, puberty blockers may be administered only in exceptional cases under the updated guidelines.[58] Similarly, the use of cross-sex hormones is permitted solely within research studies, with narrowly defined exceptional cases allowed.[59] Only adolescents who meet stringent eligibility criteria may be considered for surgery, again under exceptional circumstances.[60] Across all

[54] Swedish Agency for Health Technology Assessment and Assessment of Social Services (2022).
[55] Socialstyrelsen (2022b, p. 63).
[56] Socialstyrelsen (2022b, p. 66).
[57] Socialstyrelsen (2022b, p. 69).
[58] Socialstyrelsen (2022b, p. 85).
[59] Socialstyrelsen (2022b, p. 90).
[60] Socialstyrelsen (2022b, p. 95).

interventions, the emphasis is on minimizing risk and ensuring that treatment decisions are based on the best available evidence.

Sweden's 2022 guidelines represent a marked shift away from the PMT model. Anchored in a systematic review of the literature, they embody a precautionary approach grounded in the principles of evidence-based medicine. Sweden's approach signals an important recalibration in gender medicine, reinforcing that interventions involving youth must be guided by systematic evidence appraisal, ethical responsibility, and a focus on long-term health trajectories.

### 9.3.3 United Kingdom

Currently, there is no finalized clinical practice guideline for pediatric gender medicine available from the National Institute for Health and Care Excellence (NICE) for England and Wales, or the Scottish Intercollegiate Guidelines Network (SIGN) for Scotland.[61]

NICE was commissioned by NHS (National Health Service) England[62] to perform a systematic evidence review evaluating treatments for gender dysphoria among children and adolescents. NICE's evidence reviews identified significant limitations in existing research, concluding that the available evidence was of very low quality (as assessed by the GRADE methodology) [63] and therefore insufficient to support the development of a formal clinical guideline.

These two SRs were cited as part of the Terms of Reference for an independent review that NHS England commissioned, led by Dr. Hilary Cass.[64] Released in 2024, the Cass Review aimed to thoroughly evaluate pediatric gender medicine services in the U.K. and provide clear recommendations on clinical practices and service delivery. Rather than providing explicit clinical guidelines, the Cass Review is a detailed, independent, investigative assessment based on multiple commissioned peer-reviewed systematic reviews.[65]

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[61] Silver et al. (2025, p. 2).
[62] On March 13, 2025 it was announced that NHS England would be merged with the Department of Health and Social Care (DHSC).
[63] National Institute for Health and Care Excellence (2020b, 2020a).
[64] Cass (2024a, Appendix 1).
[65] Archives of Disease in Childhood (2024).

The Cass Review identified critical issues within the existing pediatric gender services, such as inadequate clinical assessments, insufficient long-term outcome data, and significant concerns over rapidly increasing referrals of young people with gender incongruence. Overall, it identified a significant gap between the available evidence and the clinical justifications for medical interventions for gender dysphoria in young people[66] and emphasized the necessity for comprehensive psychological support and thorough, individualized assessments.

In response to the Cass Review, NHS England introduced major policy changes. Puberty blockers are no longer routinely commissioned due to insufficient evidence regarding their long-term safety and effectiveness. Instead, they will only be accessible through structured clinical research trial, which is currently being designed. Additionally, cross-sex hormones are available to young people around the age of 16, contingent upon strict eligibility criteria and detailed assessment protocols by specialist multi-disciplinary teams and a new national Multi-Disciplinary Team (MDT) review process.[67] The NHS recently revealed that since the Cass Review was published, no minor has been found eligible to receive CSH according to the updated policy.[68]

Without a finalized clinical practice guideline, clinicians must follow the current policies directly informed by the Cass Review. These interim standards prioritize patient safety, rigorous clinical evaluation, ongoing research, and holistic care approaches, significantly revising the clinical pathways for young individuals experiencing gender incongruence.

## 9.4 Conclusion

The current landscape of CPGs for treating youth with GD underscores significant variability in methodological rigor and trustworthiness. A rigorous guideline appraisal demonstrates that only a select few guidelines, notably those from Finland and Sweden, meet high standards for evidence-based clinical decision-making. These Scandinavian

[66] Cass (2024a, pp. 22, 29, 32–35).
[67] National Health Service England (2024a); a review of adult services was also announced (National Health Service England, 2024b).
[68] Spencer (2025).

guidelines emphasize cautious approaches grounded firmly in systematic evidence reviews, advocating psychotherapy and psychosocial interventions as first-line treatments, and restricting medical interventions to carefully monitored research settings or exceptional circumstances.

In contrast, many internationally influential guidelines, including those from WPATH, the Endocrine Society, and the American Academy of Pediatrics, have been criticized for substantial methodological shortcomings and inadequately managed conflicts of interest, resulting in recommendations not reliably supported by rigorous evidence. This pattern of circular referencing and mutual endorsement among these guidelines further compromises their credibility and has likely perpetuated a perceived consensus in pediatric gender medicine that belies the actual paucity of high-quality evidence.

Given the ethical implications and lifelong consequences of medical interventions in youth, it is imperative that future guidelines in pediatric gender medicine adhere strictly to established standards of evidence-based medicine. Guideline developers must prioritize transparency, methodological rigor, independence from vested interests, and systematic evidence appraisal. Only through such disciplined approaches can clinical practice guidelines fulfill their intended role of safeguarding the health and well-being of youth with GD, promoting informed decision-making among clinicians, families, and policymakers alike.

# Chapter 10 WPATH's *Standards of Care* 8

As shown in Chapter 9, the guidelines issued by the World Professional Association for Transgender Health (WPATH) have been rated among the lowest in quality and have not been recommended for implementation by systematic reviews (SRs) of guidelines. Despite their lack of trustworthiness, for more than a decade WPATH guidelines have served as the foundation of the healthcare infrastructure for gender dysphoric (GD) youth in the United States. The WPATH *Standards of Care* guidelines are embedded in nearly all aspects of healthcare including clinical education, delivery of care, and reimbursement decisions by private and public insurers.

This chapter focuses on the current Version 8 of the WPATH *Standards of Care* guidelines (SOC-8),[1] published in 2022.[2] Section 10.1 describes WPATH's central role in shaping the treatment of youth with GD in U.S. healthcare settings. Section 10.2 provides a brief overview of the rationale for the development of SOC-8, highlighting how it differs significantly from earlier guideline versions with particular emphasis on the new Adolescent chapter. Section 10.3 examines the development process of SOC-8, considering both internal dynamics and external pressures, and analyzes its multipurpose role as a clinical guideline, a tool to secure insurance coverage, and a legal instrument aimed at promoting broad access to pediatric medical transition (PMT). Section 10.4 highlights one critical downstream consequence of the guideline's flawed development process: the elimination of all minimum age requirements for endocrine and surgical interventions (except phalloplasty) in minors. Section 10.5 discusses the implications of continued reliance on WPATH.

## 10.1 Influence of WPATH in the United States

There is no accredited subspecialty in "gender medicine" in the U.S. Instead, the practice of PMT typically involves a series of handoffs among different providers: a pediatrician or an adolescent medicine specialist[3] first assesses whether PMT may be

[1] Coleman et al. (2022).
[2] Portions of this evaluation necessarily rely on internal WPATH communications made publicly available through subpoena. See Boe v. Marshall, No. 2:22-cv-00184, (M.D. Ala.). Some material from Boe v. Marshall was previously released in Voe v. Mansfield, No. 1:23-Cv-00864: 100-1 (M.D.N.C.).
[3] American Board of Pediatrics (2024).

warranted; mental health professionals diagnose GD or a related condition and recommend PMT; endocrinologists prescribe hormonal interventions (puberty blockers and cross-sex hormones); and various surgical specialties including plastic surgeons, urologists, and gynecologists perform a range of surgical procedures to alter the adolescent's sex-specific physical characteristics.

The multidisciplinary nature of PMT combined with the absence of a single medical specialty responsible for overseeing patient care has resulted in an oversight gap WPATH has filled. WPATH has successfully positioned itself as the leading authority in the field of gender medicine, including pediatric gender medicine. The first version of WPATH's Standards of Care was published in 1979. Subsequent updates followed in 1980, 1981, 1990, 1998, 2001, and 2012.[4] The most recent version, SOC-8, was published in 2022.[5] Chapter 3 provides a brief history of gender medicine and the role of WPATH, which was originally formed (under a different name, the "Harry Benjamin International Gender Dysphoria Association") to focus on the gender transition wishes of mature adults, but after pediatric transitions were pioneered in the Netherlands, increasingly shifted its attention to children and adolescents.

### 10.1.1 WPATH's role in clinical practice

Although some medical societies involved in providing PMT have issued guidance documents on specific aspects of care for youth with GD,[6] no professional society has published a comprehensive, up-to-date, evidence-based clinical guideline covering the full PMT pathway. Instead, medical societies have largely deferred to WPATH, adapting their own clinical positions to WPATH's most recent recommendations.[7] Unlike the U.K., Sweden, Finland, and other countries with centralized medical policymaking bodies that

[4] SOC-7 was released in 2011 and published in 2012.
[5] Coleman et al. (2022).
[6] The most notable documents are discussed in Chapter 9 and include the Endocrine Society's guidelines (Hembree et al., 2017) and the American Academy of Pediatrics position statement (Rafferty et al., 2018). Both are significantly outdated.
[7] In August 2024, WPATH was presented in a court case as "the leading association of medical professionals treating transgender individuals." It was further asserted that "[t]he Nation's leading medical and mental health organizations recognize [SOC-8] as reflecting the accepted standard of care for treating gender dysphoria." See U.S. v. Skrmetti (No. 23-477), Brief for the petitioner (2024, p. 3).

issue independent, authoritative clinical care guidelines,[8] in the United States, WPATH's influence has been outsized and largely uncontested—primarily due to the fragmented healthcare system and the complexity of the U.S. regulatory environment.[9] WPATH's influence on clinical protocols for the care of youth with GD is pervasive within U.S. medicine. Its *Standards of Care* have become the primary framework embedded in clinical protocols and hospital operating procedures for the diagnosis and treatment of youth with GD.[10]

### 10.1.2 WPATH's role in medical education and training

WPATH has become the dominant influence shaping the education and training of U.S. healthcare providers who treat youth with GD. Indeed, it is virtually coterminous with the field itself. Because there is no officially accredited medical subspecialty in gender medicine in the U.S., and no formal board certification process as exists in fields like adolescent medicine, endocrinology, or psychiatry, training in PMT remains informal, variable, and largely organized through WPATH-affiliated medical education efforts.

WPATH's Global Education Initiative (GEI) offers certified courses that serve as the core curriculum for clinical training in the U.S. and worldwide. WPATH GEI's official collaborators include pediatric gender clinics and hospitals, the American Medical Student Association, and the World Health Organization (WHO).[11] Major U.S. hospitals and medical schools have embedded WPATH-aligned standards into their residency, fellowship, and continuing medical education programs.[12] Gender clinics reference

[8] When NHS England moved to remove puberty blockers for GD from clinical practice, it received complaints that the decision was "not consistent … with the WPATH standards of care for trans children." NHS England responded: "The policy proposition has been developed following a review of peer reviewed published evidence as per NHS England Policy Development Methods. NHS England does not commission based upon guidelines or treatment protocols e.g. WPATH 8.0 [SOC-8] or practices in other countries. The not for routine commissioning position has been concluded based on 'insufficient clinical benefit to the patient of which evidence of harm is one aspect'" (National Health Service England, 2023, p. 4).

[9] The U.S. lacks a centralized medical policy-making body, resulting in what has been described as a "bewildering regulatory maze" (Field, 2008, p. 607).

[10] For an example, see Seattle Children's Hospital (n.d.). Note: it appears some pediatric gender clinics have recently removed public references to WPATH and have also removed the backups of the websites, making them inaccessible to citation.

[11] See World Professional Association for Transgender Health (n.d.).

[12] For example, Mt. Sinai's transgender psychiatry fellowship: "Fellows are provided time and financial compensation to attend the U.S. Professional Association for Transgender Health or World Professional

WPATH's *Standards of Care* in clinical protocols and physician training.[13] WPATH-certified trainers further extend WPATH's reach into professional training at institutional and community levels.[14] WPATH certification not only is encouraged but also in some cases mandated.[15] This widespread integration has effectively established WPATH as the de facto authority for defining clinical competency, treatment eligibility criteria, and ethical frameworks across much of U.S. medicine.

### 10.1.3 WPATH's role in insurance reimbursement

Many U.S. public and private health insurers and regulatory bodies rely on SOC-8 when making coverage determinations. Requirements for credentialing, assessing medical necessity, and making coverage decisions almost universally reference WPATH's *Standards of Care*. Major U.S. private insurers, including Anthem,[16] Kaiser,[17] Aetna,[18] Cigna,[19] and UnitedHealthcare,[20] explicitly reference SOC-8 to define medical necessity, eligibility criteria, and coverage decisions.

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Association for Transgender Health bi-annual conferences" (Icahn School of Medicine at Mt. Sinai, n.d.-b). Mt. Sinai's transgender surgery fellowship attending faculty includes Marci Bowers, the former president of WPATH (Icahn School of Medicine at Mt. Sinai, n.d.-a). Oregon Health and Sciences University's gender surgery fellowship program director is "the surgical lead for the World Professional Association for Transgender Health (WPATH) and the United States Professional Association for Transgender Health (USPATH) meetings" (OHSU School of Medicine Surgery, n.d.).

[13] For example, the Stanford Medicine Children's gender clinic website states, "the expert members of the Gender Clinic team consists [sic] of providers from pediatric endocrinology, adolescent medicine, pediatric urology and social services, supporting each child's or adolescent's gender identity. All our providers are members of the World Professional Association for Transgender Health (WPATH)" (Stanford Medicine Children's Health, n.d.). Fenway Health references WPATH as the authority in the field: "The World Professional Association of Transgender Health (WPATH) monitors current research and new knowledge about evidence-based medicine for transgender people. It publishes Standards of Care and Ethical Guidelines for health care providers, which 'articulate a professional consensus about the psychiatric, psychological, medical, and surgical management of gender dysphoria' to guide clinicians in providing quality care for transgender and gender diverse people, including children and adolescents" (Fenway Health, n.d.).

[14] See Harvard Medical School's continuing medical education (Harvard Medical School, n.d.), led by senior WPATH leaders involved in the production of SOC-8 (e.g., Sari Reisner, WPATH board member). Also see the following training initiatives: Gender Health Training Institute (n.d.); Silver Hill Hospital/World Professional Association for Transgender Health (n.d.).

[15] For example, the Washington State Department of Corrections mandates that physicians providing "gender-affirming care" must be WPATH-certified or obtain certification within two years (Washington State Department of Corrections, 2025). The Oregon Health Authority is another example (see following section).

[16] Anthem (2023). WPATH is referenced 35 times as the basis for all recommendations.

[17] Kaiser Permanente (2023). Transition and detransition policies require "WPATH letters."

[18] Aetna (2024). Adolescents are to meet "WPATH criteria" for hormonal interventions.

[19] Cigna (2025).

[20] Stroumsa & Kirkland (2020).

Government payers, such as Medicaid programs, also commonly rely on WPATH guidelines as the primary basis for developing their medical policies. In 2024, Oregon became the first state to officially adopt SOC-8 as its standard of care, committing the Oregon Health Authority to cover treatments based entirely on WPATH guidelines. Oregon additionally requires that if a patient is denied coverage for medical or surgical intervention related to gender transition, the clinicians reviewing the patient appeal must complete WPATH-aligned training:

> health care providers reviewing adverse benefit determinations denying or limiting access to gender-affirming treatment complete the "WPATH SOC-8 Health Plan Providers Training," which is specifically designed for providers responsible for such reviews, or an equivalent training.[21]

This is notable as WPATH SOC-8 lists a wide range of procedures that should be provided to patients wishing to receive them. These include, in addition to puberty blockers, cross-sex hormones, mastectomy, and male-to-female or female-to-male genital surgeries, procedures such as vaginoplasty with a "retention of penis and/or testicle" (also known as penis-preserving vaginoplasty), removal of genitals entirely to create a "flat front" appearance, and uterine transplantation for male patients. Procedures listed as potentially necessary also include body contouring, liposuction/lipofilling, facelift, blepharoplasty, various implants, hair transplantation, vocal cord surgery, and a wide range of other appearance-modifying surgical procedures.[22]

## 10.2 The development of SOC-8 and the Adolescent chapter

Unlike most professional medical associations, WPATH does not require its members to be medical professionals. Full professional membership with voting privileges is also available to professionals in such fields as law, family studies, anthropology, and other areas. Reflecting the diverse aims of its broad membership, WPATH treatment

[21] Oregon Department of Consumer and Business Services (2024a). This position was further strengthened in the final ruling in Oregon Department of Consumer and Business Services (2024b).
[22] Coleman et al. (2022, p. S136).

guidelines are designed to serve multiple purposes, ranging from clinical care to political advocacy.

Published in 2022, SOC-8 marked WPATH's first attempt to develop guidelines that were "evidence-based" and aimed to meet higher methodological standards through reliance on SRs.[23] The previous version, SOC-7, published in 2011 and described in Chapter 4, under which PMT began rapidly to accelerate, did not rely on SRs. Instead, its recommendations were based on "cultural shifts" and other factors.[24]

In pursuit of its goal to develop an evidence-based guideline, WPATH entered into a contractual agreement with the Evidence-Based Practice Center (EPC) at Johns Hopkins University (JHU), tasking JHU experts with conducting SRs and serving as methodological advisors to ensure a trustworthy guideline development process.[25] Given the sharp increase in the numbers of adolescents seeking PMT, and the rapid growth of pediatric gender clinics and PMT providers in the U.S., WPATH recognized the need to develop a robust adolescent section, acknowledging that "the Adolescent chapter is going to be one of the most scrutinized chapters in the entire standards of care."[26]

As the process of guideline development began, WPATH focused on two cornerstone issues for PMT: the evidence regarding the effectiveness of endocrine interventions in treating GD, and the evidence that adolescents have the capacity to consent to such treatments.

### 10.2.1 Hope for evidence of effectiveness

At the outset of its collaboration with JHU's EPC team, WPATH leadership expressed confidence that an SR would yield "evidence-based statements" supporting both the

[23] See Sinai (2022): "The World Professional Association for Transgender Health (WPATH) Standards of Care Version 7 (SOC7) are not evidence-based. The WPATH website clearly states that SOC8 is the first version being developed using an evidence-based approach."
[24] The prior version, SOC-7, stated that its recommendations were "based upon significant cultural shifts, advances in clinical knowledge, and appreciation of the many health care issues that can arise for transsexual, transgender, and gender nonconforming people beyond hormone therapy and surgery" (Coleman et al., 2012, p. 166).
[25] Coleman et al. (2022, pp. S248–S249); Karen Robinson is named as the EPC lead and listed as a member of the SOC-8 Guideline Steering Committee.
[26] Boe v. Marshall, No. 2:22-cv-00184: 560-18 (2024, p. 42).

benefits of PMT interventions and the capacity of adolescents to consent to them. SOC-8 Adolescent chapter co-chair Scott Leibowitz wrote:

> We are a unique chapter when it comes to the evidence based review because we do feel that there is a justification to do a literature review on what we postulate will be evidence based statements about the interventions (even though we expect the evidence to be graded low). Essentially the literature reviews on some of our statements—as we plan on submitting once I edit them to incorporate the feedback from our workgroup—are important for the following reasons:
>
> - Studies that demonstrate the psychological effectiveness of some of the interventions (blockers, hormones) in adolescence all included cohorts who went through a rather rigorous psychological assessment. We would like to talk this through as a group because it's a very important point.
> - There is also literature on adolescent decision making and capacity to make informed decisions that carry lifelong ramifications. Since our chapter is a new chapter for the standards of care, and it focuses in on a developmental age group/assessment, (as opposed to other chapters that are more intervention specific), we are going to want to justify certain statements with graded evidence in terms of looking at the literature on *decision making in the developmental cohort (adolescence)* in general.[27]

The JHU evidence evaluation team was presented with the expectation that their appraisal would support the "gender-affirming" medical approach WPATH had been advancing for over a decade. The original plan was for SOC-8 recommendations—asserting that treatment effects are beneficial and that adolescents possess sufficient capacity to consent to medical interventions—to be labeled "evidence-based," even if the quality of the evidence was low.[28] However, the evidence evaluation challenged

[27] Boe v. Marshall, No. 2:22-cv-00184: 560-18 (2024, pp. 43–44).
[28] From a WPATH internal email exchange related to SOC-8: "Adolescent medical decision making literature is something that the Johns Hopkins team is able to help out in terms of a literature review and grading" (Boe v. Marshall, No. 2:22-cv-00184: 560-18, 2024, p. 116); for discussion of grading recommendations, see Chapter 9.

WPATH's expectations on both fronts: adolescent capacity to consent, and the benefits of PMT overall.

### 10.2.2 Adolescent capacity to consent

In response to a request from JHU, Annelou de Vries, the leading Dutch developer of PMT and a co-chair of SOC-8's Adolescent chapter section, supplied the JHU team with publications she believed demonstrate adolescent competence to consent to PMT.[29] Upon reviewing these publications, however, the JHU team informed WPATH that they provided, at best, "limited indirect evidence" and were insufficient to support a statement asserting that adolescents possess the capacity to consent.[30]

Following the JHU team's findings, WPATH abandoned its original plan to base its claim about adolescent capacity to consent on evidence. Instead, the Adolescent chapter of SOC-8 features a section on consent that stresses the importance of careful assessment but cites the same studies that JHU had deemed insufficient to answer the question of competence. The section also features a discussion about the "unique situations in which an adolescent minor is consenting for their own treatment without parental permission."[31]

The section fails to acknowledge the dearth of reliable information about whether adolescents in a state of clinical distress can meaningfully consent to drastic interventions—with many known and some unknown risks—in the absence of demonstrable physical disease and without credible knowledge of their likely future identity trajectory.

The ethical challenges of obtaining informed consent from adolescents regarding the procedures that are expected to threaten their fertility is illustrated by a candid comment

[29] The primary investigator of the Dutch Protocol and WPATH Adolescent chapter co-lead (de Vries) provided the relevant literature on adolescent consent for JHU evaluation, writing: "some articles on decision making in teens; these are review articles, but show that there is some evidence. I think we need this sort of evidence base on decision making capacity in adolescents, regarding medical affirming treatment" (Boe v. Marshall, No. 2:22-cv-00184: 560-18, 2024, p. 106).
[30] The JHU response to WPATH regarding the literature on adolescent consent to PMT stated, "The articles forwarded provide limited indirect evidence for this question. Please let me know if I missed something" (Boe v. Marshall, No. 2:22-cv-00184: 560-18, 2024, p. 106).
[31] Coleman et al. (2022, pp. S61, Section 6.12.c).

from a WPATH physician, who observed, “it’s always a good theory that you talk about fertility preservation with a 14-year-old, but I know I’m talking to a blank wall,” adding, “they’d be like, ew, kids, babies, gross.”[32]

### 10.2.3 Treatment effects

In contrast to WPATH’s early abandonment of efforts to evaluate minors' capacity to consent, SRs assessing the treatment effects of puberty blockers (PBs), cross-sex hormones (CSH), and surgeries were completed by the JHU team. As the following sections in this chapter detail, WPATH perceived the JHU evidence appraisals as unfavorable to its goals of promoting broad access to these interventions for minors. In response, WPATH leadership moved to suppress the findings, barring the JHU evidence evaluation team from publishing its results.

The Adolescent chapter does not disclose that the SR regarding the effects of PMT had, in fact, been conducted. Instead, the chapter claims that SRs are not feasible:

> Despite the slowly growing body of evidence supporting the effectiveness of early medical intervention, the number of studies is still low, and there are few outcome studies that follow youth into adulthood. Therefore, a systematic review regarding outcomes of treatment in adolescents is not possible.[33]

Ultimately, SOC-8 recommended that adolescents wishing to undergo PMT be provided with PBs, CSH, and surgery. The recommendations are couched in cautious-sounding language, stating that GD should be “sustained over time,” particularly before administering CSH. However, no clear standard is set; the only guidance offered is the vague and clinically meaningless phrase “several years, leaving critical decisions open to broad and subjective interpretation”:

> Given potential shifts in gender-related experiences and needs during adolescence, it is important to establish the young person has experienced

[32] Hughes (2024, p. 12).
[33] Coleman et al. (2022, p. S46).

several years of persistent gender diversity/incongruence prior to initiating less reversible treatments such as gender-affirming hormones or surgeries.[34]

As the following sections describe, the recommendations were deliberately crafted to allow any "willing" medical provider to prescribe hormones or perform surgeries on minors, even those with significant co-occurring mental health conditions.

## 10.3 The process of creating SOC-8

The creation of trustworthy, evidence-based guidelines requires first assembling a guideline development group (GDG) that is free from conflicts of interest (COI) or, at minimum, where COIs are transparently disclosed and rigorously managed. Only after this foundation is established should SRs proceed, addressing pre-specified guideline questions. Finally, recommendations should be based on SRs of evidence and should consider additional factors, with the aim of improving healthcare quality for individual patients and improving public health and access to care.

Although WPATH originally embarked on an evidence-based guideline development process, internal documents reveal significant deviations from internationally recognized clinical guideline development standards established by organizations such as the National Academy of Medicine[35] (NAM) and the World Health Organization (WHO).[36] These serious deviations from established standards meant that the GDG could not fulfill its promise of producing credible, evidence-based guidelines.

### 10.3.1 Conflicts of interest management

Managing COIs—both financial[37] and intellectual[38]—is essential for producing trustworthy clinical practice guidelines. Intellectual conflicts may even surpass financial

[34] Coleman et al. (2022, p. S60).
[35] Graham et al. (2011), published under its previous name, Institute of Medicine (IOM).
[36] SOC-8's reference to WHO's International Classification of Diseases (ICD) appears to have intended to be WHO's *Handbook for Guideline Development*, 2nd Edition. See Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, p. 204).
[37] The WHO defines financial COI as any "paid work, consulting income or honoraria and travel stipends; support for research, including direct monetary contributions or donations of equipment, laboratory space, etc.;" "that is related to, or could be affected by, the outcome" of the guideline development process (World Health Organization, 2014, p. 63).
[38] NAM and WHO define intellectual COIs relevant to clinical practice guideline development as "academic activities that create the potential for an attachment to a specific point of view that could unduly affect an individual's judgment about a specific recommendation" (Guyatt, 2010, p. 739).

ones in their influence,[39] especially when guidelines rely heavily on expert consensus. The selection of the GDG[40] chair plays a pivotal role in ensuring the integrity of clinical guideline development.[41] WHO recommends selecting a guideline chair who is free of significant conflicts and neutral between differing perspectives.[42] NAM advises using "unconflicted methodologists"[43] to lead recommendation development, working alongside clinical experts as advisors rather than panel members. Both NAM and WHO stress that conflicted members should constitute no more than a minority of any GDG, emphasizing ongoing COI management throughout the entire guideline development process.[44] In 2022, the Endocrine Society adopted NAM's recommendations, prioritizing reduced conflicts even if it limits expert involvement.[45]

When the principal investigator of the JHU EPC team became involved in the SOC-8 process, she observed that they "would expect many, if not most, SOC8 members to have competing interests."[46] SOC-8's final COI statement reads as follows:

> Conflict of interests [sic] were reviewed as part of the selection process for committee members and at the end of the process before publication. No conflicts of interest were deemed significant or consequential.[47]

Based in part on correspondence between WPATH and the EPC team during the development of SOC-8, there are serious questions regarding the accuracy of this statement.

SOC-8 GDG members, including Chair Eli Coleman, had unmanaged financial and/or non-financial COIs that were plausibly "significant or consequential." Coleman had both financial and non-financial interests in the topic. He was the lead author of SOC-7[48] and had coauthored academic publications in support of expanded access to medical

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[39] Guyatt et al. (2015, p. 540).
[40] SOC-8's GDG comprised a guidelines steering committee with a chair and two co-chairs, who in turn appointed 26 chapter leads, 77 chapter members, and 16 stakeholders.
[41] Graham et al. (2011, p. 87).
[42] World Health Organization (2014, p. 61).
[43] Graham et al. (2011, pp. 81–82).
[44] World Health Organization (2014, p. 71); Graham et al. (2011, p. 7).
[45] McCartney et al. (2022).
[46] Boe v. Marshall, No. 2:22-cv-00184: 560-16 (2024, p. 2).
[47] Coleman et al. (2022, p. S177).
[48] Coleman et al. (2012).

transition.[49] Using WHO criteria, his professional activities and academic profile, which were closely aligned with advancing medical transition, likely constitute both intellectual and financial COIs.[50]

Additionally, Coleman's academic work was supported with funding from the Tawani Foundation, chaired by Jennifer Pritzker, a philanthropist and advocate for transgender issues.[51] The foundation funded a research center at the University of Minnesota, and Coleman played a significant role in its development. Public statements confirm that the Tawani Foundation also funded the majority of the out-of-pocket costs associated with SOC-8's development.[52]

With Coleman as chair of the GDG, the importance of managing COIs appears to have been consistently misunderstood or undervalued. Coleman admitted under deposition that disclosure statements were not presented until at least six months *after* members had already been selected.[53] In a December 21 (2018) email sent to the SOC-8 education committee, EPC's Karen Robinson stated, "Disclosure, and any necessary management of potential conflicts, should take place prior to the selection of guideline members. Unfortunately, this was not done here."[54]

For former WPATH president Marci Bowers, who played an influential role in shaping SOC-8, the idea of appointing an unconflicted professional to lead the project was outright nonsensical.[55] Another SOC-8 member wrote to the EPC to explain that "unlike other medical guidelines, trans health care is a socially and politically charged issue," and strongly recommended that the JHU team therefore rewrite their COI forms for this

[49] Eisenberg et al. (2020); Rider et al. (2018).
[50] "Financial and nonfinancial interests can overlap. For example, intellectual interests related to career advancement obviously have a monetary component. Examples of roles or positions that might interfere with the objective assessment of a body of evidence include: prior publication of a study or SR that is part of the evidence base under consideration in the guideline; prior public declaration of a firm opinion or position, as in public testimony during a regulatory or judicial process, or in an editorial in a journal; or professional or personal affiliation with an organization advocating for products or services related to the subject of the guideline" (World Health Organization, 2014, p. 63).
[51] Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, p. 239).
[52] Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, p. 239).
[53] Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, pp. 219–222).
[54] Boe v. Marshall, No. 2:22-cv-00184: 560-16 (2024, p. 2).
[55] Boe v. Marshall, No. 2:22-cv-00184: 564-8 (2024, p. 121).

particular guideline.[56] Part of the justification for different treatment was that COIs were so prevalent within the GDG that it would be "impossible" for the group to be free of them.[57] One submitted COI form, on the question of non-financial interests, recorded that "everyone involved in the SOC process has a non-financial interest."[58]

Although WPATH later claimed that none of the SOC-8 members' COIs were significant or consequential, several members clearly met the internationally recognized definitions of COIs established by the NAM and WHO—the kind of conflicts known to bias clinical practice guidelines and erode their trustworthiness. For instance, SOC-8 chapter leaders Dan Karasic and Loren Schechter were paid expert witnesses in legal cases directly related to medical transition before and during the SOC-8 development process,[59] a role NAM explicitly identifies as a COI.[60] Schechter, co-chair of the surgery chapter and a plastic surgeon who derives part of his livelihood from performing gender transition surgeries, voiced concerns to fellow GDG members about openly acknowledging insufficient evidence, noting the potential impact this would have on two federal court cases in which he was serving as a paid expert witness.[61] Despite this clear overlap of financial interest and guideline content, SOC-8 chair Eli Coleman considered it "ethically justifiable" for members involved in active litigation to advocate for guideline changes that could strengthen their legal positions.[62]

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[56] Boe v. Marshall, No. 2:22-cv-00184: 560-16 (2024, p. 3).
[57] Boe v. Marshall, No. 2:22-cv-00184: 560-16 (2024, p. 3).
[58] Boe v. Marshall, No. 2:22-cv-00184: 560-24 (2024, p. 8).
[59] Schechter provided testimony for Dekker v. Weida, No. 4:22-cv-00325 (N.D. Fla. filed Sept. 7, 2022); Willis v. Flagg, No. 17-cv-02754 (N.D. Ill. filed Apr. 10, 2017); Bruce v. South Dakota, No. 3:17-cv-03023-RAL (D.S.D. filed Oct. 5, 2017); Boyden v. Conlin, No. 17-cv-00264-WMC (W.D. Wis. filed Apr. 6, 2017); Kadel v. Folwell, No. 1:19-cv-00272 (M.D.N.C. filed Mar. 11, 2019); Toomey v. State of Arizona, No. 4:19-cv-00035-RM-LAB (D. Ariz. filed Jan. 23, 2019); and Fain v. Crouch, No. 3:20-cv-00740 (S.D.W. Va. filed Nov. 12, 2020).

Karasic provided testimony for C.P. v. Blue Cross Blue Shield of Illinois, No. 3:20-cv-06145 (W.D. Wash. filed Nov. 24, 2020); Kadel v. Folwell, No. 1:19-cv-00272 (M.D.N.C. filed Mar. 11, 2019); Fain v. Crouch, No. 3:20-cv-00740 (S.D.W. Va. filed Nov. 12, 2020); Brandt v. Rutledge, No. 4:21-cv-00450 (E.D. Ark. filed May 25, 2021); K.C. v. Individual Members of the Indiana Medical Licensing Board, No. 1:23-cv-00595-JPH-KMB (S.D. Ind. filed Apr. 5, 2023); Dekker v. Weida, No. 4:22-cv-00325-RH-MAF (N.D. Fla. filed Sept. 7, 2022); and Doe v. Ladapo, No. 4:23-cv-00114-RH-MAF (N.D. Fla. filed Mar. 23, 2023).
[60] Graham et al. (2011, p. 79).
[61] Boe v. Marshall, No. 2:22-cv-00184: 700-13 (2024, p. 56).
[62] Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, p. 158).

WPATH's process not only permitted significant financial and intellectual COIs among GDG members. It also allowed the creation of substantial panel composition bias—a phenomenon known as "panel stacking" (see Section 9.2.3). This occurs when GDGs predominantly consist of members sharing similar viewpoints or vested interests, thereby threatening the validity and trustworthiness of clinical guidelines. Experts in evidence-based medicine describe panel stacking as a major threat, emphasizing that it can profoundly reduce the credibility of recommendations, particularly when, as in pediatric gender medicine, the evidence is limited, contentious, or unsystematically reviewed.[63]

Kepp et al. note that "recruitment specifically because of expressed viewpoints and allegiance is a recognized major problem for guideline development." In their own example from an appraisal of a consensus statement on COVID-19 recommendations, the authors characterized a panel with a "35% (or more) prevalence" of advocates of COVID-19 elimination ("Zero-COVID") as "extreme."[64] For SOC-8, WPATH required that all members of the GDG be "WPATH Full Members in good standing."[65] Marci Bowers explicitly stated that it was important for participants to be "advocates" for WPATH's "gender-affirming" approach to be considered for the GDG,[66] further underscoring the GDG's bias.

Internal documents revealed that WPATH actively monitored SOC-8 members and disciplined those who publicly questioned WPATH's "gender-affirming" approach, creating an environment that discouraged critical dialogue. Psychologist Laura Edwards-Leeper, chair of WPATH's Child and Adolescent Committee and a member of both the child and adolescent SOC-8 committees, co-authored a *Washington Post* opinion piece with Erica Anderson,[67] a psychologist and then-president of WPATH's U.S. chapter, arguing that WPATH "largely seems to be a dangerous echo chamber"

[63] Kepp et al. (2024, p. 5).
[64] Kepp et al. (2024, p. 6).
[65] Coleman et al. (2022, p. 248).
[66] Boe v. Marshall, No. 2:22-cv-00184: 564-8 (2024, pp. 119–120). This response came after it was pointed out to Bowers that selecting GDG members based on their "advocacy" for medical treatment was in "tension" with selecting GDG members who could be "impartial arbiters" on the evidence for those treatments.
[67] Edwards-Leeper & Anderson (2021).

resistant to constructive criticism. Edwards-Leeper privately warned WPATH leaders that their intolerance for dissent and attempts to “muzzle clinicians” risked damaging the organization's credibility among professionals, patients, and educated parents.[68] Anderson faced a formal reprimand[69] after criticizing (with Bowers) the quality and consistency of care provided under the SOC framework.[70]

This combination of poorly managed COIs and restrictive membership practices significantly undermines the credibility and scientific integrity of SOC-8 as a clinical practice guideline. The GDG’s handling of the SRs of evidence WPATH commissioned for development of SOC-8 further highlights the serious threat to clinical integrity that plagued the guideline development process.

### 10.3.2 Suppression of evidence

NAM stipulates that trustworthy guidelines must be based on SRs of existing evidence. SOC-8 was promoted as the first to be “evidence-based,”[71] with its chair claiming it followed “the most rigorous protocol in the world to ensure these standards reflect scientific evidence.”[72] The Methodology section states that 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.”[73]

In 2018, as part of its development of a new clinical guideline, WPATH commissioned more than a dozen SRs from the EPC at JHU. SRs were completed and handed over to WPATH for its chapters on assessment, primary care, endocrinology, surgery, reproductive medicine, and voice therapy.[74]

These expert reviews had the potential to advance current understanding of the state of the evidence, but their usefulness cannot be evaluated because WPATH successfully

[68] Boe v. Marshall, No. 2:22-cv-00184: 560-26 (2024, p. 153).
[69] Boe v. Marshall, No. 2:22-cv-00184: 560-26 (2024, pp. 114–115).
[70] Shrier (2021b).
[71] “This version of the Standards of Care is the first to be developed using an evidence-based approach” (Radix, n.d., p. 13).
[72] Coleman (2023).
[73] Coleman et al. (2022, p. S247).
[74] Boe v. Marshall, No. 2:22-cv-00184: 560-17 (2024, p. 38).

suppressed them. In an email exchange from August 2020, a senior author from EPC, writing to the Agency for Healthcare Research and Quality (AHRQ),[75] stated that their SRs "found little to no evidence about children and adolescents" and that WPATH had been "trying to restrict our [JHU's] ability to publish."[76]

In a memo to all SOC-8 working group members, WPATH leadership reported that they "were caught on the wrong foot" when they learned that JHU wanted to publish reviews that would likely undermine WPATH's "gender-affirming" approach.[77] Despite their initial resistance, the JHU researchers ultimately capitulated to WPATH's new terms, allowing SOC-8's chair, co-chairs, a handpicked chapter member, and WPATH's Board of Directors to pre-approve manuscript content before any independent drafting could occur. Under WPATH's imposed process,[78] researchers were required to submit a proposal form outlining the planned results and conclusions before drafting even began—and again once the manuscript was ready for publication—ensuring that leadership could steer findings to align with predetermined agendas rather than allowing an independent, evidence-driven process.[79]

[75] A unit of the U.S. Department of Health and Human Services.
[76] Boe v. Marshall, No. 2:22-cv-00184: 560-23 (2024, p. 23) The AHRQ official acknowledged the message: "Knowing that there is little/no evidence about children and adolescents is helpful." Nevertheless, two years later HHS released a memo in which it asserted that "[r]esearch demonstrates that gender-affirming care improves the mental health and overall well-being of gender diverse children and adolescents" (OPA: Office of Population Affairs, n.d.).
[77] Boe v. Marshall, No. 2:22-cv-00184: 523-1 (2024, p. 14).
[78] See Figure 10.1.
[79] Boe v. Marshall, No. 2:22-cv-00184: 523-1 (2024, p. 8).

## Figure 10.1: WPATH approval process for manuscripts

1. The lead author submits a proposal of the publication to WPATH with the following headings: Background; Aim(s); Method; Results;

*WPATH Policy Use of Data for SOC8 – Version 2*
*Approved by WPATH Board of Directors – August 2020*

JHU_000003198

EXHIBIT 1 7



Conclusion (Maximum 1 page and states which SOC8 chapter the publication is linked to);

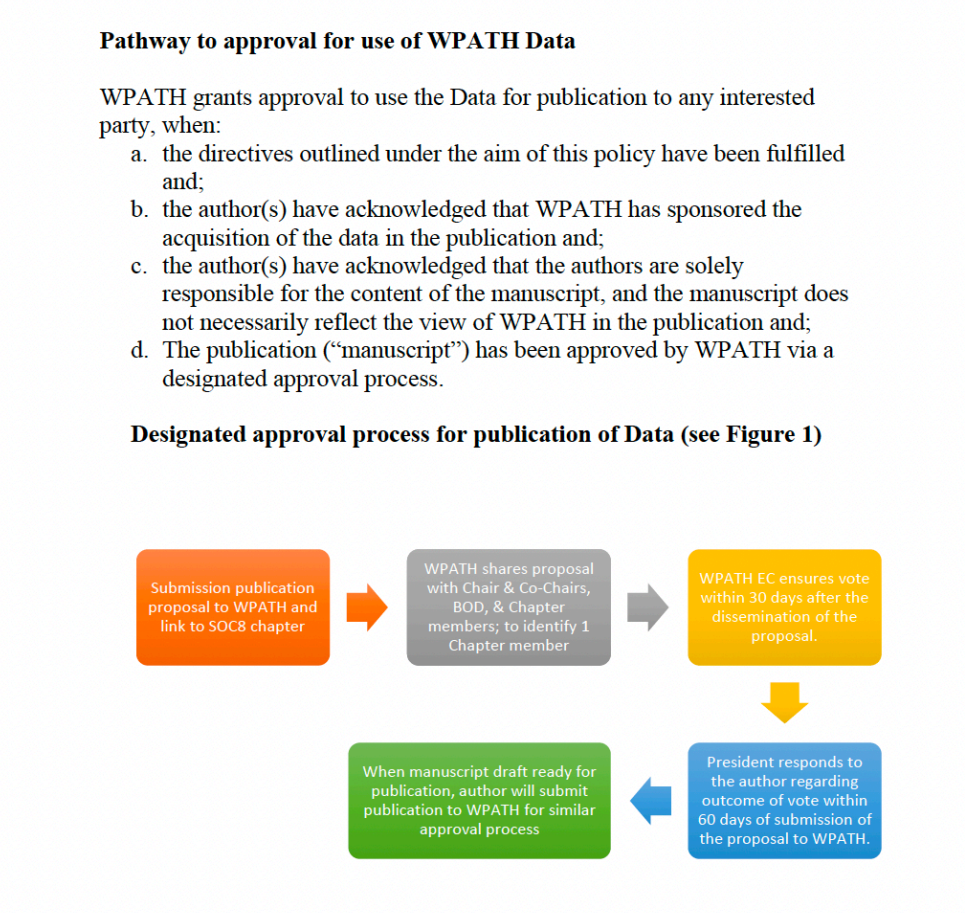
2. It is WPATH's responsibility that the proposal is shared with the Chair and Co-Chairs of the SOC8, the members of the WPATH Board of Directors and all members of the SOC8 chapter linked to the proposed publication within 14 days after receipt of the proposal. The aim will be to identify an individual (s) from the chapter (maximum 2 individuals if a publication concerns more than one chapter) who will work with the lead author(s) of the proposed publication (unless the lead author is already working with one or more Working Group members); it is the responsibility of the Working Group as a whole to identify and to nominate one of their members, either by vote or general consensus within the Working Group.
3. WPATH will keep a record of the possible proposals with deadlines for draft submissions - in order to avoid the development of multiple papers with the same aims using the same data;
4. It is WPATH Executive Committee's responsibility to ensure that a vote is held within 30 days after the dissemination of the proposal.
5. It will be a blind vote and approval to write the paper is granted to the author(s) by majority vote. In case of a tie, the WPATH President will have the deciding vote.
6. It is the President's responsibility to respond to the author(s) with approval or disapproval within fifty-six (56) days of submission of the proposal to WPATH.
7. Once the manuscript draft is ready for publication, the lead author will submit the publication to WPATH
8. It is WPATH Executive Committee's responsibility to ensure that the manuscript is disseminated to the Chair of the SOC8, the Co-Chairs of the SOC8, and the members of the WPATH Board of Directors within 7 days after receipt of the manuscript.
9. It is WPATH Executive Committee's responsibility to ensure that a vote is held within 14 days after the dissemination of the manuscript to the Chair and Co-Chairs of the SOC8 and Board members.
10. It will be a blind vote and approval is granted to author(s) for publication by majority vote. The Chair and Co-Chairs of the SOC8 and Board members all have one equal vote. In case of a tie, the WPATH President will have the deciding vote.

Among the terms required for gaining WPATH approval was ensuring that the SRs' findings supported, or at least did not undermine, WPATH's goal of promoting greater access to medical interventions. Additionally, the SOC-8 chapter's working group leader or an appointed representative or the SOC-8 chair/co-chairs and at least one person

who identified as transgender were required to oversee and approve the manuscript's design, drafting, and final content.[80]

Despite this close involvement and editorial control, all final documents were required to include a statement to the effect that "the authors are solely responsible for the content of the manuscript, and the manuscript does not necessarily reflect the view of WPATH."[81]

### Figure 10.2: Pathway to manuscript approval




WPATH's stated goal was to "ensure that publication does not negatively affect the provision of transgender healthcare in the broadest sense."[82] Following this

[80] Boe v. Marshall, No. 2:22-cv-00184: 523-1 (2024, pp. 5–6).
[81] Boe v. Marshall, No. 2:22-cv-00184: 523-1 Exhibit 1 (n.d., p. 8). See Figure 10.2.
[82] Boe v. Marshall, No. 2:22-cv-00184: 560-17 (2024, p. 92).

renegotiation, only one SR, Baker et al. (2021), was published.[83] Internal WPATH documents reveal that Baker et al. complied with all the mandatory steps of WPATH's updated approval policy—from approving the conclusions before the manuscript was drafted to ensuring extensive WPATH engagement in the process and obtaining the final approvals. The Baker et al. SR was published with the mandatory disclaimer that "WPATH had no role in study design, data collection, analysis, interpretation, or drafting" of the SR. However, internally, WPATH actually recorded[84] its engagement in the design, drafting, and final approval of the article.[85]

[83] One other systematic review (Wilson et al., 2020) was published prior to the policy update.
[84] See checklist in Figure 10.3 below.
[85] Wilson et al. (2020) includes the same statement but was published prior to the new agreement, so it is not possible to determine the degree to which WPATH influenced its drafting and design.

### Figure 10.3: Checklist for Baker et al.[86]

**Checklist for JHU SOC8 systematic review papers**

Title of Paper: Hormone Therapy, Mental Health, and Quality of Life among Transgender People: A Systematic Review

Supporting Chapter: initial question part of questions from Hormone Chapter

Proposed Authors: Kellan E. Baker, MPH, Lisa M. Wilson, ScM, Ritu Sharma, BSc, Vadim Dukhanin, MD, MHS, Kristen McArthur, BA, Karen A. Robinson, PhD

Acknowledged Authors: None

| | |
|---|---|
| Yes or No | This paper provides data that advances the knowledge in the field of transgender health in a positive way |
| Yes or No | This paper will be published in a reputable, academic, peer-reviewed journal |
| | Journal proposed for first submission The Lancet Diabetes & Endocrinology |
| Yes or No | Involves the work group leader of the chapter or alternatively a designated representative of that specific SOC8 Chapter in the design, drafting of the article and final approval of the article |
| | Name of persons involved *chapter members provided original list of questions for reviews* |
| Yes or No | Involves at least one member of the transgender community in the design, drafting of the article and final approval of the article *chapter members provided original list of questions for reviews* |
| | Name of person if not open about trans status, if not open about trans status then enter N/A |
| Yes or No | Adheres to the WPATH language policy |
| | |

WPATH's policy appears to have effectively blocked the planned[87] and completed[88] research—including critical evidence appraisals—from being developed into publishable manuscripts. As a result, important SRs addressing the safety of PBs, CSH, and surgery for adolescents were suppressed, keeping key findings out of the scientific record and shielding them from professional scrutiny.[89]

[86] Source: Boe v. Marshall, No. 2:22-cv-00184: 560-17 (2024, p. 41).
[87] Robinson, Sharma, Baker, et al. (2019); Robinson, Sharma, Wilson, et al. (2019); Sharma et al. (2018).
[88] In total, only 2 systematic reviews were published, and only one (Baker et al., 2021) followed the policy update.
[89] See Chapter 7 for a more extensive discussion.

As established in Section 10.3.1, members of the GDG were committed to PMT and believed their positions to be grounded in evidence. Indeed, a central goal for SOC-8 was to deliver an updated version explicitly supported by robust evidence. However, once the GDG began working with methodological experts and applying evidence-based medicine (EBM) standards, it quickly became clear that their understanding of what constituted "strong evidence" was fundamentally at odds with established scientific criteria. Evidence that the GDG previously regarded as strong or compelling was frequently downgraded under EBM standards to low or very low quality, revealing a troubling gap between WPATH members' beliefs about evidence and the actual rigor of the underlying research. This process is clearly articulated by SOC-8 Chair Eli Coleman under points six ("Expert Consultation in Guideline Development") and seven ("Research Agenda") of a 12-point draft following SOC-8's publication:

> As we faced challenges of developing and revising the methodology of SOC 8, we had to rely on Johns Hopkins, which while some degree helpful, was very constraining. We were able to consult with other experts and was [sic] able to learn that there were other ways of developing guidelines that were probably more appropriate for the state of our science. As a result, our methodology evolved and was improved—however, we were not able to be as systematic as we could have been … Now that we have reviewed the evidence, we are painfully aware of the gaps in the literature and the kinds of research that are needed to support our recommendations and strengthened [sic] the level of evidence in support of them.[90]

When confronted with SRs that did not adequately support its positions—particularly given their stated legal and advocacy concerns (see next section)—the GDG chose not to adjust its views but to find an alternative methodology to support its recommendations. As SOC-8 GDG Co-Chair Jon Arcelus explained in an email to other GDG members, "[t]here are many recommendations in the SOC that don't have direct

[90] Boe v. Marshall, No. 2:22-cv-00184: 700-18 (2024, pp. 8–9).

evidence (most of the direct evidence is in the hormone chapter) but they have background evidence. This is why we have Delphi."[91]

A consensus-building process, Delphi is not a substitute for evidence-based recommendations but rather a method for GDGs to reconcile disagreement in the interpretation of SRs, or in deciding how evidence should inform treatment recommendations.[92] Guidelines that are not based on SRs inadvertently risk promoting suboptimal or even harmful care. This is why guidelines that rely only on consensus are not considered trustworthy.[93]

### 10.3.3 Redefinition of medical necessity

SOC-8 makes a strong recommendation that PBs, CSH, and surgery be considered "medically necessary" for eligible adolescents:

> We recommend health care systems should provide medically necessary gender affirming psychological, medical and surgical treatments for trans and gender diverse children, adolescents, and adults."[94]

The development of the "medical necessity" statement in SOC-8 starkly illustrates how many WPATH contributors prioritized goals other than ensuring the highest-quality care for adolescents with GD. A good example is WPATH's rewording of patient "wishes" as patient "needs" with the intent to frame them as "medically necessary." At first, the statement described the desired interventions as "wishes":

> There is strong evidence demonstrating the benefits in quality of life and wellbeing 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 *wishing these treatments.*[95]

However, the final SOC-8 statement reads:

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[91] Boe v. Marshall, No. 2:22-cv-00184: 560-37 (2024, p. 101). Delphi is a structured consensus-building method in which a GDG iteratively reviews and rates statements to achieve agreement; SOC-8 utilized a 75% threshold for consensus.
[92] Djulbegovic & Guyatt (2019).
[93] Lima, Tangamornsuksan et al. (2023).
[94] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, p. 32).
[95] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, p. 38).

> 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*.[96]

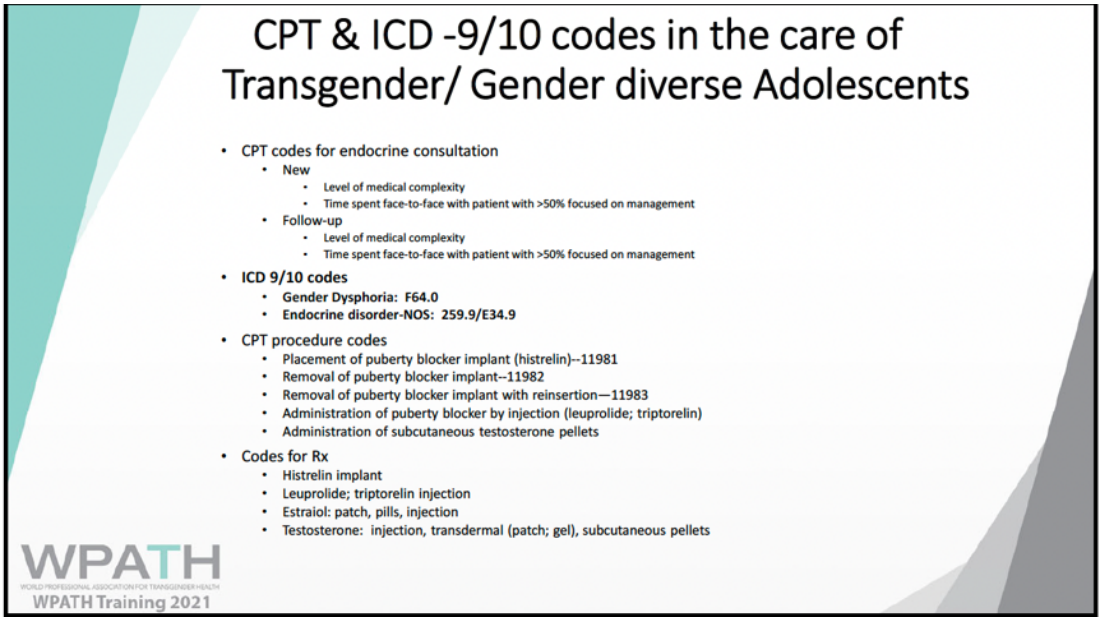
This consequential textual change was the result of WPATH members recognizing the implications of their word choice for insurance and legal contexts. The change was made based on the following request during the drafting phase:

> Thank you, I also very much like this statement and the supporting write-up. There is one word, though, in the middle (on the right side of the page) of the last paragraph on the first page of the document: “wishing.” This word gives me pause, and perhaps I am being too sensitive, but one of the biggest obstacles trans people experience in getting support for coverage of our care is that we are told “you can't always get what you want" and “wishing does not make it so." Wishing makes the needed care seem optional, and we are often told we are imagining that we are not who we are and we should just suck it up. Would it be possible or advisable or prudent to replace “wishing” with “in need of” here? Thanks for your consideration, and for your great work on this.[97]

This was accompanied by WPATH’s explicit instruction to providers to use the “Endocrine Disorder” diagnosis as an alternative for the mental health diagnosis of GD[98]:

[96] Coleman et al. (2022, p. 18, emphasis added).
[97] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, p. 28).
[98] Rosenthal (2021b, Slide 11). See Figure 10.4.

**Figure 10.4: WPATH training instructs providers to use “Endocrine disorder” code**




Together, these internal WPATH communications reveal that the "medical necessity" framing in SOC-8 was constructed to remove key safeguarding criteria and make patient desires central to treatment decisions. This was confirmed by another GDG member who candidly observed that the guidelines exist to allow any “goodwilling” clinician to meet patients’ wishes—however medically inappropriate they may be.

> I think it is clear as hell that the SOC8 refers to the necessity of treatment (in its broadest sense) of TGD people who pursue treatment (in its broadest sense) for their gender dysphoria (small "d": because it refers to the symptom of distress - which is a very broad category and one that any 'goodwilling' clinician can use for this purpose (or: in the unescapable medical lingo we, as physicians arc stuck with: those who fulfil a diagnosis of Gender Dysphoria and Gender Incongruence as per APA/WHO).[99]

The request to substitute “wish” for “need” and emphasize "medical necessity” was welcomed by WPATH leaders, who responded that the assertion of medical necessity

[99] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, p. 37).

would influence the “obtuse and unhealthy” U.S. healthcare system by compelling insurance coverage through the courts:

> Thank you for putting this together; you've done a great job with this. Indeed, it is important that such a statement is part of the actual SOC. And, indeed, the original Medical Necessity Statement was specific to the U.S. because this was where we were experiencing the problem with our obtuse and unhealthy system of healthcare "coverage" and we needed a tool for our attorneys to use in defending access to care here. I have long wanted this (and many of our other policy statements) to become part of the SOC because that gives them greater force.[100]

GDG Chair Eli Coleman stated that while WPATH had no definition of “medically necessary,” he understood this to be primarily a term used by insurance companies to determine which conditions or procedures to cover.[101] The SOC-8 legal and political goals are discussed in the next section.

### 10.3.4 Legal and political considerations

Internal documents reveal that SOC-8 authors manipulated guideline language with the explicit aim of shaping court rulings, legislative actions, and insurance coverage decisions, revealing a clear departure from the principles of unbiased, evidence-driven clinical guideline development. For example, contributors to the “Institutional Environments” chapter disclosed that “social justice lawyers” had advised them against rigorous evidence reviews, stating that such reviews might reveal limited or insufficient evidence, placing them “in an untenable position in terms of affecting policy or winning lawsuits.”[102] As discussed above, a key motivation for including a “medical necessity” statement in the guidelines was described as a strategic move to provide “a tool for our attorneys to use in defending access to care” within the U.S. legal context.[103]

[100] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, pp. 33–34)
[101] Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, p. 166).
[102] Boe v. Marshall, No. 2:22-cv-00184: 560-24 (2024, p. 3).
[103] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, pp. 33–34).

Schechter also expressed concerns about language, cautioning colleagues that terms such as “insufficient evidence” and “limited data” could strengthen legal arguments claiming medical interventions are experimental, and noting his own role as an expert witness in related federal cases.[104] Karasic, chair of the SOC-8 Mental Health chapter, highlighted the critical legal implications of defining treatments for adolescents as “medically necessary,” stating that this determination affects court cases, policy decisions, and insurance coverage.[105] Elsewhere, Karasic emphasized the urgency of addressing this issue clearly in SOC-8 given multiple ongoing lawsuits—some potentially reaching the Supreme Court of the United States—concerning whether medical gender interventions are “medically necessary” or “experimental or cosmetic.”[106]

One internal communication explicitly advised against using specific numerical age guidelines for treatments, stating, “I would avoid absolute numbers [for ages] that can be taken out of context or used in court” because they would disadvantage the people “we are trying to advocate for.”[107] Elsewhere, editorial input was provided specifically to help “Chase” [presumably a reference to Chase Strangio, Deputy Director for Transgender Justice with the ACLU’s LGBT & HIV Project].[108] GDG Chair Coleman urged the group to adopt a stronger defensive stance, stating, “we need a more detailed defense that we can use ... in the many court cases that will be coming up … especially around adolescence.”[109] One contributor even acknowledged prioritizing political advocacy goals explicitly over scientific accuracy, stating that SOC-8 should “land in such a way as to have serious effect in the law and policy settings...even if the wording isn’t quite correct for people who have the background you and I have.”[110]

Further, the U.S. healthcare context was clearly a specific focus of the SOC-8 authors. Karasic (SOC-8 Mental Health chapter chair) wrote:

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[104] Boe v. Marshall, No. 2:22-cv-00184: 700-13 (2024, p. 56).
[105] Boe v. Marshall, No. 2:22-cv-00184: 560-24 (2024, p. 43).
[106] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, p. 44).
[107] Boe v. Marshall, No. 2:22-cv-00184: 560-34 (2024, p. 25).
[108] Boe v. Marshall, No. 2:22-cv-00184: 591-24 (2024, p. 9).
[109] Boe v. Marshall, No. 2:22-cv-00184: 700-8 (2024, p. 40).
[110] Boe v. Marshall, No. 2:22-cv-00184: 560-34 (2024, p. 25).

> But there are elements of the Medical Necessity statement that are critical to insurance reimbursement and access to care in the U.S., though not so in every country, and these should have a place somewhere in SOC 8. If WPATH SOC 8 fails to adequately support access to trans care in the U.S. by overgeneralizing wording, it may be globally applicable, but it is not globally useful, insofar as the U.S. is part of the globe. There should be room in SOC 8 to address concerns of national health systems, or other non-reimbursement focused systems without making SOC 8 less useful to U.S. trans care … Medical necessity is at the center of dozens of lawsuits in the U.S. right now over state actions to make trans care inaccessible, as well as being at the center of all reimbursement for trans care in the U.S. … it is critical that WPATH SOC 8 gets this right, which I think it does, currently."[111]

Incorporation of legal advocacy goals into guideline language, explicitly for purposes of influencing policy and litigation outcomes, conflicts sharply with accepted international standards emphasizing scientific rigor and impartiality.

Internal documents reveal that WPATH leadership was aware that the guidelines would be criticized due to the "continuing pressure in healthcare to provide evidence-based care." Coleman noted ongoing resistance from "academics and scientists who are naturally skeptical," "parents of youth who are caught in the middle of this controversy," and pressures arising from the "increasing number of regret cases and individuals who are vocal in their retransition process who are quick to blame clinicians for allowing themselves to transition despite an informed consent process."[112]

In response to anticipated criticism of SOC-8, Coleman drafted a "12-point strategic plan to advance gender-affirming care."[113] The plan acknowledged that all members of the GDG were "painfully aware that there are many gaps in research to back up our recommendations," and emphasized the importance of building consensus among

[111] Boe v. Marshall, No. 2:22-cv-00184: 700-10 (2024, p. 65).
[112] Boe v. Marshall, No. 2:22-cv-00184: 700-18 (2024, p. 5).
[113] Boe v. Marshall, No. 2:22-cv-00184: 700-18 (2024, p. 6).

medical groups in support of SOC-8. Coleman observed that the endorsement of medical organizations "has been an extremely powerful argument" in "legal battles":[114]

> As we are facing so many legal battles over trans health care and rights, the statement that the SOC has so many endorsements has been an extremely powerful argument. We need to be able to get the support of these important organizations and know how to indicate their support accurately or this argument in these court cases could be challenged.[115]

## 10.4 Elimination of age minimums

The handling of minimum age recommendations for clinical interventions for adolescents in SOC-8 exemplifies what happens when guideline development is compromised by ideological beliefs, COIs, and disregard for established evidence standards.

Initially, SOC-8 included age minimums for certain interventions: 14 years for cross-sex hormones; 15 years for mastectomy; 16 years for breast augmentation and facial surgery; 17 years for metoidioplasty, orchiectomy, vaginoplasty, hysterectomy, and fronto-orbital remodeling; and 18 years for phalloplasty. In July 2022, WPATH faced significant pressure from Admiral Rachel Levine, the U.S. assistant secretary for health, whose office communicated concern that listing specific, minor ages would trigger restrictive legislative actions. Internally, some SOC-8 members expressed discomfort about acceding to pressures from the federal government. "I don't know how I feel about allowing U.S. politics to dictate international professional clinical guidelines that went through Delphi," said one SOC-8 co-chair.[116] Another complained that it "is not appropriate to take any feedback from a nonmedical professional seriously."[117] Despite

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[114] Boe v. Marshall, No. 2:22-cv-00184: 560-40 (2024, pp. 6–8). Of note, although SOC-7 is now outdated, it was SOC-7 that was responsible for establishing the "gender-affirming" medical approach in the U.S. and internationally. The email from the lead author of both SOC-7 and SOC-8, Coleman, discloses that despite the widespread narrative that SOC-7 had been endorsed by all medical organizations, no such endorsements ever occurred. Coleman said he had "no idea how it was ever said that so many medical organizations … endorsed SOC 7" (Boe v. Marshall, No. 2:22-cv-00184: 700-3, 2024, pp. 262–264).
[115] Boe v. Marshall, No. 2:22-cv-00184: 560-40 (2024, p. 8).
[116] Boe v. Marshall, No. 2:22-cv-00184: 700-15 (2024, p. 33).
[117] Boe v. Marshall, No. 2:22-cv-00184: 700-15 (2024, p. 27).

these reservations, WPATH's apparent investment in securing endorsement from the Biden administration led it to agree to downgrade age guidelines from "recommendations" to "suggestions," thereby circumventing the original consensus process by making these changes without conducting a new round of validation.[118]

The issue of minimum ages resurfaced when the American Academy of Pediatrics (AAP) threatened to publicly oppose SOC-8 unless all age thresholds were eliminated—further exposing how political pressure, rather than scientific evidence or clinical judgment, dictated the final content of the guidelines.[119] Under pressure and facing open opposition from a key ally, WPATH leaders capitulated and agreed to eliminate minimum age criteria for all hormonal and surgical procedures (except phalloplasty). They did so despite acknowledging privately that the individuals within the AAP who were issuing the demand were very junior and lacked the authority or expertise to credibly dictate clinical standards.[120]

In the process of removing minimum ages, WPATH's president wrote that it was "disappointing that politics always trumps common sense and what is best for patients."[121] Another WPATH leader confided that the deletion of age minimums "is a balancing act between what I feel to be true and what we need to say."[122] SOC-8 Co-Chair Jon Arcelus said that removing ages would "make a joke of our methodology."[123]

The rushed, 11th-hour changes—made outside any formal or transparent guideline development process—resulted in SOC-8 initially being published with its original age recommendations still intact. Only after publication did WPATH scramble to issue a correction via an erratum in their official journal, the *International Journal of Transgender Health*, quietly removing age restrictions to align with political demands rather than

[118] Boe v. Marshall, No. 2:22-cv-00184: 700-3 (2024, pp. 292–295); Boe v. Marshall, No. 2:22-cv-00184: 700-15 (2024, p. 33). SOC-8's final round of Delphi processing was in January 2022 (Coleman et al., 2022, p. S251).
[119] Coleman explains that removing ages "led to them [i.e. AAP] formally not opposing the SOC. Yes this is highly confidential" (Boe v. Marshall, No. 2:22-cv-00184: 700-17, 2024, p. 153).
[120] Boe v. Marshall, No. 2:22-cv-00184: 700-16 (2024, p. 201).
[121] Boe v. Marshall, No. 2:22-cv-00184: 700-15 (2024, p. 26).
[122] Boe v. Marshall, No. 2:22-cv-00184: 700-6 (2024, p. 103).
[123] Boe v. Marshall, No. 2:22-cv-00184: 700-16 (2024, p. 110).

clinical evidence.[124] The current, published version of SOC-8 states that all recommendations went through the Delphi process. However, Coleman later acknowledged that removal of age minimums did not go through Delphi.[125]

## 10.5 Continued reliance on SOC-8

It remains concerning that SOC-8 continues to exert substantial influence over U.S. healthcare. WPATH's misconduct during the development of SOC-8 was covered by major news outlets including *The New York Times*,[126] *The Economist*,[127] *The Boston Globe*,[128] *Fox News,*[129] and *National Review,*[130] as well as by the *BMJ*, a leading medical journal.[131] Despite these reports, with the exception of the American Society of Plastic Surgeons,[132] major American medical associations have not issued public statements addressing the concerns detailed in this chapter.

In an amicus brief submitted to the Supreme Court of the United States for the upcoming case *U.S. v. Skrmetti*,[133] the AAP and 21 other medical organizations describe SOC-8 as an "established, evidence-based clinical guideline." The brief does not address any of the concerns or revelations regarding the guidelines' development outlined in this chapter. Similarly, a group of 11 prominent "adolescent medicine specialists, pediatricians, clinicians, methodologists, professors, and researchers"—including professionals affiliated with the medical schools of Harvard University, Stanford University, and the University of Pennsylvania—asserts in a separate brief that SOC-8 has "all" the National Academy of Medicine's "hallmarks of reliability."[134]

The U.S. Department of Justice (DOJ) intervened in 2022 to challenge Alabama's age limit law in *Boe v. Marshall*, thereby becoming familiar with the subpoenaed documents

[124] Correction (2022).
[125] Boe v. Marshall, No. 2:22-Cv-00184: 700-3 (2024, pp. 294–295).
[126] Ghorayshi (2024b).
[127] The Economist (2024).
[128] Selin Davis (2024b).
[129] Joseph (2024).
[130] Whelan (2024a).
[131] Block (2024a).
[132] Sapir (2024c).
[133] U.S. v. Skrmetti (No. 23-477), American Academy of Pediatrics and Additional National and State Medical and Mental Health Organizations, Amicus curiae brief (2024, p. 8).
[134] U.S. v. Skrmetti (No. 23-477), Clinical Practice Guideline Experts, Amicus curiae brief (2024, p. 22).

from WPATH. Nevertheless, in August 2024—two months after the documents were unsealed—the DOJ in a merits brief filed in *U.S. v. Skrmetti* described WPATH as "the leading association of medical professionals treating transgender individuals" and asserted that "[t]he Nation's leading medical and mental health organizations recognize [SOC-8] as reflecting the accepted standard of care for treating gender dysphoria."[135]

[135] U.S. v. Skrmetti (No. 23-477), Brief for the petitioner (2024, p. 3).

# Chapter 11 Collapse of Medical Safeguarding

When children or adolescents develop feelings of severe discomfort with their sexed bodies, parents understandably worry and consult pediatricians or therapists for advice. These frontline clinicians in turn refer them to specialists, believing that this requires special expertise. Both parents and the clinicians they initially consult likely expect that those with expertise in "gender" will conduct a comprehensive evaluation to rule out other, perhaps more common causes of such feelings. They may further assume that puberty blockers (PBs), cross-sex hormones (CSH), and surgery are offered only in rare cases, when less invasive alternatives are ineffective, and after careful consideration of the patient's unique developmental needs as well as the profound uncertainties and risks of the treatments.

This chapter documents how the original Dutch Protocol that underpins pediatric medical transition (PMT) has undergone transformation in the U.S. to become a "child led" process in which the patient's personal "embodiment goals" form the basis for the determination of "medical necessity." Section 11.1 revisits the Dutch Protocol (critically assessed in earlier chapters) and explores how the original safeguards on the practice of pediatric medical transition (PMT) have been systematically dismantled in the U.S. Section 11.2 evaluates the frequent assertion that PMT is "rare," questioning whether this claimed infrequency genuinely indicates rigorous assessment standards. Section 11.3 discusses a deeper shift in PMT objectives, highlighting how the concept and role of "assessment" have fundamentally changed. Section 11.4 introduces whistleblowers with direct experience in PMT who, similarly to their counterparts in the U.K.,[1] have revealed practices they consider unsafe and inconsistent with established clinical standards, providing additional evidence of expedited pathways to medical interventions in leading pediatric gender clinics across the U.S.

## 11.1 The Dutch Protocol and the relaxation of its criteria in the U.S.

According to WPATH SOC-8, the Dutch studies associated with the Dutch Protocol provide "[t]he most robust longitudinal evidence supporting the benefits of gender-

[1] Barnes (2023).

affirming medical and surgical treatments in adolescence …"[2] In his testimony before the Florida Boards of Medicine and Osteopathic Medicine, Aron Janssen, vice chair of clinical affairs at Lurie's Pritzker Department of Child and Adolescent Psychiatry, who also serves as chair of the American Academy of Child and Adolescent Psychiatry's Sexual Orientation and Gender Identity Issues Committee, said that "the best longitudinal data we have on transgender youth comes primarily out of the Dutch clinic … The Dutch model of care [is] the prevailing model of care that most of the American clinics have based their care upon."[3] SOC-8 seems to acknowledge the guardrails recommended in the Dutch Protocol, contrasting the "detailed comprehensive diagnostic assessment process" of that Protocol with treatment based on "limited or no assessment." According to WPATH, the latter approach "has no empirical support and therefore carries the risk that the decision to start gender-affirming medical interventions may not be in the long-term best interest of the young person at that time."[4]

### 11.1.1 U.S. gender clinics' departure from the Dutch Protocol

In 2022, investigative reporters from Reuters interviewed "doctors and other staff at 18 gender clinics across the country" and found that "[n]one described anything like the months-long assessments [the Dutch clinicians] adopted in their research." Seven of the 18 clinics said they were comfortable prescribing hormones on an adolescent's first visit, provided clinicians saw no "red flags."[5]

The Dutch clinicians themselves recognized the divergence of the American model from their approach.[6] Noting the shift in age-of-onset, sex ratio, and mental health profile in the pediatric clinical population, Annelou de Vries wrote in 2020 that "[t]hese youth did not yet participate in the early evaluation studies. This raises the question of whether the positive outcomes of early medical interventions also apply to adolescents who more recently present in overwhelming large numbers for transgender care, including

[2] WPATH is referring to de Vries et al. (2011) and de Vries et al. (2014), discussed in several earlier chapters.
[3] Florida Boards of Medicine and Osteopathic Medicine Joint Rules/Legislative Committee (2022), 47:45–48:03.
[4] Coleman et al. (2022).
[5] Terhune et al. (2022).
[6] For a study on how different countries have responded to the Dutch Protocol see Kozlowska et al. (2024).

those that come at an older age, possibly without a childhood history of [gender incongruence]."[7] In 2021, Thomas Steensma complained that "the rest of the world is blindly adopting our research …"[8] Steensma reiterated this position in 2023, explicitly distancing his work from the child-led model prevalent in the United States, stating, "That's not our approach."

Of note, the Dutch Protocol did not recommend surgeries prior to legal adulthood, but according to WPATH guidelines, which are followed in the United States,[9] most surgeries, including most genital surgeries, may be deemed medically necessary for certain adolescents with GD.[10] Accordingly, adolescents with GD do undergo mastectomies[11] and (much less commonly) genital surgeries.[12] In the published research on mastectomies in adolescent females with GD,[13] some participants were as young as 12 years old.[14]

## 11.2 Is pediatric medical transition "rare"?

To bolster the perception that medical gatekeeping ensures patient safety, advocates of PMT frequently assert that medical interventions are "rarely prescribed" to minors. In 2022, for example, the president of the American Academy of Pediatrics (AAP) asserted in an opinion piece published in *The Wall Street Journal* that "for the vast majority of children," the "gender-affirming" approach recommends the "opposite" of medical interventions.[15] These claims are not supported by the data.

In 2025, a *JAMA Pediatrics* study utilizing insurance data reported that about 0.1% of American 17-year-olds, or one in 1,000, received CSH between 2018 and 2022. The authors concluded that hormonal interventions are therefore "rare" and decried the "politicization of gender-affirming care for transgender youth … driven by a narrative

[7] de Vries (2020).
[8] Tetelepta (2021a). There is an English translation available: Tetelepta (2021b).
[9] Coleman et al. (2022).
[10] E.g., "A key challenge in adolescent transgender care is the quality of evidence evaluating the effectiveness of medically necessary gender-affirming medical *and surgical treatments* (GAMSTs)" (Coleman et al., 2022, S45-S46, emphasis added).
[11] Wright et al. (2023); Ghorayshi (2022); Sapir (2024c).
[12] Milrod & Karasic (2017); Terhune et al. (2022).
[13] Ascha et al. (2022); Olson-Kennedy, Warus, et al. (2018); Tang et al. (2022).
[14] Tang et al. (2022).
[15] Szilagyi (2022a).

that millions of children are using hormones and that this type of care is too freely given."[16]

Such claims ignore a number of critical facts. First, no serious critic or skeptic of PMT has claimed that "millions of children are using hormones." Second, whether a prevalence of one in 1,000 is "rare" is subjective. For context, the prevalence of Type 2 diabetes in less than one in 1,000—a rate that medical authorities have described as "high" and even as "an awakening epidemic."[17] Third, even medical interventions that are objectively "rare" can raise profound ethical concerns. For example, "only" about 600 out of millions of African American men were recruited into the highly unethical Tuskegee syphilis study.

A central question in the debate over the frequency of medical interventions, and by extension whether they are "rare" or "freely given," concerns the appropriate choice of denominator. The authors of the *JAMA* study calculated prevalence using the total population of American adolescents as the denominator. However, in a press release accompanying the study, one of the authors noted that access to hormones was "surprisingly low, given that over 3% of high school youth identify as transgender"—implicitly invoking a different denominator.

Another denominator, which yields an even higher estimated frequency, is the number of adolescents diagnosed with GD and/or referred to a gender clinic, where they ostensibly undergo an "assessment" to determine whether medical interventions are indicated. Data on the rate of medicalization among adolescents diagnosed with GD and/or referred to a gender clinic are lacking.

Reports from individual clinics suggest that medicalization is the norm, rather than the exception. For example, pediatric endocrinologist Daniel Shumer of the Comprehensive Gender Services Program (CGSP) at University of Michigan Health estimated that "65 percent" of pediatric patients referred to his clinic end up receiving CSH.[18] According to data collected by Jamie Reed, a case worker at the Washington University School of

[16] Hughes et al. (2025).
[17] Lawrence et al. (2021); Kingsbury & Greene (2025) and the research articles cited therein.
[18] Doe v. Horne, No. 4:23-cv-00185-JGZ: 265 (2025, p. 52).

Medicine Pediatric Transgender Center at St. Louis Children's Hospital, 67 percent of the clinic's patients were prescribed endocrine interventions during her four-year tenure at the clinic.[19] Finally, WPATH has itself implied that medical interventions are appropriate for "most adolescents" who seek them. In its response to the release of the Cass Review in the U.K., WPATH issued a statement criticizing the Review as being "rooted in the false premise that non-medical alternatives to care will result in less adolescent distress for most adolescents…"[20]

## 11.3 Shift in objectives and the new meaning of "assessment"

The AAP and other American medical associations argue that transition-related medical decisions for minors are made in consultation with parents and only after a "robust diagnostic assessment."[21] Under the original Dutch Protocol, assessments were intended to predict lifelong transsexuality, with pubertal suppression conceptualized as part of the diagnostic process (buying "time to think"). By contrast, the "gender-affirming" model, as it has evolved in the United States, prioritizes the autonomy of children and adolescents, allowing their current "embodiment goals" to direct treatment decisions.[22]

A systematic review of recommendations for the management of GD in children and adolescents found an absence of "[d]etailed guidance" and "no consensus about the aim or clinical approach"[23] of assessment. Understanding the realities of clinical care for youth with GD in the U.S. requires appreciating the shift in the meaning of assessment, which reflects a deeper change in the goals of PMT. According to the Dutch approach, the goal was to predict lifelong "transsexualism." Mental health professionals were to ascertain whether a GD diagnosis was appropriate and if so, whether it was likely to persist through adulthood. Although advocates of this approach generally regard a

[19] Broyles & Trakas (n.d.).
[20] Block (2024c). The original statement from WPATH/USPATH (2024, April 12) was deleted from WPATH's website (404 Not Found | WPATH, n.d.). The April 12 WPATH/USPATH statement was covered by the NPR station WBUR (Scheimer et al., 2024). WPATH subsequently changed the statement, removing the referenced passage (see World Professional Association for Transgender Health & United States Professional Association for Transgender Health, 2024a; 2024b).
[21] U.S. v. Skrmetti (No. 23-477), American Academy of Pediatrics and Additional National and State Medical and Mental Health Organizations, Amicus curiae brief (2024).
[22] Block (2023d).
[23] Taylor, Hall, Heathcote et al. (2024b, s80).

diagnosis of GD as a necessary condition for medical interventions, there is considerable disagreement about whether it is sufficient.

More recently, advocates of early intervention have argued that "trans kids know who they are"[24] and that the goal of treatment is to help them achieve their personal "embodiment goals."[25] If an adolescent's self-conception or embodiment goals later change, this is not considered a failure of treatment but part of a "gender journey."[26] In 2023, Jason Rafferty, the lead author of the AAP's 2018 policy statement, "Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents," explained that PMT is about "affirming and validating the child's sense of identity from day one through to the end." If a child says, "I'm X, we operate under the assumption that what they're telling us is their truth, that the child's sense of reality and feeling of who they are is the navigational beacon to sort of orient treatment around." If patients later detransition, this does not mean that the treatments were inappropriate, even if the interventions' effects are partly or fully irreversible: "They're not treatment failures if that's what's affirming," Rafferty said.[27]

Of note, the more cautious approach, which seeks diagnostic and prognostic clarity and aims at improvements in mental health, has been found to be unsupported by evidence. No test can reliably predict the natural course of an adolescent's identity development. The U.K.'s Cass Review found that a gender dysphoria diagnosis "is not predictive that the individual will go on to have longstanding trans identity."[28] Clinicians who adopt the earlier diagnostic-oriented model might perceive their approach as more cautious relative to colleagues practicing the newer "affirming" model; however, research on outcomes from both approaches has been rated unreliable.

One indicator of the changing definition of "assessment" is that leading gender clinicians—who until recently characterized PBs as a "fully reversible" and temporary "pause button" intended to give patients "time to think"—now acknowledge that these

[24] See footnote 33 in Chapter 2.
[25] Ashley et al. (2023); Boskey et al. (2025, p. 2); Brennan et al. (2025, p. 5); Mosier-Mills et al. (2024).
[26] "Clinicians should see detransition as one of many possible steps in a person's gender journey" (Ashley et al., 2025, p. 7).
[27] Block (2023d).
[28] Cass (2024, p. 146).

drugs function as the first step in a broader medical transition protocol and must be considered in conjunction with cross-sex hormones. For example, in an amicus brief submitted to the Supreme Court of the United States, a leading advocate for PMT, Meredithe NcNamara of the Yale School of Medicine, and colleagues, fault the University of York systematic reviews, commissioned for the Cass Review, for failing to conceptualize PBs and CSH as a single "consistent, well-organized standard of care." According to McNamara et al., if, as research suggests, "the vast majority of adolescents with gender dysphoria who receive puberty blockers progress to cross-sex hormone therapy," that is not because PBs interfere with the natural process of GD resolution but "because [the adolescents] are indeed transgender and because their diagnosis of gender dysphoria is accurate."[29] This explanation for the observed high persistence of GD lacks empirical support due to the absence of controlled prospective studies and raises concerns about motivated reasoning. Many of the brief's authors are actively engaged in the practice of PMT and therefore have intellectual and financial conflicts of interest.[30]

### 11.3.1 Ambiguity in SOC-8

On the surface, WPATH SOC-8 might appear to recommend a cautious approach toward assessment. Mental health providers are to conduct a "comprehensive biopsychosocial assessment" prior to initiating medical interventions in order "to understand the adolescent's strengths, vulnerabilities, diagnostic profile, and unique needs to individualize their care."[31] At the same time, however, WPATH recommends that clinicians use the *International Classification of Diseases* (ICD-11) diagnosis of "Gender Incongruence of Adolescence and Adulthood," which, unlike the DSM-5 diagnosis of "Gender Dysphoria," requires only "marked and persistent incongruence between an individual's experienced gender and the assigned sex." Because SOC-8 defines transgender in a similar way ("people whose gender identities and/or gender

[29] U.S. v. Skrmetti (No. 23-477), Expert Researchers and Physicians, Amicus curiae brief (2024, pp. 16–17).
[30] The lead author, McNamara, has positioned herself in media and court appearances as a provider of PMT to minors. However, in a deposition McNamara revealed that she does not in fact administer PMT to minors with GD. See Sapir (2024b).
[31] Coleman et al. (2022, Chapter 6).

expressions are not what is typically expected for the sex to which they were assigned at birth") and provides no meaningful distinction between this meaning of transgender and gender non-conformity, SOC-8 effectively recognizes transgender identification as a medical condition justifying medical interventions.[32]

It is widely recognized that a fundamental tension exists between WPATH's desire to treat transgender identity (gender incongruence) as a normal and healthy variation of human development and its insistence that gender incongruence requires "medically necessary" treatment. This tension was explicitly acknowledged in medical literature supporting PMT contemporaneous with the preparation and publication of the fifth edition of the DSM. For example, in 2013, Jack Drescher, a prominent clinician-advocate of PMT, noted the significant difficulty in reconciling the "contradictory narratives" of "reducing stigma (which underlies the call for removal of the gender diagnoses [from the DSM]) and maintaining access to care (which requires the existence of a diagnosis in order to obtain needed medical treatment covered by third party payers)."[33]

In the lead-up to SOC-8's publication, *The New York Times* reported on disagreements among proponents of PMT concerning the proposed assessment recommendations for adolescents. One clinician told the *Times* it was "harmful and destructive and abusive and unethical and immoral" to require that a candidate for medical transition have longstanding GD since childhood—a key element of the Dutch Protocol. Another described the assessment recommendations as a "comprehensive inquisition of [an adolescent's] gender." The International Transgender Health Group criticized WPATH's draft chapter for its "harmful assertion of psychogatekeeping" and for "undermin[ing] patient autonomy." Asked whether it was appropriate to assess "the basis of a kid's gender identity," physician Colt St. Amand, a coauthor of SOC-8, told the *Times* that this "just reeks of some old kind of conversion-therapy-type things … People are who they say they are, and they may develop and change, and all are normal and OK." St. Amand was "less concerned with certainty around identity, and more concerned with

[32] See Chapter 13; The acronym "T/GNC" [transgender and gender-nonconforming] is commonly used in literature supportive of PMT.
[33] Drescher (2014, pp. 11–12).

hearing the person's embodiment goals. Do you want to have a deep voice? Do you want to have breasts? You know, what do you want for your body?"[34]

### 11.3.2 SOC-8 guardrails abandoned

Although WPATH's guidelines do not necessarily discourage mental healthcare, they likewise do not require it as a precondition for PMT. Some guideline authors opposed even minimal requirements for mental health support, arguing that such provisions were analogous to "conversion therapy."[35] SOC-8's only formal recommendation is for a "comprehensive biopsychosocial assessment," although WPATH emphasizes that its guideline is "flexible," thereby leaving room for considerable variation in clinical practice.[36]

In 2024, leaked discussions among WPATH members illustrated the extent to which the organization's own members' practice is not always consistent with SOC-8 recommendations. Some WPATH members candidly acknowledged foregoing even minimal psychological evaluations and moving quickly toward hormonal interventions. The candid nature of these exchanges suggests that non-adherence to the guidelines is not a source of professional shame, and not an isolated phenomenon.[37] The flexibility embedded in SOC-8 has facilitated significant gaps between the guidelines' theoretical standards and the practical reality in clinical settings.

Further, this flexibility has effectively provided leaders in the field of PMT with a basis to argue that assessment should not serve the purpose of differential diagnosis or medical "gatekeeping" but rather should function primarily to inform patients and their caregivers about the nature and effects of medical interventions. In 2020, a Canadian conference presentation reported that among pediatric gender clinics surveyed, half did not require any mental health assessment prior to initiation of hormonal interventions.[38] As one group of clinicians recently stated:

[34] Bazelon (2022b).
[35] Bazelon (2022a).
[36] Coleman et al. (2022, p. S6).
[37] Hughes (2024).
[38] Lawson et al. (2020).

> When a family comes to a mental health provider requesting a letter for a biopsychosocial assessment for pubertal suppression, work begins by explaining, in developmentally appropriate language, that this is not an assessment of whether they 'are actually transgender,' as many patients worry; rather this assessment is meant to help them understand the intricacies of pubertal suppression, so that they can make the best decision for themselves. The primary goal is to provide information, while identifying all potential avenues of support (social, educational, medical, and legal) related to gender.[39]

Jack Turban, the lead author of this statement and Director of the Gender Psychiatry Program at the University of California San Francisco, has said that differential diagnosis is pointless and may even be harmful. He disputes the notion that mental health assessment can reduce the risk of later regret, claiming that "there's not data [sic] that … any of these assessments make that [outcome] less likely."[40] According to Turban, children and adolescents "are just going to figure out the answers and then tell you what you want to hear. And you've set up this argumentative relationship with your patient or client."

Robert Garofalo of Lurie Children's Hospital in Chicago agrees that determining the causes of a child's feelings of alienation from their body through assessment is unnecessary.

> Sometimes parents will come in and be like, "I want to make sure that my young person, my child, is really trans … Can you help me with that?" And I'll turn to the child and be like, "yeah, so, you know, what gender identity do you have?" … You know, there's no form, there's no scale, there's no psychological battery of tests that needs to be done. Really, any young person can answer that question for themselves … Parents … think that they're going to come in and have this evaluation that is gonna help determine their child's gender identity, when really

[39] Turban et al. (2025, pp. 12–13).
[40] GenderGP (2021).

> … our work sometimes is just getting them to recognize that anyone's gender identity … is a normal variation …[41]

Amy Tishelman, formerly of the Gender Multispecialty Service at Boston Children's Hospital, expressed discontent with the new model of assessment in an interview with *The Boston Globe*. "I've never been happy with that way of characterizing it. I feel like an assessment should encompass more than just, 'Should a person get medical intervention, or shouldn't they?'"[42] In contrast, physician A.J. Eckert, former medical director at Anchor Health Initiative in Connecticut, avowed: "If you are trans, I believe you." For Eckert, minors "are best equipped to make decisions about [their] own body." Eckert further clarified that while medical interventions at Anchor Health are not provided before puberty, psychological therapy is not mandatory because "being trans is not a pathology."[43]

### 11.3.3 Collapse of assessment times

The erosion of medical safeguarding practices within American gender clinics is evident in the significant reductions in patient assessment durations at prominent institutions.

#### 11.3.3.1 Boston Children's Hospital

GeMS at Boston Children's Hospital is the nation's first pediatric gender clinic and is highly regarded internationally. Whereas in 2013 GeMS allocated a minimum of 20 hours for mental health assessments per patient, court records indicate that by 2021 the clinic had reduced these evaluations to approximately two hours per patient.[44] Laura Edwards-Leeper, the clinic's founding psychologist, characterized this change as "shocking." Amy Tishelman, a former GeMS psychologist and SOC-8 developer, described it as "reckless."[45] Tishelman's tenure ended following disagreements with colleagues, culminating in litigation. Current co-director Kerry McGregor defended the reduction in assessment times, stating that two-hour assessments were initiated around

[41] Figliolia (2025).
[42] Damiano (2024b).
[43] Edwards-Leeper & Anderson (2021); the quote from Eckert is in Eckert (2020).
[44] Alder (2024).
[45] Ryan (2024a).

2017–2018 and are “appropriate” given the expanding patient load.[46] Endocrinologist and GeMS director Jeremi Carswell remarked in 2021 that puberty blockers were being prescribed “a lot like candy.”[47]

#### 11.3.3.2 Children’s Hospital Los Angeles

Johanna Olson-Kennedy, medical director of the Center for Trans Youth Health and Development at Children’s Hospital Los Angeles, has acknowledged that she approves some of her minor patients for endocrine interventions after “a couple of hours” of assessment.[48] In December 2024, Olson-Kennedy and the hospital were named as defendants in a lawsuit filed by a former patient whom Olson-Kennedy allegedly approved for PBs at age 12 following a single consultation with no involvement of a mental health professional. The lawsuit further alleges that Olson-Kennedy told the parents of the patient that the patient faced suicide risk without medical interventions, despite no prior suicidal history. Subsequently, the patient was put on testosterone at 13, underwent a double mastectomy at 14, and was recommended for hysterectomy at 17.[49]

#### 11.3.3.3 Lurie Children’s Hospital

In a webinar hosted by AMAZE, a producer of sex education content for students, Robert Garofalo of Lurie Children’s in Chicago explained how his clinic handles parents who have doubts about the safety of medical interventions.

> Most of the young people who come in are wanting to figure out how fast they can get on hormones and what is the safest process to do that … 80% of the young people who come are often really activist [sic] in their mindset and come dragging their parents to the medical visit … The counterweight to that is the parents who are often coming in with questions about how can this be done safely, is this really the right decision, and so it’s really a bit of a puzzle to put the pieces together to make sure that you are meeting the patient’s needs but also

[46] Damiano (2024a).
[47] Lindquist (2022).
[48] Deposition of J. Olson-Kennedy in LB v Premera Blue Cross NO. 2:23:Cv-00953-TSZ (2024, p. 63).
[49] Complaint, Breen v. Olson-Kennedy, No. 24STCV32096 (2024).

> moving the parents along … in a way that continues to get them educated so that they feel comfortable with the decisions they're about to make, because the truth is that these young people need their parents to be well and to do this well, and so it's our job as pediatricians to make sure that the entire family unit in some ways hopefully moves forward in an ideal situation in a way that feels supportive and nurturing. So, it's usually the young person who comes in knowing exactly what they want and us trying to navigate a process to ensure that's done safely and allaying parents' fears.

Garofalo went on to elaborate on his understanding of what shared decision-making means:

> If the medical provider thinks they have the answer [to whether medical interventions are appropriate] then they're the wrong medical provider. The answer lies within the young person and the family. Your job as a healthcare provider is to help them along that path, to find the answers and the solutions that feel authentic and healthy for them.[50]

#### 11.3.3.4 Seattle Children's Hospital

In a response to Tordoff et al. (2022), a study conducted at Seattle Children's Gender Clinic,[51] one commentator pointed out that the control group, which received only psychotherapy, might have shown comparatively worse mental health due to selection bias: "patients with coexisting mental concerns may have been potentially discouraged from accepting the treatments until their coexisting conditions were addressed."[52] Lead author Diana Tordoff responded to the comment by pointing out that "youth who reported moderate to severe depression, anxiety, or suicidal thoughts were not precluded access to PB/GAH [puberty blockers and gender-affirming hormones], especially since initiating PB/GAH is known to improve or mitigate these symptoms."[53] Eighteen-year-olds "were provided care using an informed consent model and were not

[50] Figliolia (2025).
[51] Tordoff et al. (2022); see Section 6.2.2 for further discussion.
[52] Tordoff et al. (2022) [online comment; March 7, 2022].
[53] Tordoff et al. (2022) [online comment; March 13, 2022].

required to complete a mental health assessment." Tordoff also noted that Seattle Children's practices were consistent with the (then draft) SOC-8 guidelines.[54]

#### 11.3.3.5 UCSF Benioff

In 2018, the organization Gender Spectrum hosted a panel with Ilana Sherer, a pediatrician and gender clinician, and Diane Ehrensaft, a clinical psychologist at UCSF Benioff and one of the principal architects of the "gender-affirming" approach in the United States. Sherer said that she sees "lots and lots of kids" who "don't have [gender] dysphoria, that really don't have mental health issues, and so to say to them 'you have to go get a letter from a mental health provider' feels challenging to me." But since a letter of support is required for medical interventions, Sherer went on to explain that "what we've started to do in our clinics is have someone like Diane [Ehrensaft] ... go in and do a brief assessment, and give their rubber—I know you [addressing Ehrensaft] said you don't rubber-stamp, but basically in my mind that's what it feels like—and so then we can move on and say 'OK, now we can talk about what you're actually here for.'"[55]

#### 11.3.3.6 Planned Parenthood

Specialized gender clinics are not the only institutions prescribing hormonal interventions to adolescents. According to a 2024 investigative report published in *The Free Press*, Planned Parenthood is "the country's leading provider" of hormones for young people. Approximately 40% of the more than 40,000 patients for whom Planned Parenthood prescribed hormones in 2023 were between the ages of 18 and 22. Some branches, however, "offer hormones starting at age 16 with parental approval." In recent years, Planned Parenthood clinics have adopted an expedited access policy on an "informed consent" basis. Nicole Chaisson, medical director of Planned Parenthood North Central States, told *The Free Press* that "Gatekeeping is not necessary. People are the experts of their own body and of their own journey, and as long as they can

[54] Tordoff et al. (2022) [online comment; March 13, 2022].
[55] Sherer (2018).

make decisions, they should be the agent of their own healthcare." Chaisson said it was appropriate for teenagers to "leave the clinic with their prescription" after a single visit.[56]

Jamie Reed, the former case manager at the Washington University pediatric gender clinic in St. Louis, had previously worked at Planned Parenthood. Reed testified in a deposition that the St. Louis gender clinic would refer minor patients to Planned Parenthood "when we did not have consent from legal guardians" because Planned Parenthood would get "these kid's scripts [prescriptions] when they did not meet" diagnostic criteria. Although Planned Parenthood requires consent from an adult caregiver to prescribe hormones to minors, Reed said that Planned Parenthood "would not verify who the adult is that is bringing [the minor patient] to the building."[57]

## 11.4 The whistleblowers

In public statements, advocates and practitioners of PMT routinely imply that assessment functions as a form of medical gatekeeping, suggesting that PBs, CSH, and surgeries are offered cautiously and only to patients who genuinely require such interventions. Meredithe McNamara has argued that it is a "misconception" that "a child's disclosure of gender dysphoria leads to impulsive, irreversible decisions." Rather, "decisions on whether, when, and how to pursue medical interventions are slow-moving, rigorous, and individualized."[58] In his testimony before the Florida Boards of Medicine and Osteopathic Medicine in 2022, Aron Janssen, of Lurie Children's, said that treatments follow a "careful and thorough assessment of a patient's mental health including co-occurring conditions, history of trauma, substance use, among many other factors."[59]

In recent years, however, whistleblowers with firsthand experience working in gender clinic environments have come forward with compelling counterexamples. Their testimonies have often been dismissed, ignored, marginalized, or disparaged by colleagues. Several have also faced retaliation because of their disclosures.

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[56] Block (2024d).
[57] Noe v. Parson, No. 23AC-CC04530 (2024, p. 172).
[58] McNamara (2024).
[59] Florida Boards of Medicine and Osteopathic Medicine Joint Rules/Legislative Committee (2022), a 43:57.

### 11.4.1 Laura Edwards-Leeper and Erica Anderson

In 2021, Laura Edwards-Leeper, the founding psychologist of the first pediatric gender clinic in the United States, and Erica Anderson, a clinical psychologist and former president of the U.S. Professional Association for Transgender Health (USPATH), became the first prominent whistleblowers in the United States. In an opinion piece for *The Washington Post,* Edwards-Leeper and Anderson warned that adolescents were "being rushed into" medical interventions without sufficient psychological assessment or deliberation. "A flood of referrals to mental health providers and gender medical clinics, combined with a political climate that sees the treatment of each individual patient as a litmus test of social tolerance, is spurring many providers into sloppy, dangerous care,"[60] they wrote.

Following publication in *The Washington Post*, USPATH sought to impose a moratorium on Anderson's ability to speak to the press while WPATH was finalizing its SOC-8. Anderson resigned from the organization in protest.[61]

In an interview with journalist Abigail Shrier, Anderson cautioned that the current PMT approach involved "sloppy healthcare work," which could result in young people making decisions they would later regret. Marci Bowers, a gynecologist and surgeon who, like Anderson, identifies as transgender, echoed these concerns in the same interview. Bowers observed that although medical interventions initially seemed promising, in practice they had not yielded better—or even equivalent—outcomes compared to earlier approaches. Bowers specifically voiced concern about the long-term implications of these interventions on reproductive capacity, sexual health, and the ability of patients to experience intimacy.[62]

Despite criticizing the "gender-affirming" approach now dominant in their field, Anderson and Edwards-Leeper continue to believe that at least some children and adolescents benefit from medical transition. Bowers issued a detailed letter of apology to WPATH

[60] Edwards-Leeper & Anderson (2021).
[61] Selin Davis (2022).
[62] Shrier (2021b).

leadership[63] and remained with the organization, serving as its president from 2022 to 2024.

### 11.4.2 Jamie Reed

In 2022, Christopher Lewis and Sarah Garwood, then co-directors of the Washington University School of Medicine Pediatric Transgender Center at St. Louis Children's Hospital, testified before the Missouri House Judiciary Committee that "[m]edical interventions are done with a thorough and multidisciplinary team approach, which includes mental health assessment and requires consent from all custodial parents or caregivers."[64] Opening with the unfounded assertion that PMT is "literally lifesaving" (see Section 4.3.4 for discussion of suicide risk), Lewis, the Center's endocrinologist, emphasized that "[f]or pubertal transgender adolescents, medical services are started only after meeting strict eligibility criteria… [This] includes mental health professionals who have adequately documented and explored various aspects of gender and mental health exploration [sic], psychosocial medical concerns and conditions, and ability to understand their decisions and provide assent."[65]

These assertions were later disputed by Jamie Reed, who worked for four years at the Center as a case manager responsible for patient intake and oversight. In deposition testimony, Reed stated that Lewis had indicated at an early stage that he "[didn't] care" if patients met criteria for gender dysphoria. It was "not a requirement for [him] to prescribe hormones."[66] An investigation by *The New York Times* provided additional details about the clinic's practices and corroborated most aspects of Reed's testimony. According to the investigation, one patient, who subsequently detransitioned, received a prescription for testosterone following a single visit, without prior assessment by any mental health professional. When WPATH SOC-8 was published in September 2022, Lewis texted Karen Hamon, the Center's nurse, saying: "Right now I have no idea how to meet what would be the most intensive interpretations of the SOC."[67]

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[63] Boe v. Marshall, No. 2:22-cv-00184: 700-5 (2024, pp. 67–71).
[64] Lewis & Garwood (2022, 9:14:55).
[65] Lewis & Garwood (2022, 9:16:40).
[66] Noe v. Parson, No. 23AC-CC04530 (2024, p. 244).
[67] Ghorayshi (2023b).

According to Reed, the Center responded to a five-fold increase in its patient caseload by offering mental health providers a letter-of-support template for them to sign, in the hope that this would speed up the process of approval for endocrine treatments. It "was just copy paste," Reed testified in a deposition. Reed said that when she brought her concerns to Lewis, he "didn't care and was going to pass it [the letter] anyway".[68]

Concerned that the Center was not tracking patient outcomes, Reed and Hamon created a "red flag list," a private Excel spreadsheet in which they documented cases of patients with complex mental health presentations. As reported by the *Times*, the list included "a patient on testosterone [who] stopped taking schizophrenia medication without consulting a doctor and another [who] had visual and olfactory hallucinations. Another had been in an inpatient psychiatric unit for five months."[69] Reed also described an adolescent female from an "unstable family" who was in "an uncertain living situation and had a history of drug use" and was put on hormones at age 16, followed by a double mastectomy at 18. Three months later she regretted the surgery and informed the clinic, "I want my breasts back."[70] According to the *Times*, the patient contacted the surgeon at Washington University twice about her wish for breast reconstruction, but did not receive a response.[71]

Reed recalled a 17-year-old girl who was given testosterone and reported "bleeding from the vagina." The girl was advised to use a heavy pad to absorb the blood. "In less than an hour she had soaked through an extra heavy 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." The Center "found out later this girl had had intercourse, and because testosterone thins the vaginal tissues, her vaginal canal had ripped open. She had to be sedated and given surgery to repair the damage."[72]

Reed reported that when she raised concerns regarding inadequate mental health assessment and safeguarding with the Center's physicians, her objections were

[68] Noe v. Parson, No. 23AC-CC04530 (2024, p. 165).
[69] Ghorayshi (2023b).
[70] Reed (2023a).
[71] Ghorayshi (2023b).
[72] Reed (2023a).

repeatedly dismissed and she was advised to “Get on board, or get out.” Individuals who expressed doubts frequently faced “being called a transphobe.”[73] A similar phenomenon of intimidation was documented at the Tavistock’s Gender Identity Development Service in the U.K.[74]

Reed, who is lesbian, profoundly regrets her past involvement in PMT, and has since become a leading advocate for restrictions on practices she regards as harmful, especially for youth with emergent same-sex attraction who are overrepresented among patients.[75] The Center stopped providing PMT following the enactment of Missouri's Senate Bill 49 (SB 49).[76] Lewis, the Center’s endocrinologist, accepted a job in Colorado, where he currently practices PMT at Children's Hospital Colorado.[77]

### 11.4.3 Tamara Pietzke

In February 2024, Tamara Pietzke, a licensed clinical social worker and therapist at MultiCare Health System in Tacoma, Washington, disclosed harmful practices occurring in her clinical environment.[78] Pietzke described patients with significant comorbid mental health conditions and complicated life histories, who, despite these vulnerabilities, were approved for hormonal interventions.

One patient, a 13-year-old adolescent female, had diagnoses of depression, anxiety, post-traumatic stress disorder, and intermittent explosive disorder. She had experienced childhood abuse, neglect, and sexual violence, and, according to Pietzke, reported that “horror and porn movies … were the only ones available in her house.” The patient also told Pietzke that her mother practiced bestiality. She communicated in therapy sessions by displaying extremely sadistic and graphic pornographic videos to Pietzke on her phone. The patient also was reported to have autism spectrum disorder, a factor that may have contributed to her communication difficulties. Pietzke noted that the girl would “age-regress” by “watching *Teletubbies* and sucking on a pacifier.”[79] A restraining order

[73] Reed (2023a).
[74] Barnes (2023); Cass (2024).
[75] Reed (2023b).
[76] Washington University (2023).
[77] University of Colorado Anschutz Medical Campus (n.d.).
[78] Pietzke (2024a).
[79] Pietzke (2024a).

was also in place against the patient's mother, who had previously attempted to harm the girl's sister in her presence. The girls were being raised by their mother's former boyfriend.

In addition to these obvious red flags, Pietzke noted that her 13-year-old patient never asked for testosterone and failed to demonstrate an understanding of the hormone when the subject was raised. Nevertheless, the gender clinic at Mary Bridge Children's Hospital, part of MultiCare, approved the teenager for testosterone on her first visit. The clinic requested that Pietzke sign a letter of support clearing the patient of any mental health contraindications. Pietzke refused, and the case was referred to the hospital's risk management team. Instead of siding with Pietzke, however, the risk management team reassigned the adolescent to another therapist. Pietzke wrote to Amber Rolfe, MultiCare's in-house "gender-affirming care" expert, explaining her concerns and even citing Sections 6.3 and 6.12 from the Adolescent chapter of WPATH SOC-8 in support of her decision.

Rolfe disagreed with Pietzke's clinical judgment and citations from SOC-8, insisting that nothing in the patient's history, behavior, or concurrent diagnoses was a contraindication for hormone treatment.[80] "There is not valid, evidenced based, peer reviewed research that would indicate that gender dysphoria arises from anything other than gender (including trauma, autism, other mental health conditions, etc.)," Rolfe wrote to Pietzke.[81] "At it's [sic] core the diagnosis centers on an incongruence of gender identity and assigned gender at birth." Rolfe also suggested that Pietzke examine her biases and consider transferring the client "to someone who is comfortable with providing gender affirming care."[82] Pietzke resigned from MultiCare shortly thereafter and went public with her story.

### 11.4.4 Eithan Haim

Eithan Haim, a surgeon formerly affiliated with Texas Children's Hospital (TCH), became a whistleblower after discovering that TCH was performing medical transition

[80] Sapir (2024a).
[81] Rolfe (2023).
[82] Rolfe (2023).

procedures on minors despite publicly announcing a cessation of such procedures.[83] In 2022, prompted by a Texas Attorney General's opinion describing PMT as potentially abusive, TCH declared it would pause hormone interventions for transgender-identifying youth.[84] Despite this declaration, Haim became aware of ongoing practices that he asserted contradicted these claims; three days following the public statement, an 11-year-old patient received a puberty blocking implant, and similar interventions continued throughout the subsequent year involving dozens of other patients.[85] In May 2023, Haim anonymously provided de-identified hospital records and related documents to journalist Christopher Rufo, which resulted in a public exposé. The released data suggested that TCH had misled the public about halting its PMT program.[86]

Haim was charged with four felony counts under the Health Insurance Portability and Accountability Act (HIPAA). Prosecutors argued that Haim was not authorized to access patient data and that he did so with intent to maliciously harm the hospital.[87] The charges carried penalties of up to 10 years' imprisonment. Haim pleaded not guilty, denying his access to patient records was inappropriate, and asserting his disclosures were whistleblower actions aimed at safeguarding children rather than malicious acts.[88] The allegations were unusual, as HIPAA violations are typically addressed through civil rather than criminal procedure. The choice to pursue criminal charges raised suspicion that the federal government's actions were retaliatory in nature.[89]

The DOJ's indictment against Haim had to be amended multiple times after it was revealed that the government was mistaken about Haim's involvement with TCH. A second indictment had to be revised again because Haim was charged with actions as crimes that are not criminal under the law. The third indictment, which was shorn of most of the initial factual allegations, was for unauthorized access to patient records with intent to cause harm to doctors and the hospital, not patients. In January 2025,

[83] Haim (2024).
[84] Campion (2022).
[85] Haim (2024).
[86] Alder (2025).
[87] Trombly (2024).
[88] Alder (2025).
[89] Trombly (2024).

after months of legal contention and growing public criticism of the prosecution as "lawfare," federal prosecutors dismissed all charges against Haim with prejudice, effectively exonerating him.[90]

In November 2024, Haim's lawyers informed the DOJ that the lead prosecutor in the case, Tina Ansari, and her family, had "substantial financial and political ties" to Texas Children's Hospital and Baylor College of Medicine, resulting in a potential conflict of interest.[91] Shortly thereafter, Ansari withdrew from the case.[92]

[90] House Judiciary Committee (U.S. Congress) (2025).
[91] Patrick (2024).
[92] Whelan (2024b).

# Chapter 12 Medical Association Response

This chapter examines how, despite growing recognition of its problems, the 8th version of the World Professional Association for Transgender Health (WPATH) *Standards of Care* (SOC-8) continues to have substantial influence on the medical field. This can be better understood by examining the critical role that major medical and mental health associations (MMHAs) play within the U.S. healthcare system (Section 12.1). Section 12.2 explores the reasons why MMHAs have not properly responded to updated evidence, nor to serious ethical concerns; Section 12.3 is a summary conclusion.

## 12.1 The role of major medical and mental health associations

Given the decentralized and fragmented nature of the U.S. healthcare system, MMHAs play a central role in shaping clinical practice guidelines, healthcare policy, and medical practices. They educate clinicians on emerging research, develop authoritative clinical practice guidelines, publish peer-reviewed journals, facilitate interdisciplinary collaboration, and engage in professional advocacy on behalf of their members. Typically, MMHAs limit full professional membership to practitioners actively engaged in clinical medicine or the mental health disciplines and enforce professional codes of conduct under which members may face sanctions or loss of privileges for noncompliance. MMHAs derive their authority in large part from their perceived adherence to rigorous professional standards and to science.

However, despite their scientific orientation, MMHAs are not immune to institutional biases, including groupthink and the disproportionate influence of vocal, specialized subcommittees. These specialized groups may receive broad deference from the larger organization, especially when their initiatives are framed in the language of civil or human rights. Consequently, MMHAs can inadvertently become echo chambers where dissent is suppressed, confirmation biases go unchecked, and professional deference is exploited. This dynamic of institutional capture is hardly unique to MMHAs: it occurs whenever support for a particular viewpoint is concentrated within a small, motivated subgroup, while opposing views are diffuse, less attentive, and less organized. As a result of this dynamic, the general public may inaccurately perceive the wider membership of individual MMHAs as uniformly aligned with the professed position of

their professional association. It is easy to overlook the fact that fundamentally, these organizations operate as trade associations, with a primary role of protecting their members' autonomy and professional interests. Although individual clinicians generally are motivated by altruism, it should not be assumed that the collective actions of an organization always reflect the values or intentions of its individual members.[1]

Historical examples demonstrate that despite their crucial role in safeguarding patients' interests, MMHAs have at times resisted necessary medical reforms, even when confronted with strong evidence of their urgency. For instance, the American Academy of Pediatrics (AAP) delayed rescinding its 2000 guidelines discouraging early peanut exposure for two years after evidence emerged linking the policy to increased rates of peanut allergies.[2] Similarly, professional organizations resisted evidence-based recommendations to limit arthroscopic knee surgeries, lobbying against healthcare reforms despite clear evidence of limited efficacy.[3] MMHAs may impede or even oppose evidence-based medicine when the professional or financial interests of their members are threatened by medical practice reversal.

The reliance of MMHAs on WPATH is exemplified by the Endocrine Society (ES) clinical practice guideline for the treatment of gender dysphoria (GD). As discussed in Chapter 9, the close alignment of these groups' guidelines suggests a lack of robust, independently derived frameworks for care, potentially limiting critical appraisal and alternative perspectives within the field. Notably, Joshua Safer, who is leading the 2024 revision of ES guidelines, is himself closely associated with WPATH and is a prominent advocate for pediatric medical transition (PMT).[4] His leadership role raises concerns about compliance with the National Academy of Medicine's standards for trustworthy guideline development, in particular with regard to conflict of interest management (see 10.3.1).[5]

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[1] For a discussion of this phenomenon and its consequences for medical policy, see Patashnik et al. (2017).
[2] See Section 1.2.2.
[3] Patashnik et al. (2017, Chapter 2).
[4] Sapir (2024d).
[5] Graham et al. (2011, p. 87).

MMHAs have been reluctant to transparently address the weak evidence base underlying PMT. For example, the American Psychiatric Association's (APA) textbook *Gender-Affirming Psychiatric Care*[6] has faced internal criticism for failing to acknowledge the scientific debate and the policy shifts occurring internationally.[7] A petition with over 7,000 signatures, many from medical and mental health professionals, has called for the withdrawal or correction of the textbook,[8] yet APA leadership has not issued a substantive response.[9] Similarly, the American Academy of Child and Adolescent Psychiatry (AACAP) has rejected multiple proposals addressing important evidence and dissenting perspectives that were submitted to its conferences.[10] The AAP likewise has repeatedly declined to platform critical perspectives at its events.[11] This pattern of organizational defensiveness fosters environments in which clinicians feel compelled to self-censor.

The AAP has rejected multiple internal requests to conduct systematic reviews of the evidence underpinning PMT.[12] Although AAP leadership ultimately agreed in principle to a systematic review, it simultaneously reaffirmed the existing policy[13]—a move that evidence-based medicine experts have criticized as methodologically unsound and premature, as it presupposes the outcome of a review intended to impartially evaluate the evidence.[14] To date, there is no evidence the AAP has begun the review.

After the National Health Service (NHS)-commissioned Cass Review was published in April 2024, several affiliates of the American Psychological Association (APA) prohibited its very discussion on their professional listservs. When a San Francisco-area psychologist posted information about the Cass Review on a listserv of Division 39 of the APA, the listserv moderator blocked the post, citing a 2020 "Letter of Apology to

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[6] Goetz & Keuroghlian (2023).
[7] Satel (2024).
[8] Foundation Against Intolerance & Racism (2024).
[9] Posner (2024).
[10] Sibarium (2023).
[11] Shrier (2021a).
[12] Block (2023c).
[13] Wyckoff (2023). AAP policy statements automatically expire after 5 years unless readopted, revised, or revoked.
[14] Ghorayshi (2023a).

LGBTQ+ Communities" that forbids "speech that is injurious to LGBTQ+ members."[15] The Pennsylvania Psychological Association (PPA), a state affiliate of the APA, sent an email to all its members informing them that the Cass Review was "no longer welcomed for discussion" on its professional listserv. The PPA explained that the Review "fail[s] to meet" the PPA's "professional standards," and that "LGBTQIA+" members and their "allies" might feel "targeted, harmed, and hurt by this literature being repeatedly shared."[16] A clinical psychologist who describes herself as "a liberal feminist" and who has "marched in Pride marches" told the *BMJ* that she was "reprimanded" by the Illinois Psychological Association after posting about the Cass Review on a therapist listserv.[17]

## 12.2 Factors contributing to neglect of evidence and open debate

Hilary Cass, past president of the Royal College of Paediatrics and Child Health and leader of the U.K.'s comprehensive review of pediatric gender medicine services, has stated that American physicians are "out of date" in their approach to pediatric gender medicine.[18] Several factors may help explain the reluctance of American MMHAs to engage fully with the shifting perspectives on evidence and ethics in this area of practice.

First, in managing unusual or complex conditions, primary care providers and generalist clinicians often rely on the expertise of specialists to inform their clinical decisions.[19] When the former also hold leadership positions in medical organizations and are tasked with shaping policies for the treatment of youth with GD, they often defer to specialized committees—such as committees devoted to LGBT issues—whose members they regard as the organization's content experts. These committees typically are composed of professionals whose careers are closely tied to supporting or delivering medical transition, limiting their ability to impartially evaluate the evidence due to significant intellectual and financial conflicts of interest. While reliance on specialist committees

[15] Selin Davis (2024a).
[16] Ryan (2024c).
[17] Block (2024b).
[18] Ghorayshi (2024a).
[19] Tzartzas et al. (2019).

poses fewer risks in well-established subspecialties with decades of robust research,[20] pediatric gender medicine remains a new, highly controversial field characterized by a limited and low-certainty evidence base.

Second, the framing of PMT as a civil rights matter[21] may have contributed to premature and uncritical support at both the individual and institutional levels. Most medical professionals are broadly supportive of civil rights.[22] U.S. specialty committees often frame PMT as a morally righteous or progressive cause, leading many professionals reflexively to adopt supportive positions. Given that transgender identification is relatively common among youth—estimated at 2–5%, though precise figures remain uncertain—many clinicians and policymakers also may have personal connections, such as friends or loved ones who identify as transgender. These personal ties, combined with a genuine desire to be compassionate and supportive, may understandably make it more difficult for professionals to critically and objectively evaluate the evidence base or ethical considerations underlying PMT.

Third, by the time the weak evidence and growing international retreat from the practice became difficult to ignore, several major U.S. MMHAs had been actively promoting PMT and denouncing its critics.[23] As a result, some organizations responded to international developments defensively rather than reflectively, viewing the shifts as a potential challenge to their institutional credibility.[24] The only notable exception to this pattern appears to be the American Society of Plastic Surgeons which, following the publication

[20] It should be noted, however, that with respect to developing reliable clinical practice guidelines the role of clinicians with intellectual conflicts of interest should be minimal: see Graham et al. (2011); McCartney et al. (2022).
[21] In 2016 psychologist Diane Ehrensaft, leading proponent of the "gender-affirming" approach, explicitly conceptualized her work as having “finally created a civil rights movement” (Ehrensaft, 2016, p. 355). Some medical guidelines in this field also call for specific political activism on the part of clinicians; e.g., the AAP policy statement (Rafferty et al., 2018). The editorial board of *The Washington Post*, recognizing the failure of pediatric gender specialists to self-regulate in the U.S., recently called for “new research of maximum possible rigor, overseen by scientists *who are not gender medicine practitioners*” (Washington Post Editorial Board, 2024, emphasis added).
[22] Levine & Abbruzzese (2023).
[23] Szilagyi (2022b).
[24] E.g. Endocrine Society (2024); Hoffman (2024).

of the Cass Review, publicly adopted a more cautious stance regarding the use of surgical interventions for treating pediatric GD.[25]

Experts within pediatric gender medicine hold sharply divergent views about best practices.[26] However, the absence of professional consensus is often obscured, as dissenting voices are seldom included on specialty committees responsible for policy development. Researchers who study detransition, investigate social influences underlying epidemiologic changes in GD presentations, express concerns about PMT, or advocate for a more cautious approach to pediatric GD frequently encounter hostility and a lack of support from major publishers, medical societies, and academic institutions.[27] Organizations advocating for higher evidentiary standards, journalists reporting on the controversies, and academics writing about issues related to sex and gender have also faced hostility and attempts at public shaming.[28] Activist organizations have contributed significantly to this dynamic, often targeting individuals and groups that question or critically examine prevailing practices in gender medicine.[29]

When MMHAs update their treatment guidelines and position statements, experts who question the evidence supporting PMT are excluded from guideline development

[25] American Society of Plastic Surgeons (2024).
[26] As the Cass Review found, “clinicians who have spent many years working in gender clinics have drawn very different conclusions from their clinical experience about the best way to support young people with gender-related distress. Some feel [they should] access a medical pathway at an early stage. Others feel that we are medicalising children and young people whose multiple other difficulties are manifesting through gender confusion and gender-related distress” (Cass, 2024a, p. 13). Examples of divergent clinical opinions can be found by comparing two papers on the role of mental health assessments: Levine (2024); Turban et al. (2025). Differing treatment approaches are also described in Levine et al. (2022a) and two follow-up articles: Drescher (2023); Levine et al. (2022b).
[27] For some examples, see Barnes (2023); Bazelon (2022a); Brown University (2019); Byrne & Gorin (2025); Edwards-Leeper & Anderson (2021); Gecsoyler (2024); Jenkins & Panozzo (2024); Keenan & Lovett (2025); LGBTQIA+ Coalition (2022); Pietzke (2024a, 2024b); Reed (2023a); Schenck (2022); Society for Evidence-Based Gender Medicine (2023d); Turley (2024).
[28] 100 signatories (2023); GLAAD (2023a, 2023b); Hansford (2024); Hooven (2023); Singal (2023a, 2023b); Weale (2025).
[29] In addition to the examples above, a recent article recounted therapists’ experiences of attending a training workshop where the representative of the political activist group Southern Poverty Law Center (SPLC) spoke about efforts to “hunt” therapists who practice exploratory therapy, with the goal of leveling complaints leading to licensure revocations. Another therapist reported having been formally investigated by her graduate school for sharing information about new pediatric gender medicine evidence from Europe, an investigation which remains on her permanent record (Jenkins & Panozzo, 2024). SPLC also chose to wield the emotional power of the “hate group” label on several groups that have engaged in evidence-based evaluation of PMT or the development of alternative approaches.

committees.[30] Efforts to exclude dissenting perspectives from conferences and publications have been documented.[31] In addition, there is growing evidence of self-censorship among clinicians and researchers, driven by concerns about professional repercussions and reputational risks.[32] Some proponents of PMT explicitly endorse the use of silencing tactics and reputational attacks:

> The point of activism is sometimes 'silencing,' if by that one means destroying the credibility of professionals that activists deem dangerous.[33]

Medical professionals' years of training and social status leave them acutely aware of and sensitive to reputational risks. Fear of online attacks and social disapproval within professional medical societies may have contributed to widespread self-censorship among clinicians, mirroring similar trends observed across academia.[34] This dynamic is further reinforced when PMT is framed as a civil rights issue or a struggle against discrimination and oppression. Under this framing, critics—even those raising evidence-based concerns—are labeled "anti-trans" or intolerant by reputable, influential sources.[35] As Hilary Cass observed in the introduction to the Cass Review,

> There are few other areas of healthcare where professionals are so afraid to openly discuss their views, where people are vilified on social media, and where name-calling echoes the worst bullying behaviour. This must stop. Polarisation and stifling of debate do nothing to help the young people caught in the middle of a stormy social discourse, and in the long run will also hamper the research that is essential to finding the best way of supporting them to thrive.[36]

The American healthcare system relies heavily on MMHAs to create, organize, and disseminate knowledge and to referee scholarly dialogue through journals and

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[30] Marci Bowers, president of WPATH when its 2022 guidelines were published, acknowledged that it was "absolutely" important for someone to be an "advocate" of the "gender-affirming" approach to be considered for the committee. See Boe v. Marshall*,* No. 2:22-cv-00184: 564-8 (2024). Furthermore, most members of the guideline development committee had conflicts of interest, which were poorly managed.
[31] Curlin (2024); Kaliebe & Johnson (2024); Kaltiala (2023); Mason (2021); Sapir (2025).
[32] Clark et al. (2024); Pfaus (2023).
[33] Nichols (2008).
[34] Clark et al. (2024); Curlin (2024); Pfaus (2023).
[35] E.g., Endocrine Society (2024); Szilagyi (2022b).
[36] Cass (2024, p. 13).

conferences. Regardless of the underlying causes, major MMHAs have issued advocacy-driven recommendations prematurely, without adequate scientific support.[37] This contributed to a degradation of the norms of open inquiry and constructive disagreement—norms that are essential for the credibility of MMHAs and their capacity to issue trustworthy, evidence-based guidance.

## 12.3 Conclusion

The significant influence MMHAs exert over professional opinion, clinical practice, and healthcare policy extends broadly across the healthcare landscape. In the area of pediatric gender medicine, prominent MMHAs have aligned their clinical guidelines and policy statements with WPATH SOC-8. This reliance on WPATH guidelines effectively imported into MMHAs many of the methodological and ethical deficiencies documented in WPATH's guideline development process. Consequently, problems originating within WPATH have not remained isolated but have instead propagated through influential MMHAs, contributing to a broader erosion of clinical standards, scientific rigor, and open academic discourse.

Today, MMHAs wield considerable influence over both public and professional perceptions of medical practices through statements frequently cited in the media. These shape broader societal attitudes toward both the medical field generally and the practices within that field specifically. The implicit social contract underlying MMHAs' self-regulatory privileges rests on the expectation that these organizations will prioritize the best interests of patients and society. However, MMHAs' handling of issues related to PMT illustrates how institutional biases, reliance on external guidance from advocacy-oriented groups, and internal political dynamics can undermine their regulatory effectiveness and scientific credibility.

[37] See also Chapters 6-8.

PART 4

# ETHICS REVIEW

# Chapter 13 Ethical Considerations

This chapter discusses central ethical issues in pediatric medical transition (PMT), which involves the use of puberty blockers (PBs), cross-sex hormones (CSH), and surgery to suppress or alter the development of sex- and age-typical sex characteristics in physically healthy children or adolescents.[1] These interventions are used as treatment for the conditions of "Gender dysphoria" (GD) in the *Diagnostic and Statistical Manual* (DSM-5-TR) or "Gender incongruence of adolescence or adulthood" in the *International Classification of Diseases* (ICD-11).[2] In assessing the effects of PBs, CSH, and surgery, researchers typically focus on conventional psychiatric outcomes such as depression, anxiety, and suicidality; recently, some have added novel outcome measures such as "chest dysphoria," "appearance congruence," and "gender euphoria."[3]

However, some clinician-researchers have called into question what they call the "logic of improvement," according to which PMT is justified only if it enables "a progression from 'doing worse' to 'doing better,' ultimately leading to an overall improvement in the individual's functioning and well-being."[4] Acknowledging that the evidence that PMT has this effect is weak, these clinicians argue that conventional outcome measures should be supplemented with—if not replaced by—patient-determined outcomes.[5] In the same vein, other advocates of PMT claim that focusing on clinical improvement is "pathologizing" and question the need for any clinical indication beyond the adolescent's "embodiment goals"[6] or mere desire for the intervention.[7] The guiding question of this chapter is whether the provision of hormonal or surgical interventions for these shifting and sometimes contradictory purposes is consistent with well-established principles of

[1] Patients may reach Tanner Stage 2 of puberty by age 8 or 9. An 8- or 9-year-old person is uncontroversially a child. However, for the sake of brevity the remainder of this chapter will use "adolescents" rather than "children and adolescents" in most cases to refer to this patient population.
[2] American Psychiatric Association (2022); World Health Organization (2022b).
[3] See, respectively, Olson-Kennedy, Warus et al. (2018); Chen et al. (2023); Blacklock et al. (2025).
[4] Oosthoek et al. (2024, p. 10).
[5] Oosthoek et al. (2024, p. 17).
[6] Ashley (2019, pp. 480–482).
[7] Chu (2024).

medical ethics. Despite the high stakes—medical, social, political, and legal—this urgent question has received relatively little critical attention from bioethicists.

After a brief note on consent (Section 13.1), Section 13.2 summarizes how the medical profession's shift away from medical paternalism toward shared decision-making has strengthened patient protections against unwanted medical interventions via the mechanism of informed consent. This move toward greater respect for patient autonomy, however, does not negate clinicians' professional and ethical obligation to protect and promote their patients' health.

Section 13.2.3 turns to the pediatric context, where the latter obligation is especially strict due to the distinctive vulnerability of children and adolescents as well as their underdeveloped decision-making capacity. The best available evidence indicates an unfavorable risk/benefit profile for the prescription of hormonal and surgical interventions for adolescents with GD. The prescription of these interventions also raises justice-related concerns for members of this medically and socially vulnerable population.

Section 13.3 examines an alternative justification for PMT, one grounded in a purported right to access the medical resources needed to satisfy the patient's preferences for body modification. The shift to this alternative justification, which follows researchers' decades-long inability to demonstrate clear medical benefit, suggests that advocates of PMT have significantly altered the criteria for success.[8] The chapter then turns to a brief discussion of patient regret in Section 13.4 before concluding with some remarks on research ethics in Section 13.5.

## 13.1 Consent

Some disagreements in this field center on the question of whether adolescents have medical decision-making competence (MDC)—that is, whether they can provide

[8] "Clinicians remarked that there is no agreed fixed point of reference on which to judge the success of an intervention, let alone a societal consensus on the appropriate response" (Cass, 2024a, Appendix 3, p. 9).

informed consent or assent to transition-related medical interventions.[9] Some proponents of these interventions believe they can.[10] In support of this position, some point to research showing that many adolescent patients have MDC as assessed using a quantitative semi-structured interview tool.[11] They also note that there are other invasive, life-shaping interventions to which adolescents and their guardians commonly and unproblematically assent or consent. For example, an adolescent may assent to treatment of leukemia, even when the treatment may cause future infertility. An adolescent also may assent to amputation of a limb that is diseased or damaged beyond repair. There are many similar situations in which assent by the adolescent, and legal consent by the parents, is given to an intervention necessary to preserve the adolescent's overall health but which also causes foreseen serious adverse side effects.

Some critics of PMT, on the other hand, maintain that patients—some of whom are only eight or nine years old when they reach Tanner Stage 2 of puberty and thereby become candidates for PBs[12]—are too immature[13] to adequately understand the full range of consequences of medical transition. These young people cannot deliberate about the relevant considerations in a manner that is appropriately attentive to the seriousness and complexity of the decision. Critics point out that even proponents of PMT recognize that children and adolescents lack the cognitive and social maturity to deliberate well about their future fertility.[14]

Moreover, critics assert—reasonably[15]—that providers of PMT often fail properly to inform patients and their guardians about the uncertainty of the clinical evidence for medical benefit and that they overstate the probability and magnitude of the harms of

[9] "Consent" and "assent" here are technical terms. In the U.S. minors cannot provide *legal consent* for medical treatment (there are limited exceptions, e.g. for emancipated minors or for a narrow range of interventions such as treatment for sexually transmitted infections). Guardians provide legal consent while minors provide *assent*, or agreement to the intervention.
[10] Giordano et al. (2021); Mosier-Mills et al. (2024).
[11] Vrouenraets et al. (2021); See also Marino et al. (2024).
[12] See Chapter 7.
[13] Diekema (2020).
[14] Vrouenraets et al. (2022).
[15] See Chapter 11.

non-medicalization.[16] Finally, as noted in Chapter 2, clinicians providing PMT routinely employ euphemistic and morally loaded language, which can mislead or unduly influence patients and their guardians. The concern, then, is that this combination of high pressure, low information, and reflexive "affirmation" undermines the possibility of genuinely informed consent or assent.

Informed consent is critically important, but before it is even a consideration, the intervention must be otherwise ethically permissible. For example, before asking whether patients can consent to any proposed intervention, from antibiotics to lobotomy, a clinician must determine whether the intervention has a favorable risk/benefit profile as a treatment for the patient's condition. Thus, while informed consent plays a central role in medical ethics and clinical practice and informs discussions about the distinctive challenges that attend decision-making in pediatrics, this Review's ethical analysis of PMT focuses primarily on the necessarily prior step. Namely: do these interventions have favorable risk/benefit profiles?

## 13.2 From paternalism to shared decision-making and patient-centered care

Over the course of the 20th century, advances in the biomedical sciences, expansion of healthcare delivery systems, increasing professionalization in medicine, and a series of medical scandals and seminal legal cases led to greater sensitivity among clinicians and researchers to the rights of patients and participants in medical research. Judges, regulators, lawmakers, and ethicists introduced constraints on the power of clinicians to impose their values, preferences, and perspectives on patients.[17] The "paternalistic model" in medicine, according to which "doctor knows best," gave way to a more egalitarian model of "shared decision-making" that emphasizes respect for the autonomy and authority of competent patients and research participants. There is now universal consensus that respect for patient autonomy requires clinicians to provide patients with information relevant to their medical options and to act on competent

[16] Reluctant parents have reported being asked by their child's clinicians whether they (the parents) preferred having "a dead son or a living daughter." In an interview, Dr. Johanna Olson-Kennedy stated, "We often ask parents, Would you rather have a dead son than a live daughter?" (ABC News, 2011).
[17] Faden et al. (1986).

patients only with patients' consent. As the American Medical Association's *Code of Medical Ethics* puts it, patients have the right "[t]o make decisions about the care the physician recommends and to have those decisions respected. A patient who has decision-making capacity may accept or refuse any recommended medical intervention."[18] Patients are protected from unwanted medical interventions not only by professional and ethical norms but by the law. As Justice Cardozo famously wrote, "a surgeon who performs an operation without his patient's consent, commits an assault, for which he is liable in damages."[19]

### 13.2.1 Respect for autonomy vs *caveat emptor*

Crucially, the shift from medical paternalism to shared decision-making does not absolve clinicians of their ethical and professional obligation to protect and promote the health and well-being of their patients. Beneficence "undergirds all medical and health care professions and their institutional settings."[20] As mentioned in Chapter 1, clinicians have ancient but enduring ethical duties to avoid harming their patients and to promote their health and welfare: "The health and well-being of my patient will be my first consideration."[21]

The principle of respect for patient autonomy does not justify subjecting patients to interventions that pose medically unnecessary risks of harm, or which are otherwise nonbeneficial, even when patients prefer, request, or demand those interventions. An ethical analysis of PMT published by Finnish health authorities provides a succinct explanation:

> In healthcare, self-determination primarily manifests as the right to refuse treatments within the available service spectrum. This principle must be balanced against the freedom of individuals to express their own gender identity. Nevertheless, autonomy in healthcare does not imply unrestricted freedom to select treatments based purely on personal preference; rather, patient autonomy

[18] American Medical Association (2016).
[19] Schloendorff v. Society of New York Hospital (1914).
[20] Beauchamp & Childress (2019, p. 217)
[21] Parsa-Parsi (2017, p. 1971).

> involves the choice among treatments *that are medically justified* and included within the recognized service options.[22]

The well-established moral and legal right of competent patients to refuse any medical intervention does not entail a corollary right to receive nonbeneficial interventions. The Institute of Medicine's Committee on Quality of Health Care in America warns clinicians against providing interventions based on this illicit inference, stating, "When a patient seeks inappropriate health care services, the challenge for clinicians is to find ways of reducing this conflict … If a conflict cannot be resolved through counseling, the clinician should refuse to provide nonbeneficial services."[23]

In refusing requests for nonbeneficial interventions, clinicians do not force anything upon their patients. They do not threaten, deceive, or mislead them. Nor do they withhold relevant information about risks, benefits, and available alternatives. In other words, withholding nonbeneficial interventions does not entail acting on patients without their informed consent. Conflating the right of patients to refuse medical intervention or to choose among the beneficial options offered by their clinicians with the wholly separate "right" to determine which interventions must be offered transforms the ethos of beneficent respect in medicine to the crude, responsibility-abdicating ethos of medical consumerism: *caveat emptor.*

> Using patient autonomy to justify acquiescence to patients' requests for nonbeneficial services violates professional integrity. Professional integrity requires physicians to adhere to standards of intellectual and moral excellence. Physicians achieve intellectual excellence by submitting clinical judgment to disciplined, evidence-based reasoning. Physicians achieve moral excellence by protecting patients' health-related interests as a primary concern, keeping self-

[22] Saarni & Uusitalo (2020, p. 41, emphasis added). Original text: "Itsemääräämisoikeus terveydenhuollossa toteutuu ensisijaisesti oikeutena kieltäytyä palveluvalikoimaan kuuluvista hoitotoimista. Tämä on tasapainotettava sen näkökulman kanssa, että ihmiset saavat itse vapaasti ilmaista omaa sukupuolista identiteettiään. Autonomialla ei terveydenhuollossa kuitenkaan tarkoiteta vapaata oikeutta valita hoitoja omien preferenssien perusteella, vaan potilas voi valita palveluvalikoiman ja lääketieteellisesti perusteltujen hoitomuotojen sisällä."

[23] Committee on Quality of Health Care in America, Institute of Medicine (2001, p. 77). See also the "Physicians Charter" mentioned in Section 1.3.

> interests systematically secondary. Commitment to professional integrity requires that physicians challenge requests for nonbeneficial interventions.[24]

### 13.2.2 Nonmaleficence, beneficence, and autonomy in pediatrics

Uncontroversially, then, the norms of medicine require clinicians to protect and promote the health and well-being of their patients. This means they must abstain from providing nonbeneficial interventions even when such interventions are requested by competent patients. In the domain of pediatrics, these norms limit the authority not only of patients (who in any case lack full decision-making capacity) but of parents as well. The American Academy of Pediatrics' (AAP) Committee on Bioethics puts it as follows:

> Pediatric health care providers have legal and ethical duties to provide a standard of care that meets the pediatric patient's needs and not necessarily what the parents desire or request. Parental decision-making should primarily be understood as parents' responsibility to support the interests of their child and to preserve family relationships, rather than being focused on their rights to express their own autonomous choices. It is important to note that parental authority regarding medical decision-making for their minor child or young adult who lacks the capacity for medical decision-making is constrained compared with the more robust autonomy in medical decision-making enjoyed by competent adults making decisions regarding their own care.[25]

The "constraint" on patient and parental authority is grounded in the medical best interests of the child:

> In pediatrics, the duties to protect and promote health-related interests of the child and adolescent by the physician are also grounded in the fiduciary relationship (to act in the best interest of the patient and subordinating one's own interests) between the physician and patient, but these duties may conflict with the parent's or patient's wishes …[26]

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[24] Brett & McCullough (2012, p. 149).
[25] Committee on Bioethics et al. (2016, p. e5). First published in 2016, this report was reaffirmed by the AAP in 2023.
[26] Committee on Bioethics et al. (2016, p. e2).

In its influential policy statement, "Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents," the AAP states that in navigating disagreements between parents and children clinicians should "maintain their primary responsibility to the welfare of the child."[27] Thus, while the statement recommends that "transgender and gender-diverse" youth have access to PMT, this recommendation is contingent not on the autonomy rights of patients or their guardians,[28] but rather on these interventions' purported contribution to patient health and well-being. [29] This affirms the longstanding, consensus view of medicine's fundamental aim as protecting and promoting the health and well-being of patients.

### 13.2.3 Risk/benefit in pediatric medical transition

To discharge their duties of nonmaleficence and beneficence, clinicians must ensure, insofar as reasonably possible, that any interventions they offer to patients have clinically favorable risk/benefit profiles relative to the set of available alternatives, which includes doing nothing.[30] As described in Chapter 5, systematic reviews (SRs) of the

[27] Rafferty et al. (2018, p. 8).
[28] Bester (2024).
[29] It is worth noting, however, that while the AAP and WPATH support PMT, they do not promote intervening over a patient's objections. Neither group holds that a patient with gender dysphoria/incongruence who refuses puberty blockers, cross-sex hormones, or surgery should be strongly encouraged or, if necessary, forced to receive them. This distinguishes medical transition from other interventions claimed to offer great, potentially lifesaving benefit. In gender medicine and perhaps nowhere else, whether transition-related medical interventions are deemed medically necessary seems to hinge largely on whether the patient desires them. See Chapter 11 for more on this issue.
[30] An intervention has a clinically favorable risk/benefit profile when the expected medical benefits outweigh the expected medical harms. Expected benefits and harms are determined by their probabilities and magnitudes. This is a standard method for guiding action and policy, including in medicine, though the precise manner in which it is carried out can vary and depends on many variables, including risk tolerance, the way "benefit" and "harm" are defined and measured, the way probabilities are assigned, and the way uncertainty/ignorance is accounted for. Of course, it would not be difficult to adopt expected utility theory, defining "benefit" and "harm" and assigning values to the relevant variables, in a way that would render a verdict markedly different from the negative one reached in this Review. That said, the claims made here about the probability and magnitude of harms and benefits are grounded in the best available evidence. Sometimes, the probabilities are known with a high degree of certainty. For example, the probability that mastectomy will lead to an inability to breastfeed is 1.0 or close to it. Puberty blockers and cross-sex hormones threaten sexual function, though the precise magnitude of the problem and its distribution in the treated patient population is unknown. Where precise or even rough values are not available due to the absence of quality research, the analysis in this Review assumes plausible, if rough, estimates. As for the nature of medical benefits and harms and their relative weights, the Review's working assumptions cohere with common moral intuition, standard medical judgment as revealed in medical diagnostic criteria, and the outcomes of interest to clinicians and researchers, as well as the law. For example, the analysis would conclude that a minor improvement in depressive symptoms does count

evidence for benefit of hormonal or surgical intervention in the treatment of GD in adolescents have concluded that this evidence is of low or very low certainty. This means that the true effects of the interventions may or are likely to be substantially different from the effects reported in the studies.[31] In other words, the best available evidence indicates that PBs, CSH, and surgery have not been shown to improve mental health outcomes.

At the same time, there is increasing recognition of the risks and harms associated with PMT, which are supported by clinical research or grounded in established biological theory.[32] While the value or disvalue of some outcomes, such as hirsutism in females, may be determined primarily by the preferences or tastes of patients, other possible outcomes, such as impaired cognitive function, greater susceptibility to hormone-sensitive cancers, cardiac disease, reduced bone density, sexual dysfunction, infection, and infertility[33] are objectively detrimental to health. Such medical harms, or plausible

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as a benefit but that such a benefit, even if assured, does not outweigh moderate or even low but non-negligible risks of infertility or serious sexual dysfunction, loss of breastfeeding function, or lifelong medical dependency, which the Review considers harms.

[31] Balshem et al. (2011).

[32] See Chapter 5 and Chapter 7.

[33] It may be objected that infertility is not necessarily a harm. One version of this objection is that for some young patients, perhaps those who have very clearly expressed that they do not want and will never want genetically-related children, infertility is not a harm since it is consistent with their chosen life plan. The response to this objection is that the medical profession does not ordinarily permit voluntary permanent contraception (sterilization) in children or adolescents and always takes the risk of infertility seriously in assessing the risk/benefit profile of any intervention that plausibly may impact reproductive health. That is to say that as a matter of well-established sociological fact, infertility is recognized by the medical profession as a harm (Geis et al., 2024). The second version of the objection relies on the claim that some patients are willing to accept infertility as a consequence of medical transition, even if they do not intend infertility. These patients prefer to remain fertile, all else being equal, but because all else is not equal they accept interventions that will undermine their fertility. The response to this objection is that such preferences reveal that these patients view infertility as a harm. The real question in the latter case is whether there is good reason to believe that the benefits of medical intervention outweigh this harm, and the answer to this question will depend on the evidence regarding benefits. Finally, research suggests that many transgender-identified people do want children and that some who medically transition experience decisional regret over their infertility. This suggests they also view infertility as a harm even if they do not regret their transition. See Asseler et al. (2024); Stolk et al. (2023).

risks thereof,[34] should not be imposed on children or adolescents in the absence of a reasonable expectation of proportionate medical benefit.[35]

Although a favorable risk/benefit profile is necessary to justify an intervention, it is not sufficient.[36] The intervention must be favorable relative not only to doing nothing but also to other known alternatives. With respect to PMT, a relevant alternative is some combination of psychotherapeutic interventions.[37] Like the evidence for hormonal and surgical interventions, evidence regarding alternative approaches to GD is sparse and inconclusive,[38] though as Chapter 14 reveals there is good reason to believe that psychotherapy can be an effective intervention. Regarding the potential harms of psychotherapy for adolescents with GD, a systematic review of the evidence found no evidence of negative or adverse effects in any of the studies examined (although absence of evidence for harm does not imply evidence of no harm, psychotherapy does not carry the medical or surgical risks associated with PMT).[39]

One possible objection is that although the evidence supporting hormonal and surgical interventions is of low or very low certainty, this does not prove that the interventions are ineffective. For all we know, the interventions may be *more* effective than researchers have reported. The methodological weaknesses of the studies do not prove inefficacy—they tell us only that we cannot infer much of anything about beneficial effects. The same limitations apply to evidence on harms—after all, because there are no well-designed randomized controlled trials (RCTs) of PMT, it follows that there are no well-designed RCTs demonstrating sexual dysfunction, infertility, bone density loss, impaired cognitive function, susceptibility to hormone-sensitive cancers, and other potential

[34] Sweden's National Board of Health and Welfare concluded that "the risks of puberty blockers and gender-affirming treatment are likely to outweigh the expected benefits of these treatments" (Socialstyrelsen, 2022a, p. 3).
[35] The "should not" here is a moral "should not." It does not entail any conclusions about what the law should permit or require. The relationship between ethics and the law is complex and is not taken up in this Review.
[36] If considerations not directly related to health are included in the risk/benefit analysis, there may be cases where an intervention that is marginally less effective in promoting health may be recommended (e.g. when the marginally more effective treatment is much more expensive). And of course, to say that the clinicians should offer the more favorable intervention is not to say that patients do not have the right (in most cases) to refuse it.
[37] See Chapter 14.
[38] Cass (2024a, pp. 153–154).
[39] Heathcote et al. (2024, pp. s19–s32, Suppl. 2).

harms. Some argue that in the face of uncertain evidence both for benefit and for harm, patients themselves (and their families), with expert clinicians providing relevant clinical information, should decide how to proceed.[40] Medical decisions under uncertainty, the reasoning goes, should be made by those with the greatest personal stake in the outcome. In pediatrics, this means children and adolescents, supported (usually) by their families.

This objection properly expresses concern for patient health and well-being as well as respect for the developing decision-making capacity of children and adolescents (and the greater capacity of their guardians). But it fails, for two reasons.

First, the objection understates the cumulative case for evidence of harm. We can be certain in the ordinary sense of "certain" that these interventions cause harm, even if we do not have "high certainty" evidence in the technical sense employed in evidence-based medicine (EBM).[41] We do not need results from RCTs to be certain that removing an adolescent's breasts will eliminate or substantially impair capacity for breastfeeding. Nor do we need RCTs to establish that PBs and CSH stunt growth of the penis, increasing the risks associated with future surgery.[42] And apart from any systematic reviews of published studies, basic human physiology indicates that blocking puberty at Tanner Stage 2 and following with CSH will negatively impact fertility. That advocates of PMT recommend fertility counselling before undergoing these interventions is evidence that they, too, anticipate the risk of infertility and regard it as a harm. Other forms of evidence, such as indirect evidence from research on adults, also contribute to the case that these interventions cause harm.[43] Finally, research on PMT has focused largely on potential benefits to mental health, with less attention given to potential physical harms, compounding the problem of publication bias.[44]

Second, even granting that the uncertainty of the evidence makes it impossible to assign precise values to the probabilities or magnitudes of various potential outcomes, it

[40] Antommaria (2024).
[41] Smith & Pell (2003)
[42] Terhune et al. (2022).
[43] See Chapter 7.
[44] See Chapter 6 for discussion of publication bias.

does not follow that clinicians are dependent on their patients to guide clinical decision-making.[45] Rather, the obligation to avoid serious harm justifies a precautionary approach, particularly in the absence of evidence for a proportionately serious threat to the patient's health without the intervention. In their seminal textbook on medical ethics, Beauchamp and Childress write:

> Depending on what is valued and what is at risk, it may be ethically justifiable and even obligatory to take steps, in the absence of conclusive scientific evidence, to avoid a hazard where the harm would be both serious and irreversible—that is, a catastrophe. Triggering conditions for these measures include plausible evidence of potential major harm where it is not possible to adequately characterize and quantify risk because of scientific uncertainty and ignorance. The process of developing precautionary norms should not be viewed as an alternative to risk analysis and scientific research. It should instead be viewed as a way to supplement risk appraisals when the available scientific evidence does not permit firm characterizations of the probability or magnitude of plausible risks.[46]

It seems clear that the triggering conditions for adopting a precautionary approach to the use of hormonal and surgical interventions for the treatment of pediatric GD have been met. When precautionary considerations are added to the cumulative case for harm, the ethical argument against PMT becomes compelling.

> The importance of avoiding harm is emphasized by the fact that many treatments (e.g., surgery, hormone therapy) can lead to relatively common and potentially serious long-term adverse effects. This necessitates particularly strong justification (i.e., clear evidence of benefits and the decision-maker's competence) before administering such treatments or accepting these risks. In practice, physically modifying healthy bodies is generally associated with potential harms or risks. Empirical evidence concerning the long-term benefit-to-

[45] One would hope this would come as a relief to clinicians and especially to pediatricians, though some seem happy to let children lead the way. See Chapter 11.
[46] Beauchamp & Childress (2019, p. 250)

> harm ratio of these interventions is often limited. In other words, avoiding harm prompts considerations similar to those raised by competence: when evidence of benefit is uncertain, but risks are probable, the ethical imperative to minimize harm is further underscored.[47]

The unfavorable risk/benefit profile distinguishes PMT from many other off-label uses of drugs and medical devices. Advocates for PMT point to the prevalence of off-label prescribing in pediatrics,[48] but the legitimacy of some off-label uses does not license the prescription of any pharmaceutical to any patient for any reason. The favorable risk/benefit threshold, or, more minimally, the precautionary threshold, must be met irrespective of whether the intervention is approved by FDA. Off-label use of an intervention is sometimes justifiable based on studies of the intervention in a different patient population or for a different indication. Such use may be warranted when there is a reasonable expectation of benefit, when there are no superior alternatives, and when the prognosis, absent medical intervention, is predicted to be worse for the patient than the negative effects of the off-label drug.

This is decidedly not the situation with PMT. The natural history of pediatric GD is poorly understood[49] and decades of research has shown that early-onset GD usually resolves without medical intervention.[50] There is no compelling evidence that the same will not prove true in the case of adolescent-onset symptoms, and limited evidence suggesting it will.[51] And in any case, it is widely acknowledged that clinicians are unable to

[47] Saarni & Uusitalo (2020, p. 41); our translation. Original text: “Haittojen välttämisen tärkeyttä korostaa se, että monista hoidoista voi seurata varsin yleisiä ja vakaviakin pitkän tähtäimen haittoja (esim. kirurgia, hormonihoidot), jolloin hoitojen antamiselle (eli näiden riskien ottamiselle) pitää olla erityisen hyvät perusteet (eli näyttö hyödyistä sekä päätöksentekijän kompetenssista). Käytännössä terveiden kehojen fyysiseen muokkaukseen voidaan katsoa useimmissa tapauksissa liittyvän haittoja tai riskejä. Empiirinen näyttö hoitojen pitkän tähtäimen hyöty/haitta-suhteesta on useissa tapauksissa vähäistä. Toisin sanoen haitan välttäminen johtaa siis samankaltaiseen pohdintaan kuin kompetenssikysymys: jos näyttö hyödyistä on epävarmaa mutta haitat todennäköisiä, haittojen minimoinnin tärkeys eettisenä periaatteena korostuu.”
[48] Meng et al. (2022).
[49] See Chapter 4.
[50] Ristori & Steensma (2016); Singh et al. (2021).
[51] Bachmann et al. (2024); Byrne (2024a); Rawee et al. (2024); Sun et al. (2023)

distinguish patients whose GD will persist from those whose GD will resolve.[52] Further, there are concerns about the role medicalization itself may play in contributing to the persistence of the conditions being treated,[53] and less invasive and less risky interventions are available.[54] Lastly, medical intervention has known and plausible harms,[55] and decades of research conducted by leading academic institutions have failed to produce reliable evidence of medical benefit.[56]

### 13.2.4 Justice

According to the Belmont Report, published in 1978 in the wake of the U.S. Public Health Service's Untreated Syphilis Study at Tuskegee, "An injustice occurs when some benefit to which a person is entitled is denied without good reason or when some burden is imposed unduly."[57] While the Belmont report set out ethical principles to guide human subjects research, the principle of justice applies also to clinical medicine. Advocates for PMT sometimes claim it is unjust to withhold PBs, CSH, or surgeries from youth with GD.[58] They cite research finding that this patient population has significant healthcare needs and also suffers from social marginalization and stigma.[59] These patients indeed are vulnerable along multiple axes, and it would be an injustice to deny them safe and effective medical care. It would also be unjust, however, to subject them to serious hormonal and surgical interventions that lack a favorable risk/benefit profile. In fact, it seems particularly unjust to subject youth struggling with complex psychiatric, neurodevelopmental, and psychosocial challenges to the harms associated with these interventions. The justice principle has been rightly invoked but wrongly applied.

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[52] "Although a diagnosis of gender dysphoria has been seen as necessary for initiating medical treatment, it is not reliably predictive of whether that young person will have longstanding gender incongruence in the future, or whether medical intervention will be the best option for them." (Cass, 2024a, p. 29). The recent German clinical guidelines note that its own review found no studies that could supply empirical criteria to determine whether GD or gender incongruence would persist into or beyond adolescence (German Society for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy (DGKJP), 2025, p. 188).
[53] Jorgensen (2023a).
[54] See Chapter 14.
[55] See Chapter 7.
[56] See Chapter 5.
[57] National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (2010).
[58] Kimberly et al. (2018); Maung (2024).
[59] Hatzenbuehler & Pachankis (2016); Rider et al. (2018).

In both her Interim and Final Reports, Cass notes concerns brought to her by patients and families about "diagnostic overshadowing."[60] Diagnostic overshadowing is a form of bias that leads clinicians to misattribute symptoms of one condition to a different previously diagnosed condition. This can happen, for example, when clinicians mistakenly attribute patients' complaints of physical discomfort to the patient's previously diagnosed psychiatric condition, a mistake that may lead to misdiagnosis and inadequate treatment.[61] Diagnostic overshadowing is especially salient in mental health care contexts, where a patient with psychiatric problems, neurodevelopmental challenges, or cognitive disabilities may be treated one-dimensionally as a "case" of some psychiatric diagnosis rather than holistically as a person susceptible to a range of health problems unrelated to that diagnosis.

In the context of PMT, the concern is that the diagnosis of GD tends to obscure causes of distress and crowd out other mental health care needs, particularly when patients are referred to specialty gender clinics. The gender clinic model of care becomes Maslow's hammer to which every problem appears as a nail. The risk of diagnostic overshadowing increases insofar as (1) clinicians fail to provide comprehensive psychiatric evaluations;[62] (2) clinicians face pressure from colleagues, patients, and parents to "affirm" patients prematurely, that is, prior to providing them sufficient time to develop and mature;[63] and (3) co-occurring mental health challenges or problem behaviors are reflexively assumed to be minority stress-mediated sequelae of the patient's GD diagnosis.[64] To neglect the mental health care needs of members of an already vulnerable population of youth with complex psychiatric, neurodevelopmental, and psychosocial challenges is to deny them a benefit to which they are entitled, and to expose them to medically unnecessary risk of harm is to impose a burden unduly.

There are additional problems related to justice. Compared to their age-matched peers, same-sex attracted youth are significantly overrepresented among patients presenting

[60] Cass (2022a, p. 46; 2024b, p. 200).
[61] Hallyburton (2022); Jones et al. (2008); Reiss et al. (1982).
[62] Damiano (2024a).
[63] Edwards-Leeper & Anderson (2021).
[64] Papers claiming minority stress explains various health problems of transgender-identified adolescents include Delozier et al. (2020); Dolotina & Turban (2022); Hunter et al. (2021).

to gender clinics.[65] As noted in Chapter 3, this phenomenon has been observed from the beginning. Of the 70 patients recruited by de Vries and colleagues in the Netherlands from 2000 to 2008, 62 reported being exclusively same-sex attracted, six reported being bisexual, and one reported being exclusively opposite-sex attracted.[66] That is, the original Dutch Protocol patient cohort was comprised almost entirely of gay, lesbian, and bisexual patients[67]—one of whom died as a result of surgical complications from vaginoplasty following pubertal blockade and cross-sex hormones.[68] Reports of negative attitudes towards homosexuality, which may be internalized, are not uncommon in this field.[69] One of the earliest clinical reports on adolescent transition describes a family concerned that their son's gender nonconformity was a sign of homosexuality.

> It is of interest to note that [the patient's family] were all reassured to discover that George was not a *homosexual*. The diagnosis of 'transexual' provided an explanation for his feminine behavior and was, especially for the parents, psychologically relieving.[70]

Given the medical profession's history of pathologizing and medicalizing same-sex attraction,[71] serious justice-related concerns are raised by the overrepresentation of gay, lesbian, and bisexual adolescents among patients receiving unproven interventions that adversely impact fertility and sexual function.

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[65] Drescher & Yarbrough (2024); Singh et al. (2021); Wood et al. (2013).
[66] de Vries et al. (2011, Table 1). The remaining one patient reported "don't know yet."
[67] Biggs (2023b).
[68] Biggs (2023b); de Vries et al. (2014); Negenborn et al. (2017) Bachmann et al. (2024); Sun et al. (2023).
[69] Barnes (2023); Sansfaçon et al. (2023); Littman (2021).
[70] Newman (1970). Given clinician reports of his self-reported sexual behavior and desires, it is almost certain that George was gay.
[71] Hodge (1950); Murphy (1992); Shidlo et al. (2001). From Hodge: "Male aged 37 years, who came voluntarily, being concerned by his definite homosexual bias which, though it had not since puberty found overt expression, was nevertheless a source of great worry and unhappiness … He appeared after close investigation to be a homosexual deviant of very long standing—an 'innate' pattern rather than one of traumatic 'level fixation'—and he failed to respond to psychotherapy. Treatment by oestrone has been followed by loss of sexual libido and he reports considerable 'mental relief.'" (p. 135) See also Chapter 3 for the influential case of George/Christine Jorgensen and the subsequent wave of lesbian and gay people who sought medical transition.

## 13.3 Alternative clinical rationales

Clinical research on pediatric medical transition has focused primarily on its effects on psychiatric morbidity and to a lesser extent on psychosocial function. The original Dutch Protocol required patients to have "Gender Identity Disorder" (GID), as GD was then called. The diagnostic criteria for GID and its DSM-5 successor GD include clinically significant distress and/or functional impairment.[72] While the diagnostic criteria for GD closely mirror the previous criteria for GID, the DSM-5 more explicitly emphasizes that cross-sex identity, by itself, does not constitute a pathology. The attendant distress, if present, is what is pathological. As such, medical interventions target the patient's distress or impairment, not the underlying identification.

That patients must have a mental health disorder to access medical resources has long troubled some patients and advocacy groups.[73,74] Some clinical protocols require patients to undergo assessment to determine if they meet (*inter alia*) the distress or impairment criterion—it is not enough that a patient attests to cross-sex identification or incongruence. These criteria thereby create an impediment[75] for people who do not suffer distress or impairment but who nevertheless wish to medically alter their bodies. To access the interventions they want, these patients may need to exaggerate or feign symptoms or else shop for clinicians willing to rubber stamp a diagnosis.[76]

One possible solution to this challenge is simply to eliminate any requirement for a medical diagnosis. Doing this would remove the obstacle of assessment from the path

[72] Because GID and GD are DSM diagnoses and the DSM is a manual of mental disorders, this is not surprising. However, it does constrain the options available to clinician-researchers insofar as reimbursement requires a DSM diagnosis, i.e. the categorization of the patient as suffering from a mental disorder.
[73] Drescher (2017).
[74] Objections to medical "gatekeeping" and tensions between patients and clinicians regarding the pathologization of cross-sex identification predate the Dutch Protocol and the medicalization of pediatric gender distress by decades. Adults, wishing for hormones and surgeries to satisfy their longing to modify their bodies and to be perceived as members of the other sex, have butted heads with psychiatrists, psychologists, endocrinologists, and surgeons since the early 20th century when the first "sex change" procedures took place. Disciplinary turf wars between experts, with each field vying for authority over diagnosis and treatment, contributed to the ongoing professional uncertainty over the fundamental aims of medical intervention and the appropriate balance of power between patients and clinicians. See Meyerowitz (2009); Shuster (2021).
[75] Jacobsen (2024).
[76] For accounts of patients feigning symptoms and manufacturing histories in order to convince clinicians of their medical need, see Ashley (2019); Pimenoff & Pfäfflin (2011); Shuster (2021).

of patients seeking medical interventions. The problem with this solution for the DSM and the ICD working groups was that removing the diagnoses altogether would make reimbursement for medical intervention difficult or impossible. The tension between ensuring reimbursement and thereby access, on the one hand, and satisfying the demands of patients and activist groups for depathologization, on the other, required compromises on the part of DSM and ICD developers.[77] The DSM developers depathologized incongruence and pathologized distress. The ICD-11 developers had more options because unlike the DSM, which is devoted exclusively to mental disorders, the ICD catalogues all diseases and health conditions. Having considered the various possibilities,[78] the ICD-11 working group decided to move the diagnosis out of the mental health chapter, where it was believed to contribute to stigma, and into a new chapter, “Conditions Related to Sexual Health,” where it would be less stigmatizing but still useful for purposes of reimbursement.

Consequently, present DSM and ICD diagnoses comprise different frameworks shaped by historical contingencies—including, crucially, payment considerations.[79] According to the DSM-5, experiencing gender incongruence itself is not pathological, while associated distress or impairment are, rendering GD a mental disorder. Meanwhile, according to the ICD-11, gender incongruence (that is, being transgender according to contemporary understandings of what it is to be transgender) itself is pathological, but not a mental health disorder. ICD-11’s diagnosis, Gender Incongruence of Adolescence or Adulthood, includes no requirement of distress or impairment for medicalization. Thus, DSM-5 and ICD-11 differ on whether hormonal and surgical interventions are treatments for a mental health problem or rather some other kind of pathology, on whether transgender identity itself is pathological, and on whether a patient must be distressed or impaired to receive reimbursable medical intervention. Despite these differences and inconsistencies, both diagnoses are employed to justify and reimburse the provision of hormonal and surgical interventions to adolescents.

[77] Drescher (2015).
[78] Drescher et al. (2012).
[79] See Drescher (2015); Drescher & Yarbrough (2024).

The more permissive approach to medicalization is defended by some clinicians,[80] bioethicists, and activists.[81] For example, bioethicist Florence Ashley argues that the provision of hormonal and surgical interventions to adolescents is justified by the interventions' capacity to satisfy patients' "gender embodiment goals":

> Adolescent medical transition aims at preventing or altering the development of sexual characteristics to achieve the individual's gender embodiment goals. Given its purpose, the effectiveness of adolescent medical transition is defined by its ability to achieve the sought physiological outcomes—a standard undisputedly met.[82]

While the Dutch Protocol was designed to alleviate adolescents' psychiatric distress and improve psychosocial functioning, Ashley's approach drops the requirement of clinical improvement—achieving the patient's embodiment goals is enough.[83] Elsewhere, Ashley explains that some people seek hormonal or surgical interventions not because they are suffering from a pathology but rather because these treatments can deliver certain desired experiences such as "gender euphoria" and "creative transfiguration." Gender euphoria is a "distinct enjoyment or satisfaction caused by the correspondence between the person's gender identity and gendered features associated with a gender other than the one assigned at birth."[84,85] Creative transfiguration, Ashley writes, "is more difficult to capture in words. Foregrounding creativity and aspirational aesthetics, creative transfiguration sees the body as a gendered art piece that can be made ours through transition-related interventions."[86]

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[80] See Chapter 11.
[81] Chu (2024).
[82] Ashley (2022a, p. 127).
[83] See Gorin (2024). It is notable that de Vries, the lead author of the two seminal papers (de Vries et al 2011 and 2014) that established the Dutch Protocol, has more recently questioned the "logic of improvement" that undergirds that original clinical rationale and has favorably cited the approach advocated by Ashley (Oosthoek et al., 2024).
[84] Ashley & Ells (2018, p. 24). The definition of gender euphoria offered by Ashley and Ellis entails that no one who does not experience incongruence can experience gender euphoria. According to other writers, however, gender euphoria is "quite common… among trans and cis folks alike." (Kukla, 2024, p. 288).
[85] Researchers recently have developed a scale intended to measure gender euphoria (Blacklock et al., 2025).
[86] Ashley (2019, p. 481).

Because contemporary gender medicine countenances a multiplicity of "genders," this newer emphasis on embodiment goals moves beyond the "sex change" framework of previous decades, in which male patients acquired female-typical characteristics to "live as women" and female patients acquired male-typical characteristics to "live as men" (see Chapter 3). Nothing in the newer "gender affirming" approach limits the number of bodily variations clinicians may be asked to create. Some girls or women want just a bit of stubble while others want full beards and flat chests; some boys or men want softer skin and breasts but wish to keep their penises intact. Expanding clinical offerings reflect these expanding embodiment goals. Surgeons provide penis-preserving vaginoplasty for patients who want both male and female genitals and offer "nullification" procedures for patients who identify as nonbinary and want no external genitals at all. There are at least as many physical combinations for patients to acquire as there are "gender identities"—indeed more, since presumably each gender identity can be embodied in different ways.[87]

While the ICD-11 does not mention "gender euphoria" or "gendered art pieces," the diagnostic criteria for Gender Incongruence of Adolescence or Adulthood implicitly formalize the "embodiment goals" approach to medical transition. The diagnosis is explained as follows:

> Gender Incongruence of Adolescence and Adulthood is characterized by a marked and persistent incongruence between an individual's experienced gender and the assigned sex, which often leads to a desire to 'transition', in order to live and be accepted as a person of the experienced gender, through hormonal treatment, surgery or other health care services to make the individual's body align, as much as desired and to the extent possible, with the experienced gender. The diagnosis cannot be assigned prior the onset of puberty. Gender variant behavior and preferences alone are not a basis for assigning the diagnosis.[88]

[87] James et al. (2015).
[88] World Health Organization (2022b).

According to Jack Drescher, a member of the World Health Organization's (WHO) Working Group on the Classification of Sexual Disorders and Sexual Health, which was tasked with making recommendations for the ICD's eleventh edition, to qualify for the diagnosis of Gender Incongruence of Adolescence or Adulthood, a patient need satisfy only two of the following four criteria:

> 1. Strong dislike or disagreement with primary or secondary sexual characteristics due to incongruence with the experienced gender.
>
> 2. Strong desire to get rid of some of those sexual characteristics due to the incongruence with the experienced gender.
>
> 3. Strong desire to have the primary or secondary sexual characteristics of the experienced gender.
>
> 4. Strong desire to be treated and accepted as a person of the felt gender.[89]

It is hard to see how either of the first two criteria could be used to diagnose gender incongruence. ICD-11 says that gender incongruence is "characterized by a marked and persistent incongruence between an individual's experienced gender and the assigned sex …"[90] Criteria (1) and (2) themselves include incongruence and so the diagnosis, when met by the first two criteria, suggests that a person has gender incongruence because they have attitudes or desires due to incongruence.[91]

Setting problems of circularity aside, an adolescent can be diagnosed with gender incongruence by satisfying (3) and (4),[92] which amount to having certain strong embodiment goals. A male who strongly desires to have (some? all?) the sex characteristics of a female and to be treated or accepted as such, or a female who strongly desires to have (some? all?) the sex characteristics of a male and to be treated

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[89] Drescher & Yarbrough (2024, p. 2508).
[90] World Health Organization (2022a).
[91] The problem of circularity is also discussed in Chapter 2. It is also unclear what it could mean to be in a state of "disagreement" with one's sex characteristics. Perhaps the authors mean that one finds one's sex characteristics disagreeable, that is, unpleasant. This makes sense, as long as the unpleasantness does not rise to the level of distress, which would transform gender incongruence into something like gender dysphoria and thereby undermine the rationale for moving the gender incongruence diagnosis out of the mental disorder chapter of ICD-11.
[92] Whether the criteria must be met for a specific period of time is unclear. ICD-11 does not specify a time requirement; Drescher and Yarbrough say "several months" (Drescher & Yarbrough, 2024, p. 2508).

or accepted as such, qualifies for the diagnosis. According to the ICD-11, a patient with such desires has a "condition related to sexual health" and, therefore, clinicians have a rationale for providing, and being reimbursed for, hormonal or surgical interventions.

It is noteworthy that the ICD-11 employs identical diagnostic criteria for adolescents and adults, despite the clear physiological and psychological developmental differences between these populations and their respective capacities for decision-making and self-understanding. Neither DSM-5-TR nor ICD-11 provide any explanation for why children or adolescents might desire to modify their sex traits or to be treated or accepted as someone other than a member of their sex, and counseling approaches that might explore possible explanations with patients often are labeled "conversion therapy" by advocates of the "gender-affirming" approach.[93] As far as the DSM-5-TR and ICD-11 diagnoses are concerned, it makes no difference that a patient of 10 or 13 or 17 might wish to modify their body and be perceived and treated as someone other than a member of their sex for any number of reasons. These may include discomfort with one's homosexuality, a history of sexual trauma, pubertal distress, the rejection of perceived sex-based roles, and/or psychiatric comorbidities. For the ICD-11, desire alone is sufficient to justify a medical diagnosis and, within the "gender-affirming care" framework, set the adolescent on a course of PMT.

If using hormonal and surgical interventions to reduce psychiatric morbidity associated with gender dysphoria lacks a favorable risk/benefit profile, using these interventions merely to satisfy adolescents' embodiment goals veers from clinical error into clinical recklessness.

## 13.4 Regret

Patient regret has begun to receive significant attention in discussions of PMT. Proponents of PMT claim that regret is extremely rare.[94] Some also claim that since mental health assessments have not been shown to reduce regret rates, they should not be required prior to prescribing.[95] The tacit assumption is that absence of regret is

[93] Ashley (2023). See Chapter 14.
[94] Crabtree et al. (2024); Kidd & Sequeira (2024); McNamara et al. (2024); Turban et al. (2021).
[95] Ashley et al. (2023); Wu & Keuroghlian (2023). See also Chapter 11.

an indication of medical benefit or at least of absence of harm. Other researchers point out that research on regret, like most research in PMT, is severely lacking and that we do not know the true prevalence of regret.[96] Whether implicitly or explicitly, proponents and critics alike consider the question of regret as central to the ethics of PMT.

That some patients report profound regret after undergoing invasive, life-changing medical interventions is clearly of importance. However, regret alone (just like satisfaction alone) is not a valid indicator of whether an intervention is medically justified. Not only is regret a complex phenomenon itself,[97] but its relation to ethical considerations in medicine, and to benefit and harm in particular, is tenuous. Patients sometimes come to regret consenting to interventions that were in fact well-justified, that is, interventions that did offer a favorable risk/benefit profile at the time the intervention was proposed. Patients may come to regret such interventions because they suffer harmful complications that were unlikely to occur but did occur in their case. Or they may come to regret the interventions for other reasons. For example, a woman may undergo a spine surgery for which there is compelling evidence of net benefit to her health and yet come to regret the surgery because the modest relief of pain seems to her retrospectively to have not been worth the cost or hassle involved in recovering from the surgery. Or perhaps the improvement in her health allowed her to take some course of action that turned out to make her life worse, all things considered. That she comes to regret the surgery does not mean that it was clinically or ethically unjustified, nor that her clinician violated medical ethics.

Conversely, humans have a remarkable capacity to incorporate suffering and loss into their life stories. A man may be paralyzed as the result of a spine surgery that did not prospectively offer a favorable risk/benefit profile, and which should never have been attempted by the surgeon. Yet months or years later the man may report that he does not regret undergoing the surgery, because the injury and debility it caused led him to focus more attention on the love and care of his family and friends. Or perhaps, as able-bodied, he was isolated and lonely but now, due to his greater physical dependency, he

[96] Cohn (2023); Jorgensen (2023b); MacKinnon, Expósito-Campos et al. (2023).
[97] Landman (1987).

finds a supportive community within which he develops a new identity that imbues his life with structure and purpose. Or maybe as a result of his injury he simply comes to appreciate more deeply the gift of life in its fragility. That this man does not regret the surgery does not imply that his decision to consent to it was prudent, nor that the surgeon was justified in offering the surgery.

The implications for PMT are complex. The provision of hormonal or surgical interventions to physically healthy adolescents cannot be vindicated by purportedly low rates of regret. Some patients who have suffered objective medical harm and then detransitioned nevertheless do not regret having been medicalized.[98] Nor can the interventions be condemned based on the fact that some adolescents who have undergone them do report regret. The central question for PMT is not: “Do these medically transitioned patients have regret?” A more fundamental question is, “Does medical transition provide health benefits proportionate to its harms?” The best available evidence, along with a risk/benefit analysis and precautionary approach ethically appropriate to pediatrics, shows that the answer to the latter question is almost certainly “no.”

## 13.5 Research Ethics

Multiple SRs, commissioned by leading international health authorities and conducted by independent academic researchers, have concluded that the evidence underpinning the expected benefits of PMT is of low or very low certainty.[99] A natural response among researchers to the absence of higher quality evidence is to conduct more and better research. Whether and how such research should be conducted, however, is a matter of significant ethical controversy.

One controversy concerns RCTs, the “gold standard” for clinical research.[100] Some proponents of PMT claim that RCTs on the effects of PBs or CSH would be infeasible and unethical.[101] With respect to feasibility, because the effects of PMT interventions are

[98] For some real examples, see Sansfaçon et al. (2023).
[99] See Chapter 5.
[100] Hariton et al. (2018).
[101] Ashley et al. (2024, 407-418).

so apparent, it is not possible to blind researchers and participants in an RCT for which the control group receives only psychotherapeutic support. Some worry that many adolescents would refuse to participate in a study that does not guarantee they receive hormonal interventions, or that they would drop out if randomized to the control group. These challenges may be harder to overcome in the current climate in which adolescents have been led to believe that hormonal and surgical interventions are well-supported by the evidence and even life-saving.[102] However, randomization does not require blinding, and until an RCT is attempted, speculation about how potential participants will respond is just that—speculation.

With respect to research ethics, one objection to conducting RCTs is that such research would violate the principle of equipoise. In their textbook, *Principles of Biomedical Ethics*, Beauchamp and Childress explain that "[t]he community of reasonable physicians is … in a state of 'clinical equipoise'" when "[n]o one knows, prior to conducting the research, whether it is more advantageous to be in the control group or in the experimental group … In this model, no patient, then, will receive something known to be less effective or to have a higher risk than an available alternative."[103]

Advocates for PMT allege that it would violate the principle of equipoise to conduct an RCT of PMT in which the control group receives only psychological counseling, "given the numerous studies associating adolescent gender-affirming interventions with improved mental health."[104] This allegation is unfounded, however, because it mischaracterizes the state of the science. Indeed, if equipoise were violated, it plausibly would be in the other direction, given the more certain evidence of harm. In the end, while their reasons differ, there may be a point of agreement between proponents of PMT and some of its critics concerning the impermissibility of conducting RCTs for hormonal or surgical interventions for pediatric GD.

It is not clear that hormonal or surgical interventions for GD can ethically be offered in a trial, irrespective of trial design. Currently, researchers in the U.K. are planning a PB

[102] Clayton, A. (2023).
[103] Beauchamp & Childress (2019), p. 365; See also Freedman (1987).
[104] Ashley et al. (2024, p. 408).

trial. At the time of this Review's writing, the trial has not yet received official ethics approval, and details regarding the trial's design, which outcomes will be studied, what the inclusion and exclusion criteria will be, and so on, have not been published. Some critics of PMT already are raising concerns about the proposed study. They worry about prescribing PBs even in research settings given the recognized inability of clinicians to distinguish between patients whose GD will persist into adulthood from those whose GD will resolve on its own,[105] and the high likelihood that any patient who begins PBs will go on to CSH and possibly surgery.[106] Since most adolescents who take PBs go on to CSH, and since it is CSH and surgery that provide the sought-after physical characteristics in PMT, it is unclear whether PBs are a stand-alone treatment and should be studied as such.

Other critics point out that safer types of research—for example, research into various psychotherapeutic approaches—have yet to be explored with this population of patients. They also point out that U.S. gender clinics have yet to collect longitudinal data on existing patients.

There are other important ethical problems to consider. The Nuremberg Code is a foundational and internationally accepted statement of norms guiding human subjects research and it includes the following:

> The experiment should be so designed and based on the results of animal experimentation and a knowledge of the natural history of the disease or other problem under study, that the anticipated results justify the performance of the experiment.[107]

This suggests that, insofar as PMT poses risks that can be explored through animal studies, such studies should be conducted before these treatments are further tested on humans. Animal studies could help clarify how hormonal interventions affect fertility,

[105] Feinmann (2025).
[106] E.g. Brik et al. (2020); Carmichael et al. (2021); Karakılıç Özturan et al. (2023a); van der Loos, Klink et al. (2023); Wiepjes et al. (2018).
[107] BMJ (1996).

brain development,[108] bone development (including future risk of fracture), and cardiovascular outcomes. Such studies also could help clarify to what extent and under what conditions fertility can be recovered after suppression by hormonal interventions.

The World Medical Association's Declaration of Helsinki is another foundational and internationally accepted statement of guidance for human subjects research. It includes the following:

> All medical research involving human participants must be preceded by careful assessment of predictable risks and burdens to the individuals and groups involved in the research in comparison with foreseeable benefits to them and to other individuals or groups affected by the condition under investigation. Measures to minimize the risks and burdens must be implemented. The risks and burdens must be continuously monitored, assessed, and documented by the researcher.
>
> Physicians and other researchers may not engage in research involving human participants unless they are confident that the risks and burdens have been adequately assessed and can be satisfactorily managed.[109]

It is not ethical to subject adolescents to hormonal and surgical interventions used in PMT, even in a research trial, until and unless the state of the evidence suggests a favorable risk/benefit profile for the studied intervention, *and* the researchers have well-grounded confidence that the foreseeable "risks and burdens have been adequately assessed and can be satisfactorily managed." As explained in this Review, the state of the science does not support a favorable risk/benefit profile, nor does it give researchers a basis for confidence that the risks of PMT can be satisfactorily managed.

Finally, the Belmont Report, authorized by the National Research Act of 1974 and published in 1979 by the United States National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, is a landmark statement of

[108] Chen and colleagues, for example, write, "studies in rodents show ovarian hormones, acting during puberty, program cognitive flexibility by exerting long-lasting effects on excitatory-inhibitory balance in the pre-frontal cortex . . . [and] testosterone, acting during puberty, programs the ability to adapt behavior as a function of social experience" (Chen et al., 2020, Table 2).
[109] World Medical Association (2025).

ethical principles to guide human subjects research in the United States. The Belmont Report affirms that research on humans should not be conducted until and unless that research is "justified on the basis of a favorable risk/benefit assessment" arrived at through "systematic, nonarbitrary analysis of risks and benefits." It continues:

> Thus, there should first be a determination of the validity of the presuppositions of the research; then the nature, probability and magnitude of risk should be distinguished with as much clarity as possible … It should also be determined whether an investigator's estimates of the probability of harm or benefits are reasonable, as judged by known facts or other available studies … [and] When research involves significant risk of serious impairment, review committees should be extraordinarily insistent on the justification of the risk (looking usually to the likelihood of benefit to the subject … ).[110]

As demonstrated throughout this Review, the presuppositions that guide PMT have not been shown to be valid; the nature, probability and magnitude of risks associated with PMT have not been distinguished with sufficient clarity; PMT proponents' estimates of the probability of harm and benefit have not been shown to be reasonable, as judged by known facts and available studies; and the risks of serious impairment that PMT involves have not been shown to be justified. For these reasons, administering PMT to adolescents, even in a research context, is in tension with well-established ethical norms for human subjects research.

[110] National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (2010).

PART 5

# PSYCHOTHERAPY

# Chapter 14 Psychotherapy

This chapter reviews psychotherapy (talk therapy) for gender dysphoria (GD).[1] First, the chapter describes relevant trends in society at large and in the medical profession; specifically, trends in youth mental health (Section 14.1) and in diagnostic and social labels (Section 14.2). Section 14.3 discusses the role of mental health assessment in the care of youth with GD. Section 14.4 briefly recounts the re-emergence of psychotherapy as the primary treatment for this patient population in Europe, and Section 14.5 discusses psychotherapy and its specific application to GD.

## 14.1 Youth mental health

Puberty is the biological, developmental process during which a child becomes a sexually mature adult.[2] Puberty overlaps significantly with adolescence, the period between childhood and adulthood.[3] During puberty, hormonal fluctuations can affect mood and behavior.[4] The onset of puberty often coincides with heightened sensitivity to social dynamics and self-image along with increasing vulnerability to stress and anxiety. Emotional regulation can become challenging as adolescents navigate the complexities of identity formation and peer relationships. Cognitive development accelerates, allowing deeper abstract thinking and self-reflection, which can contribute to existential questioning and emotional instability.[5] Adolescence also involves learning to function independently, as part of identity formation and individuation from the family of origin. Rebellion and resistance to parents and other caregivers or authority figures frequently occur during this process. Adolescents often struggle with long-term planning and are more susceptible to risk taking, as drives for stimulation and affiliation increase but the prefrontal cortex, responsible for executive functions, is still maturing.[6]

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[1] Gender Dysphoria is a formal diagnosis in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5): see Appendix 2. In this chapter and throughout the Review the term “gender dysphoria” is used to refer to sex-related distress or discomfort, not the formal diagnosis (see Chapter 1, Note 1).
[2] See Chapter 7.
[3] According to the American Academy of Pediatrics (AAP), adolescence spans ages 12-21 (Hardin et al., 2017). See also National Academies of Sciences, Engineering, and Medicine (2019, pp. 22–23).
[4] Viner (2015).
[5] E.g., Reena (2015); Steinberg (2005).
[6] Steinberg (2009).

### 14.1.1 Trends in youth mental health

In 2021, the American Academy of Pediatrics (AAP), the American Academy of Child and Adolescent Psychiatry (AACAP), and the Children's Hospital Association declared a "National State of Emergency in Children's Mental Health."[7] In December of that year, U.S. Surgeon General Admiral Vivek Murthy issued an Advisory on Protecting Youth Mental Health, highlighting rising rates of depression, anxiety, hopelessness, and self-harm among youth—trends that worsened during the COVID-19 pandemic. The Lancet Psychiatry Commission on youth mental health noted a similar worldwide trend.[8]

In the U.S., there has been a significant increase in mental illness among teens and young adults since 2010.[9] Data reveal sharply increased rates of diagnosed depression and anxiety; some studies indicate that these rates have more than doubled.[10] Increases also have been documented in rates of suicidal ideation and behavior and self-harm,[11] emergency room visits and hospitalizations for self-harm,[12] and death by suicide.[13] Young people today experience weaker social connections and greater feelings of loneliness. Since 2010, adolescents have had fewer in-person social

[7] American Academy of Child and Adolescent Psychiatry et al. (2021).
[8] McGorry et al. (2024).
[9] Twenge (2020).
[10] Data from a large national database showed that rates of major depressive episodes among adolescents aged 12 to 17 increased by 52% from 2005 to 2017 (from 8.7% to 13.2%) and by 63% among young adults aged 18 to 25 from 2009 to 2017 (from 8.1% to 13.2%) (Twenge et al., 2019). The "Anxious Generation" website, using Centers for Disease Control and Prevention (CDC) data, shows that rates of major depressive disorder from 2010 to 2022 more than doubled for both boys and girls, with major depression in boys increasing by 161% and in girls by 145%. Mental illness for college students increased, with a 134% increase in anxiety and 106% increase in depression over that same period (Rausch & Haidt, 2023). A cohort study of approximately 1.7 million individuals aged 5 to 22 years in Southern California revealed that from 2017 to 2021 the overall incidence of depression increased by approximately 60%, and anxiety by 31% (Xiang et al., 2024). A survey of a Midwestern school district found from 2012 to 2018 there was a 29% increase in youth screening positive for past-month anxiety (Parodi et al., 2022). See also Goodwin et al. (2020); Keyes & Platt (2024).
[11] See CDC trends report, 2013-2023 (Centers for Disease Control and Prevention, 2023).
[12] See Gutiérrez-Sacristán et al. (2022) for information about increase in psychiatric hospitalizations during the COVID-19 pandemic, for example. See also McGorry et al. (2024).
[13] Suicide death rates for children and young adults aged 10 to 24 years increased 62% from 2007 (6.8 per 100,000 individuals) to 2021 (11.0 per 100,000 individuals) (Curtin et al., 2023). Youth suicides began to rise in the 2000s, with a sharper upward trend starting around 2012; see Farah et al. (2023); Miron et al. (2019); Twenge (2020).

interactions with peers compared to previous generations.[14] The deterioration in youth mental health has no one simple explanation. Researchers and theorists have identified several potential factors, including overprotective parenting,[15] the decline in free play,[16] and the ubiquity of smartphones and social media.[17] In 2023, the Surgeon General released an Advisory of Social Media and Youth Mental Health, which called attention to the potential risks associated with social media use for children and adolescents.[18]

## 14.2 Diagnostic and social labels

The rise in reported mental health problems may be partly attributable to overdiagnosis. Some argue that the rise in mental health awareness campaigns aimed at reducing stigma and increasing understanding may have led some young people to interpret normal behaviors and typical developmental challenges as a mental health disorder.[19] Being labeled with a mental health diagnosis can influence how young people see themselves, affect their belief in the possibility of change, and shape how others perceive them. The very act of classifying psychiatric conditions changes the behavior of patients and clinicians. Although diagnostic labels are important for research—where categorizing people or experiences is often necessary—they can oversimplify the

[14] Twenge et al. (2021); Twenge (2023). Based on CDC data, adolescents have, over time, reported increased feelings of meaninglessness, as well as less willingness to engage in risk-taking behaviors. This includes behavior such as drug and alcohol consumption, but also encompasses developmental experiences such as working or learning to drive a vehicle (Haidt, 2024).
[15] Wang et al. (2024); Winnicott (1965); Zhang & Ji (2024).
[16] According to the AAP: “Children need to develop a variety of skill sets to optimize their development and manage toxic stress. Research demonstrates that developmentally appropriate play with parents and peers is a singular opportunity to promote the social-emotional, cognitive, language, and self-regulation skills that build executive function and a prosocial brain” (Yogman et al., 2018).
[17]Increased use of technologies, including social media, caused a displacement of other activities, such in-person socializing, schoolwork, sleep, sports, reading, and other hobbies. Heavy use of smart phones and social media is ubiquitous among teenagers today (Rothwell, 2023; Twenge et al., 2022; Twenge & Campbell, 2019; Vogels et al., 2022), and common among pre-teens (Rideout et al., 2022). Social media in particular may result in worsening mood and negative self-image in adolescent girls (Choukas-Bradley, 2024; Rodgers & Rousseau, 2022; Scott et al., 2023), and in some cases may play an etiologic role in increasing presentations of specific psychiatric and neurologic issues (Giedinghagen, 2023; Haltigan et al., 2023; Hull & Parnes, 2021; Padín et al., 2021; Pringsheim et al., 2021; Weigle & Shafi, 2024). Social media has introduced a new sociomedical phenomenon in which individuals may find a sense of belonging online through identification with an illness or condition, which may place them at risk of inappropriate or unnecessary medical care (Corzine & Roy, 2024). For a meta-analysis that found reasons for skepticism about the evidence for the effects of social media on mental health, see Ferguson (2025).
[18] Office of the Surgeon General (2023).
[19] Foulkes & Andrews (2023).

richness and complexity of human experiences for the benefit of a standardized clinical language. To some extent, skillful clinicians can compensate for this reductionism,[20] but they cannot prevent diagnostic labels from escaping the clinic and being used in unintended ways in the wider culture.[21]

Overdiagnosis can lead to overtreatment; unnecessary tests, procedures or medical interventions may cause harm rather than helping. Loosening the diagnostic criteria for a condition will likely increase overdiagnosis and the risk of iatrogenic harm, so definitions should be formulated responsibly:

> … any changes [to diagnoses] should use a systematic, transparent approach where benefits and harms are explicit, especially when they lead to an increase in the prevalence of disease, and broadening of definitions should require evidence of clinical benefit.[22]

Although the term "gender identity" was used in the 1960s,[23] it did not appear in the *Diagnostic and Statistical Manual of Mental Disorders* until 1980 (third edition, DSM-III). "Gender Identity Disorders" was a subcategory of "Psychosexual Disorders," further divided into "Transsexualism" (for late adolescents and adults) and "Gender Identity Disorder of Childhood."[24] In the DSM-IV, published in 1994,[25] "Transsexualism" vanished, and "Gender Identity Disorder" (GID), covering both adults and children, appeared under "Sexual and Gender Identity Disorders." The DSM-5, published in 2013,[26] replaced "Gender Identity Disorder" with "Gender Dysphoria" and designated it as a separate category. This last change "focused the diagnosis on the gender identity-related distress that some transgender people experience (and for which they may seek

[20] Johnstone (2018).
[21] Hacking (1998); Shorter (1993). See also Brossard (2019); Elliott (2000); Haslam (2016); Lindholm & Wickström (2020); Smids & Vasterman (2025).
[22] Kale & Korenstein (2018, p. 8). The field of psychiatry is no stranger to the phenomenon of misdiagnosis, overdiagnosis and overtreatment; see, for example, Harris & Carey (2008), Havens et al. (2022), and Moreno et al. (2007) for discussion of controversies related to overdiagnosis of pediatric bipolar disorder.
[23] See Chapter 2.
[24] American Psychiatric Association (1980).
[25] American Psychiatric Association (1994).
[26] American Psychiatric Association (2013).

psychiatric, medical, and surgical treatments) rather than on transgender individuals or identities themselves."[27]

The intention of the DSM's linguistic evolution—from "Transsexualism," to "GID," to "GD"—was to reduce stigma. A parallel linguistic evolution in society at large has resulted in the increasing adoption of labels such as "nonbinary," "genderqueer," "queer," "gender-fluid," "two-spirit," and "transgender."[28] The individuals who identify with these labels—unlike historical or contemporary "transsexuals"[29]—are not a patient group of any kind. "Transgender," "nonbinary," and similar words are not medical terms: they apply to a diverse group of individuals, many of whom are neither dysphoric nor desire any medical or surgical interventions. If there is a common experience, it is "incongruence" between "experienced gender" or "gender identity" and "assigned sex." As the 2022 Text Revision of the DSM-5 explains, "not all individuals will experience distress from incongruence."[30]

As discussed in Chapter 4, social influences have plausibly contributed to the dramatic increase in adolescents presenting to pediatric gender medicine (PGM) clinics over the past decade.[31] Adolescents' need for belonging and acceptance[32] can be met by online communities and spaces centered around identity. The growing use of identity labels such as "transgender" and "nonbinary" among adolescents is an important topic for social science research. In the current U.S. healthcare environment, self-labeling of this kind increases the likelihood that a young person will seek input from a gender clinic,

[27] Drescher (2017). According to a systematic review of cross-sex hormones and mental health outcomes commissioned by the World Professional Association for Transgender Health (WPATH), "[the diagnostic changes] clarify that the target of gender-affirming medical interventions is not the person's gender identity itself but rather the clinically significant distress that can accompany a misalignment between gender identity and sex assigned at birth" (Baker et al., 2021, p. 2). For the diagnostic criteria, see Appendix 2.
[28] See James et al. (2015), and also Section 13.4 of the previous chapter, on "gendered art pieces."
[29] Some individuals who have medically and surgically transitioned still claim this label: e.g., "I do consider myself more as a Transsexual person, which to me is somebody who wanted to switch genders. I always wanted to be a man, I identify as a man, that's what I am, I don't identify as a Transperson at all" (LOTL staff, 2014). See also American Psychological Association (2023), and Chapter 3.
[30] American Psychiatric Association (2022). See also Chapters 2 and 11.
[31] See also the discussion of rapid-onset gender dysphoria (ROGD) in the same chapter.
[32] Especially in girls, e.g., Archer (2019); Prinstein et al. (2005); Rose & Rudolph (2006).

where medical transition may be recommended as early as the first appointment (see Chapter 12).[33]

## 14.3 Controversies regarding assessment and the role of the psychotherapist

In the Dutch research that underpins the contemporary pediatric medical transition (PMT) approach, the psychotherapist occupied an essential role. The original Dutch approach involved an intensive assessment process.[34] Adolescents who began medical transition were required by the protocol to continue to receive regular mental health care.[35]

When discussing contemporary applications of PMT in the U.S., providers often describe a similar approach: multidisciplinary, slow, careful, and methodical.[36] For healthcare providers, the term “multidisciplinary” may connote the lengthy, intensive deliberations that occur at “tumor boards”[37] or during organ transplantation assessments. In inpatient psychiatric units, it is considered preferable to have a multidisciplinary approach, for example involving nursing staff, psychologists, occupational therapists and social workers.[38]

However, in PGM, multidisciplinary teams (MDTs) often do not function like the collaborative model just described. They are more similar to the common healthcare scenario in which a patient sees a cardiologist for cardiac clearance before undergoing

[33] Discussion of labels is also salient to the treatment of the prepubertal patient cohort with GD. As discussed in Chapter 2, the relatively recent practice of calling gender dysphoric youth “transgender children” may increase the likelihood these patients will be placed on a medicalized pathway.
[34] As described in Delemarre-van de Waal & Cohen-Kettenis (2006), “[In] the first diagnostic phase, information must be obtained from both the adolescent and the parents on various aspects of general and psychosexual development of the adolescent, the adolescent’s current functioning and functioning of the family. Standardized psychological assessment is a part of the procedure. The patient is always seen by two members of the gender team. If a child and adolescent psychologist makes the diagnosis, the child is also seen by a child and adolescent psychiatrist and vice versa” (p. S132).
[35] Delemarre-van de Waal & Cohen-Kettenis (2006). Mental health visits were required every 3 months.
[36] E.g., from ABC News: “[Kellan] Baker [the executive director of the Whitman-Walker Institute, an LGBTQ research organization and care provider] said the decision to pursue gender-affirming care is often a lengthy process that includes teams of medical care providers and mental health professionals who work with families to talk about their child's experience, their needs, their choices, and more…‘We're talking months of appointments with a mental health specialist. We're talking lots of conversations between providers, parents, and kids,’ Baker said” (Alfonseca & Geho, 2024).
[37] Okasako & Bernstein (2022).
[38] Russ (2021).

an orthopedic procedure. Under some models, the mental health professional (MHP) seeing the minor with GD writes a note or may just fill in a pre-written template; this is taken to an endocrinologist, who prescribes, or a surgeon, who operates.[39] Further, individuals who comprise the MDTs may all subscribe to the PMT model of care, which prioritizes administration of endocrine and surgical interventions to patients who desire them.[40] This is different from traditional MDTs where various specialties approach problem-solving from different perspectives, enhancing the accuracy of the diagnosis and identification of effective treatments.[41]

The MDT model in the context of PMT has created considerable uncertainty about whether the MHP or the physician providing the medical (and/or surgical) interventions bears the ultimate responsibility for the decision. This may have resulted in "diffusion of responsibility," a phenomenon in which "individuals can underperform in circumstances of shared accountability."[42] With respect to the U.K.'s National Health Service (NHS), the Cass Review's interim report provided some clarity by stipulating that the pediatric endocrinologist, as the physician providing the intervention, should be responsible for assessing the patient and formulating a full differential diagnosis. In other words, according to the interim report, receipt of a therapist's letter should not be sufficient for the prescription of hormonal intervention.[43]

In the U.S., no such clarity exists regarding which MDT professionals are ultimately responsible for medical interventions. Endocrinologists and surgeons may believe that the medical necessity of any intervention has been determined by the MHPs who made the diagnosis.[44] Whether the MHP "letter of approval" for hormones or surgery

[39] See description of the university-based multidisciplinary clinic in Reed (2023a). See description of two-hour long assessments at Boston Children's Hospital in Damiano (2024a).
[40] To further mitigate the potential biases of established MDT teams who subscribe to the PMT model, the National Health Service (NHS) in England issued a new clinical policy for cross-sex hormones in 2024. It calls for independent oversight, specifying that new national MDTs must include "clinicians *not directly involved* in the formation of the individual's care plan," who must agree "on the suitability of the individual receiving [CSH]" (National Health Service England, 2024c).
[41] Morabito et al. (2024).
[42] Marcotte et al. (2020, p. 802).
[43] Cass (2022a).
[44] See, for example, the role of endocrinologists as described in Karakılıç Özturan et al. (2023b). The field of pediatric gender medicine is unusual in this respect: "It [is] not the norm for doctors to prescribe powerful medication to people—especially children—they themselves [did] not diagnos[e]" (Barnes, 2023, p. 337).

constitutes a formal treatment indication will likely be determined by ongoing lawsuits brought by young people against the clinicians who treated them. In practice, these MHP approval letters may primarily serve to ease the ethical concerns of the physicians.[45]

Some prominent PMT advocates assert that children and adolescents should not receive *any* mental health assessment prior to initiation of hormonal interventions or surgeries.[46] As a principal investigator of NIH-funded research on PMT, Johanna Olson-Kennedy, a U.S. pediatrician and president-elect of the U.S. Professional Association for Transgender Healthcare (USPATH), likened the initiation of PMT to treating diabetes, asserting: “I don’t send someone to a therapist when I’m going to start them on insulin.”[47]

## 14.4 Psychotherapy for GD: Re-emergence in Europe

Three European countries—Sweden, Finland, and England—have conducted independent systematic reviews of evidence commissioned by their public health authorities.[48] All three concluded that the risks of medicalization may outweigh the benefits for children and adolescents with GD at the population level, and subsequently sharply restricted access to medical gender transition interventions for minors.[49] All three countries now suggest traditional mental health approaches and have begun efforts to de-exceptionalize GD. Psychotherapy is now the recommended first-line treatment, as it is for all psychological distress based on the conventions of “conservative management.”[50]

Per England’s National Health Service (NHS):

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[45] Levine (2024, p. 4).
[46] As described in McDeavitt (2025, p. 1298), “The argument for doing away with mental health assessments is often articulated alongside the opinion that the presence of a DSM-5 diagnosis of gender dysphoria (or indeed any type of psychological distress) should not have to be required in order for an adolescent to be initiated on PBs/GAH.” See Mosier-Mills et al. (2024), for example, and similar arguments in Ashley (2022a, 2022b, 2023).
[47] Singal (2018).
[48] Ludvigsson et al. (2023); National Institute for Health and Care Excellence (2020b, 2020a); Pasternack et al. (2019); Taylor, Mitchell, Hall, Heathcote et al. (2024); Taylor, Mitchell, Hall, Langton et al. (2024).
[49] See Chapter 4.
[50] Adhiyaman & Ambalavanan (2021).

> The primary intervention for children and young people … is psychosocial (including psychoeducation) and psychological support and intervention; the main objective is to alleviate distress associated with gender dysphoria and promote the individual's global functioning and wellbeing.[51]

Per Finland's Council for Choices in Health Care in Finland (COHERE):

> The first-line treatment for gender dysphoria is psychosocial support and, as necessary, psychotherapy and treatment of possible comorbid psychiatric disorders.[52]

Per Sweden's National Guidelines:

> The psychosocial care of young people with gender dysphoria needs to be adapted to the needs of the individual adolescent. Psychosocial support that helps adolescents deal with natal puberty without medication needs to be the first option when choosing care measures. For those suffering from mental health problems, measures such as supportive counseling, psychotherapy, child psychiatric treatment, and suicide prevention need to be offered and adapted to the nature and severity of the mental health problem and the young person's overall situation.[53]

## 14.5 Psychotherapy and its application to gender dysphoria

Psychotherapy is the least invasive intervention for addressing psychological distress, regardless of its etiology, and it has been recognized as the international standard of care for a wide range of mental health diagnoses. However, the evidence for psychotherapy for GD is of very low certainty. As noted in Chapter 5, there are multiple reasons for the paucity of data, and "there has been a failure to systematically consider how psychosocial interventions should be used and to research their efficacy."[54]

[51] National Health Service England (2022, p. 2).
[52] Council for Choices in Healthcare Finland (2020b, p. 5).
[53] Socialstyrelsen (2022b, p. 45).
[54] Cass (2024a, p. 155).

### 14.5.1 Psychotherapy for conditions frequently co-occurring with gender dysphoria

The etiology of GD in youth remains understudied. However, patients presenting to PGM clinics today have a range of neurodevelopmental disorders and mental health conditions, including comorbid depression, anxiety, eating disorders, self-harm, and suicidality.[55] Some studies suggest that in more than 70% of cases, other DSM diagnoses appeared before the GD.[56] Etiologically, the relationship between the GD and the high rate of co-occurring mental health conditions in this population is unclear. [57] As explained by psychologist Kenneth Zucker,

> it may be that the gender dysphoria has emerged as secondary to another, more "primary" mental health diagnosis, such as autism spectrum disorder or borderline personality disorder, or as a result of a severe trauma (e.g., sexual abuse). Another explanation is that gender dysphoria is inherently distressing, i.e., the marked incongruence between one's felt gender and somatic sex—even within psychosocial milieus that are largely "affirming/supportive"—which leads to clinically significant symptoms such as anxiety or depression.[58]

Regardless of its etiology, psychotherapy as an effective intervention for depression, the most common mood disorder, has been studied extensively and is supported by high-quality evidence. For example, cognitive behavioral therapy (CBT), an (often) manualized therapy that helps patients recognize the reciprocal relationships between

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[55] See Section 4.3.
[56] Becerra-Culqui et al. (2018); Kaltiala-Heino et al. (2015); Kozlowska et al. (2021).
[57] Littman (2021), a study that analyzed online survey data from a convenience sample of detransitioners, found that 40.6% of females and 25.8% of males reported that their "feelings of being transgender actually were the result of a mental health condition." 44.9% of females and 16.1% of males reported that "feelings of being transgender actually were the result of trauma" (p. 3364). The Cass Review reported that "Clinicians have described … how in patients with [body dysmorphic disorder, or BDD], the intense focus on appearance is most commonly on facial features, but that some experience distress about genitalia or breasts. In this situation it can be difficult to determine whether the distress is due to BDD or gender dysphoria. However, at the end of a treatment package for BDD some young people say they no longer feel ill at ease with their birth-registered gender, while some may have less distress about their genitalia or breasts but still have marked gender incongruence and proceed to a social or medical gender transition" (Cass, 2024a, p. 92).
[58] Zucker (2019). In addition to these two possibilities, a third theory is that "co-occurring mental health issues are simply secondary to factors such as family rejection or social ostracism within the peer group vis-à-vis the gender dysphoria" (p. 3). This "minority stress model" is discussed later in the present chapter.

thoughts, feelings, physiology, and behaviors, has evidence for benefit across age groups.[59] Psychodynamic psychotherapy (PDT) focuses on relational interactions, the role of formative life events, and unconscious processes, with the aim of facilitating emotional expression and interpersonal effectiveness.[60] Research indicates that PDT is effective in adults with depression, and there is also evidence of benefit for younger populations.[61] Another approach for adolescent depression with evidence for benefit is family-based treatment (FBT).[62]

Anxiety disorders also are highly prevalent in children and adolescents. The AACAP clinical practice guidelines strongly recommend that children and adolescents (ages 6-18) be offered CBT to address social anxiety, generalized anxiety, separation anxiety, specific phobias, or panic disorder.[63] PDT is less-well studied for anxiety, but may also be effective.[64]

For suicidality and self-harm in adolescents, evidence suggests that dialectical behavioral therapy (DBT), an approach that combines CBT with mindfulness and

[59] "Manualized" therapeutic approaches follow specific, standardized guidelines. CBT is the most well-studied. A recent meta-analysis of CBT for depression, including more than 50,000 patients across all age groups and 409 randomized controlled trials (RCTs), found that "CBT is effective in the treatment of depression with a moderate to large effect size, and that its effect is still significant up to 12 months (Cuijpers et al., 2023, p. 114). Other forms of psychotherapy were also found to be significantly beneficial. With respect to studies specifically focused on children and adolescents, evidence suggests CBT had modest positive effects on depressive symptoms (Espada et al., 2023).

[60] Opland & Torrico (2025).

[61] A systematic review of PDT for adults, which used the GRADE framework for evidence assessment, found "high quality evidence for depressive disorders and somatic symptom disorders, and moderate quality evidence for anxiety and personality disorders, that PDT achieves clinically meaningful effects in target symptoms and functioning compared to controls and is associated with low risk of harms and reasonable costs" (Leichsenring et al., 2023, p. 286). Midgley et al. (2021) is a narrative review of studies on PDT for children and adolescents (including some RCTs), finding "evidence of effectiveness for psychodynamic therapy in treating a wide range of mental health difficulties in children and adolescents" (p. 1).

[62] For example, attachment-based family therapy is an evidence-based approach to treating adolescent mood disorders, including depression, using a combination of separate (adolescent-only and parents-only) and joint family sessions (Diamond et al., 2021).

[63] This recommendation was based on a commissioned Agency for Healthcare Research and Quality (AHRQ)/Mayo Clinic systematic review and meta-analysis that included 60 RCTs and almost 7,000 pediatric patients. It found moderate-strength evidence that CBT improves primary anxiety symptoms and global functioning (Walter et al., 2020).

[64] Leichsenring et al. (2015); Midgley et al. (2021).

interpersonal skills training,[65] is an effective treatment.[66] Guidance published by the Substance Abuse and Mental Health Services Administration (SAMHSA) in 2020 found strong evidence that DBT was associated with reductions in suicidality (ideation, non-suicidal self-injury, and suicide attempts).[67] Another evidence-supported intervention, attachment-based family therapy, supports adolescents and parents as they rebuild trust and safety within their relational patterns, gradually reducing the risk of self-harm and suicidality.[68]

Eating disorders also frequently co-occur with GD.[69] CBT has shown some effectiveness as treatment for eating disorders in adults,[70] and CBT, DBT, and family-based treatment or family therapy for eating disorders (FT-ED) have shown effectiveness in adolescents.[71] Such approaches initially target the presenting issue by helping parents and caregivers support their children more effectively, while issues related to identity development are addressed as the condition improves. These family-based treatments are considered first-line interventions for treating adolescent eating disorders, particularly anorexia nervosa and bulimia nervosa.

Body dissatisfaction, which is common in adolescence, is treated with specific evidence-informed protocols. A combination of CBT and selective serotonin reuptake inhibitors (SSRIs) is recommended by the National Institute of Health and Care Excellence (NICE) in the U.K. for body dysmorphic disorder. It also recommends that parents and caregivers actively participate in the treatment process.[72]

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[65] DBT originated as a treatment for adults with borderline personality disorder with chronic suicidality. Its focus is on helping patients achieve mindfulness, interpersonal effectiveness, emotional regulation, and distress tolerance (Substance Abuse and Mental Health Services Administration, 2020).
[66] This is in direct contrast to hormonal interventions, which have *not* been shown to reduce suicidality or suicide in minors with GD. See Section 4.3.4 and Chapter 5.
[67] This SAMHSA guidance considered evidence to be "strong" if positive impact was demonstrated by two or more RCTs (or other controlled trials). Nine studies (of varying methodologies) of DBT for suicidality in adolescents were included in this evidence review; two were RCTs (Substance Abuse and Mental Health Services Administration, 2020).
[68] Diamond et al. (2010).
[69] From a theoretical standpoint, eating disorders and GD both have been conceptualized as arising, in some cases, out of a subconscious desire to avoid the development of adult sex characteristics, perhaps in part due to maladaptive coping strategies or to avoid sexual objectification (Nadrowski, 2023).
[70] Öst et al. (2024).
[71] Datta et al. (2023); Lock et al. (2010); Vogel et al. (2021).
[72] National Institute for Health and Care Excellence (2005).

When discussing the broader issue of the high prevalence of GD in patients presenting with conditions like eating disorders, body dysmorphic disorder, and functional tic-like behaviors, the Cass Review noted:

> The distressing symptoms that occur in these 'body and mind' conditions are real, and like pain or discomfort that arises from other causes can be addressed and helped with psychological interventions. It is very important that gender-questioning young people are able to access these evidence-based treatments.[73]

The Cass Review also observed:

> Some therapies, which are well proven for associated mental health problems, already have a strong evidence base. Where it is clear that children/young people have such problems, they should receive the appropriate therapies in the same way as any other young person.[74]

### 14.5.2 Psychotherapy for gender dysphoria

The overview of systematic reviews (see Chapter 5 and Appendix 4) found a dearth of evidence for psychotherapeutic interventions for youth with GD. As summarized in the Cass Review,

> there is a lack of evidence about alternative approaches for managing gender-related distress, and it is difficult to obtain information about routine clinical practice or pathways of care for children and young people who do not receive medical interventions. An explicit clinical pathway must be developed for non-medical interventions, as well as a research strategy for evaluating their effectiveness.[75]

Although several studies suggest that psychotherapy for GD may effectively resolve the condition noninvasively,[76] the quality of the evidence is very low certainty.[77] At the same time, the overview identified two SRs deemed as trustworthy (at low risk of bias), and

[73] Cass (2024a, p. 93)
[74] Cass (2024a, p. 155).
[75] Cass (2024a, p. 157).
[76] Churcher Clarke & Spiliadis (2019); Cohen-Kettenis & Kuiper (1984); Costa et al. (2015); Smith et al. (2001); Spiliadis (2019).
[77] See Chapter 5.

noted that "neither systematic review suggested that there is indication of harm from psychotherapy." One of the SRs concluded:

> Most analyses of mental health, psychological and/or psychosocial outcomes showed either benefit or no change, with none indicating any negative/ adverse effects of the interventions offered.[78]

Although there is no reliable evidence to suggest that psychotherapy for GD is harmful, some proponents of PMT have alleged that it is a form of "conversion therapy." This allegation is addressed in the following section; the final section surveys psychotherapeutic approaches to GD.

#### 14.5.2.1 The charge of "conversion therapy"

Although psychotherapy for GD is described by its practitioners as "neutral" and "unbiased,"[79] some advocates for PMT maintain that such "exploratory" approaches are equivalent to conversion practices.[80]

"Conversion therapy"—sometimes called "reparative therapy"—originally referred to efforts to change the sexual orientation of gay and lesbian people. In 1973, homosexuality was officially de-pathologized by the American Psychiatric Association (APA) when it was declassified as a mental disorder (via its removal from the DSM).[81] While proponents of PMT have characterized exploratory psychotherapeutic approaches for GD as a form of "conversion therapy," others have claimed that PMT

[78] Heathcote et al. (2024, p. s19).
[79] D'Angelo et al. (2021, p. 12).
[80] E.g. Ashley (2022b, 2023); see also the quotation by Colt St. Amand conflating psychological assessments for minors seeking medical or surgical transition with conversion therapy in Bazelon (2022a). Turban, Beckwith et al. (2020), a widely-cited peer-reviewed analysis of data from the 2015 U.S. Transgender Survey (USTS) concluded that individuals who recalled having been exposed to "gender identity conversion efforts" in the past were more likely to have experienced recent psychological distress and lifetime history of suicidal thoughts, but D'Angelo et al. (2021, p. 12) pointed out that this analysis was based on a "simplistic 'affirmation' versus 'conversion' binary … The notion that all therapy interventions for GD can be categorically classified into this simplistic binary betrays a misunderstanding of the complexity of psychotherapy. At best, this blunt classification overlooks a wide range of ethical and essential forms of agenda-free psychotherapy that do not fit into such a binary; at worst, it effectively mis-categorizes ethical psychotherapies that do not fit the "affirmation" descriptor as conversion therapies" (p. 7). For methodological concerns about the USTS itself, see Chapter 4, Note 117.
[81] Drescher (2010, p. 434); McNally (2011, pp. 21–24). The first edition (1952) of the DSM classified same-sex attraction as a type of "sociopathic personality disturbance" (American Psychiatric Association, 1952, pp. 38–39).

*itself* deserves that label. This latter group contends that altering a person's body in response to distress rooted in internalized social disapproval is no more appropriate than attempting to change someone's sexual orientation for similar reasons.[82] Public and academic debates over what constitutes "conversion" in the context of youth with GD have been hindered by the politicization of the issue.[83]

Critics of exploratory psychotherapy for GD claim that therapists are trying to "promote gender identities that are aligned with the person's sex assigned at birth."[84,85] A less theoretically-laden description would be that some therapists are trying to help children and adolescents come to terms with their bodies.[86] Discomfort with the sexed body or with societal sex-based expectations is common during puberty and adolescence. For this and other reasons, characterizing as "conversion therapy" any approach focused on reducing a minor's distress about their body or social role is a problematic and potentially harmful rhetorical device.[87] There is evidence that the specter of being

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[82] See Bannerman (2019) and Hamedani (2014). A recent bioethics article argues that "a society that marginalizes youth who do not conform to gender norms must, as a matter of justice, change its ways. The burden of enacting this change is all of ours to bear. It should not be borne by the bodies of our youth" (Gorin, 2024, p. 43).

[83] Defenses of psychotherapy for GD have roundly rejected the label of "conversion therapy": e.g., "Psychotherapy resides outside the affirmation-conversion binary and aims to address the distress of gender-dysphoric youth rather than to correct a sense of misalignment. Psychotherapy does not attempt to force change or impose any predetermined notion … A core ethical principle of psychotherapy is that therapists must respect patient autonomy and self-determination and refrain from any attempt to influence the patient … A genuine psychotherapeutic process starts from a position of not knowing and seeks to open things up. Anything else is a misuse of psychotherapy" (D'Angelo, 2023, p. 3).

[84] The full quotation is: "Trans conversion practices refer to sustained efforts to promote gender identities that are aligned with the person's sex assigned at birth and/or to discourage behaviours associated with a gender other than the person's sex assigned at birth" (Ashley, 2022b, p. 26). This seems to more broadly characterize conversion therapy as an attempt to encourage conformity with sex stereotypes. However, as explained by D'Angelo, "Psychotherapy does not impose restrictive gender stereotypes, as is sometimes claimed, but critically examines them" (D'Angelo, 2023, p. 1). Such examination is necessary, because restrictive stereotypes could plausibly have contributed to the patient's GD.

[85] The 2020 United Nations (UN) Report on Conversion Therapy begins by explaining that "conversion therapy" refers to "interventions of a wide-ranging nature, all of which have in common the belief that a person's sexual orientation or gender identity (SOGI) can and should be changed. Such practices aim (or claim to aim) at changing people from gay, lesbian or bisexual to heterosexual and from trans or gender diverse to cisgender" (United Nations, 2020). See Lawford-Smith (2024) for discussion of recent legislation banning "conversion therapy" as the UN understands it.

[86] Once it is recognized that the operative notion of "gender identity" has not been properly explained (see Chapter 2), the charge of "conversion therapy" makes little sense. If gender identity is obscure, the goal of changing the patient's gender identity is equally obscure.

[87] E.g., D'Angelo (2023); D'Angelo et al. (2021); Edwards-Leeper & Anderson (2021); Jenkins & Panozzo (2024); McDeavitt (2025); Sinai & Sim (2024). Also, as noted in the Cass Review, "The role of

labeled a “conversion therapist”— a damaging accusation given the profession’s history with the mistreatment of gay people—has created a climate of anxiety among mental health professionals. Therapists worry that failing to affirm or recommend medical interventions for youth who meet the World Professional Association for Transgender Health’s (WPATH) eligibility criteria could jeopardize their careers and reputations.[88]

Equating “exploratory therapy” with “conversion therapy” is misguided for two additional key reasons. First, exploratory therapy was a fundamental and mandatory element of the original Dutch Protocol, which serves as the foundation for the current PMT model.[89] Second, quality psychotherapy is exploratory *by definition*: it is “a process of shared decision making in which the therapist … guides the patient in exploration of their material but does not input their own beliefs or ideas.”[90]

The conflation of psychotherapy with conversion therapy has been condemned not only by expert therapists who question the current emphasis on medical transition and surgical transition for youth, but also by practitioners and researchers in the PMT field itself.[91]

#### 14.5.2.2 Psychotherapeutic approaches

The effectiveness of psychotherapy for a wide range of mental health problems, including those that often present with GD, suggests it may also be beneficial for GD specifically. The Cass Review’s emphasis on the de-exceptionalization of youth with GD underscored the observation that clinicians

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psychological therapies in supporting children and young people with gender incongruence or distress has been overshadowed by an unhelpfully polarised debate around conversion practices. Terms such as ‘affirmative’ and ‘exploratory’ approaches have been weaponised to the extent that it is difficult to find any neutral terminology” (Cass, 2024a, p. 150).

[88] Jenkins & Panozzo (2024). As summarized in McDeavitt (2025): “Some therapists who engage in exploratory talk therapy with [transgender and gender diverse] youth have faced licensure complaints related to accusations of “conversion therapy”—complaints made not by patients, but by activists and colleagues. One therapist reported having attended a workshop … in which activists described “hunting” for such therapists with the goal of bringing lawsuits and prompting licensure revocation.”

[89] Weaknesses of the original Dutch research are discussed in Chapter 4.

[90] Sinai & Sim (2024, p. 148); see also Churcher Clarke & Spiliadis (2019).

[91] For example, psychologist Laura Edwards Leeper has stated that “Conflating conversion therapy and identity exploration is perhaps the largest threat to both gender-distressed cisgender youth and transgender youth, alike. The rhetoric being used to conflate the two must stop immediately” (McDeavitt, 2025, p. 1298). See also Edwards-Leeper & Anderson (2021).

> just need the appropriate training, support and most importantly the confidence to do what [they] have been trained to do and treat this population as [they] would any other young person in distress.[92]

Unfortunately, efforts to research the influence of cultural and social factors, trauma, or co-occurring mental health conditions on GD have been denigrated as "harmful."[93] When combined with the highly charged accusation of "conversion therapy," therapists may be under significant pressure to assume—often without critical evaluation—that mental health issues co-occurring with GD are primarily the result of minority stress.[94] This pressure may cause clinicians to overlook the significant possibility that in some patients, GD has *arisen from* trauma, "primary" mental health concerns, or neurodevelopmental conditions (see Section 14.1 above). Publications by psychotherapists working with this population have noted that patients with GD may seek hormonal or surgical interventions in response to experiences of sexual violence, negative attitudes towards homosexuality, or bullying related to self-expression, interests, or behaviors that deviate from sex stereotypes.[95]

If these possibilities are ignored, medical and surgical interventions may be recommended as the obvious treatment.[96] The mischaracterization of psychotherapy for GD as "conversion therapy" or "doing nothing" may also contribute to a nocebo effect, disincentivizing therapists from providing care and patients from engaging in it.[97] In this way, the denigration of psychotherapy has "a chilling effect on the ethical

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[92] Cass (2024a, p. 15).
[93] E.g. Coalition for the Advancement and Application of Psychological Science (2021).
[94] Application of minority stress theory to mental health disparities in sexual minority adults was originally done in Meyer (2003). As defined in Chelliah et al. (2024), the "minority stress framework…has been used to conceptualize relationships between…mental health disparities and stressors associated with a minority identity or status." This framework, which (like all other conceptual frameworks) has its limitations (Bailey, 2020; Zucker et al., 2016), has over the past 5-10 years been widely-relied upon in the pediatric gender medicine literature (see examples in Chapter 13). Although it is important for therapists to elucidate patient experiences of bullying or hostility, it is not psychotherapeutically sound practice to make reflexive assumptions, especially when these assumptions could lead to inappropriate treatment recommendations.
[95] Churcher Clarke & Spiliadis (2019); D'Angelo et al. (2021); Lemma (2018); Sinai & Sim (2024); Spiliadis (2019).
[96] E.g. Tordoff (2022).
[97] Clayton (2023).

psychotherapists' willingness to take on complex GD patients, which will make it much harder for GD individuals to access quality mental health care."[98]

The practice of reflexive assumption contravenes fundamental principles of the psychotherapeutic approach, which emphasizes curiosity and consideration of *all* factors that may have contributed to the patient's problems.[99] It is also challenged by research on desistance and detransition.[100]

Stephen Levine, professor of psychiatry at Case Western Reserve University, has explained how the psychotherapeutic approach includes biological, psychological and social factors to formulate GD holistically:

> [If] the evaluator understands the focus of the [mental health assessment] to be on identifying the predisposing, precipitating, and maintaining forces on the patient's identity, a long list of influences will be explored. Problems such as autism, ADHD, difficulty making friends, crises of loneliness, depression, restrictive or excess eating, sexual abuse, and feedback from virtual friends will be investigated. The [therapist] will explore suicidality, self-harm, pre- and post-trans-identity psychiatric problems, and relationships with each parent. The parents will provide a developmental history beginning with pregnancy.[101]

Psychiatrist and psychoanalyst Roberto D'Angelo, a proponent of psychotherapy for GD, describes the role of psychotherapy for minors with GD as follows:

> Psychotherapy does not impose restrictive gender stereotypes, as is sometimes claimed, but critically examines them. It empowers young people to develop creative solutions to their difficulties and promotes agency and autonomy. Importantly, an exploratory psychotherapeutic process can help to clarify whether

[98] D'Angelo et al. (2021, p. 13).
[99] As the Cass Review noted, "a single focus on gender raises the issue of 'diagnostic overshadowing' … children [may have] more than one presenting issue, but different services … dealing with each issue in isolation, without considering how they might impact on each other" (Cass, 2024a, p. 200). See also discussion of diagnostic overshadowing in Section 13.2.4.
[100] E.g. Littman (2021).
[101] Levine (2024, p. 775).

> gender dysphoria is a carrier for other psychological or social problems that may not be immediately apparent.[102]

Given that this population often presents with complex psychosocial histories and multiple mental health concerns, psychotherapy takes a holistic approach—addressing the full range of issues rather than focusing exclusively on GD. “Transdiagnostic psychotherapy”— that is, therapy that works across or with multiple diagnoses or problems—is already a convention.[103] While there is a clear need to develop and study therapeutic approaches tailored specifically for GD, effective therapy need not always center on a single issue. Psychotherapy for adolescents with GD is a well-suited intervention, as it is intended to help patients develop self-understanding, engage with emotional vulnerability, and build practical strategies for managing distress.

Human psychology is complex and the presence of one psychiatric diagnosis often increases the likelihood of others. A transdiagnostic psychotherapeutic approach—designed to address underlying patterns across multiple conditions—may be particularly effective in reducing distress among youth with GD, as it has been in other complex cases. The goals of psychotherapy remain the same regardless of a young person’s self-identification: to alleviate distress and improve interpersonal and social functioning.

Table 14.1 below presents a brief overview of psychotherapeutic modalities that are relevant for children and adolescents with GD.

[102] D’Angelo (2023, p. 1).
[103] Jeppesen et al. (2021).

## Table 14.1

| Type of psychotherapeutic modality | Definition of modality | Application to GD |
|---|---|---|
| **Manualized approaches**[104] | These approaches are performed according to manualized instructions that provide structure and standardization. The most-studied approach is cognitive behavioral therapy (CBT), which helps patients identify thoughts, feelings, and behaviors and the way they impact one another. Manualized therapies focus on development of coping skills and behavioral activation. Dialectical behavioral therapy, commonly used to address self-harm and suicidality, fosters distress-management techniques and interpersonal effectiveness. Manualized approaches typically involve several months of weekly individual or group sessions, and patients complete therapy-related assignments between sessions. | Manualized approaches are an evidence-based treatment for mental health problems that co-occur with GD, such as depression, anxiety, and eating disorders. For GD, manualized approaches can help patients identify thoughts and feelings related to sex-based distress, including cognitive distortions. Therapists can help patients develop healthy coping skills for managing this specific type of distress and can encourage behavioral activation. For example, engaging in physical activity, in-person social socialization, and/or mindfulness practices, can over time, decrease ruminations, including ruminations on sex-related discomfort. |

[104] In Austin et al. (2018), mental health outcomes (including depression) improved with CBT in 8 adolescents who identified as transgender (subgroup of study population; unclear if hormonal interventions were used). Hollinsaid et al. (2020) re-analyzed data from four RCTs of standard manualized psychotherapeutic approaches, focusing on the cohort of 64 patients who had expressed desire to be the other sex (it is unclear how many would have met criteria for GD, however; additionally, there was no information about hormonal interventions). These patients' internalizing and externalizing symptoms improved, albeit more slowly than other patients. In Lucassen et al. (2021) the depression outcome measure did not change after online CBT in 14 patients who identified as transgender. In Silveri et al. (2021) mental health outcomes improved in 62 adolescents who self-identified as transgender/gender-expansive after CBT, DBT, and family therapy, integrated into a two-week long residential treatment program for psychiatric problems. In a study reporting longitudinal data on 26 adolescents (Bluth et al., 2023), mental health outcomes (including depression and suicidality) improved after eight sessions of mindfulness-based group therapy in transgender-identified patients who were not taking hormonal interventions.

| Type of psychotherapeutic modality | Definition of modality | Application to GD |
|---|---|---|
| **Psychodynamic approach**[105] | This is a psychoanalytic approach that involves exploration of ego defenses and unconscious motivations. Through exploration of transference, patients come to better understand their interpersonal dynamics. Psychodynamic psychotherapy classically involves biweekly or weekly sessions and is not time-limited. | This approach is evidence-based for mental health conditions that co-occur with GD. Additionally, psychodynamic work around the theme of cross-sex identification or sex-related distress can facilitate exploration of patients' early childhood experiences, family of origin, beliefs/values system, and interpersonal patterns in familial and romantic relationships as well as in school/work environments. This approach can help patients gain deeper understanding of their personal identity, including any external factors that may contribute to their cross-sex identification and desire for medical/surgical interventions. Patients can gain clarity about their own wishes or desires for medical or surgical transition interventions. |
| **Family therapy**[106] | This approach identifies problems affecting the patient and the family unit and aims to strengthen familial bonds and improve communication skills, by supporting work around attachment ruptures, communication and understanding different family members' perspectives. It may involve parental education and development of strategies for improved interpersonal effectiveness within the family unit. | A child or adolescent exhibiting GD may occasionally lead to intense conflict and distress within the family unit. In family-based approaches a knowledgeable therapist can provide education about GD to parents and promote well-being of the family by bolstering effective communication and interpersonal skills. Family therapy is an evidence-based approach to treating adolescent eating disorders, where familial distress and embodied distress are heightened, as in GD. Family therapy is either the first-line intervention or the treatment of choice for many diagnoses in adolescence. |

#### 14.5.2.3 Evidence for benefit

As discussed earlier, the overview of systematic reviews conducted for this Review found that evidence for the effectiveness of psychotherapy for GD (or for co-occurring mental health problems in patients with GD) is of very low certainty. When direct evidence for the role of psychotherapy in children and adolescents with GD is lacking, the best available evidence can be obtained from the robust evidence supporting

[105] For case reports, vignettes, and case series describing the incorporation of dynamic aspects into exploratory work, see Churcher Clarke & Spiliadis (2019); D'Angelo (2020); Spiliadis (2019). For descriptions of dynamic approaches, see D'Angelo (2023); Sinai & Sim (2024).
[106] For a case report of family therapy for an adolescent with suicidality, see Russon et al. (2022). See also Silveri et al. (2021) and Churcher Clarke & Spiliadis (2019). For example of parent psychoeducation, see Levine (2024).

treatment effectiveness for children and adolescents with similar types of psychological distress. Psychotherapy is a noninvasive intervention that can be used transdiagnostically. It generally promotes improved mental health and psychosocial functioning and carries little risk.[107] As the Cass Review noted,

> the focus on the use of puberty blockers for managing gender-related distress has overshadowed the possibility that other evidence-based treatments may be more effective.[108]

[107] See also Baron & Dierckxsens (2022); Clayton (2023); Levine et al. (2022b).
[108] Cass, 2024a (p. 31).

# Limitations, Strengths, and Conclusion

## Limitations

The present Review has some limitations.[1]

1. This document is not intended to serve as a clinical practice guideline (CPG) and does not aim to issue treatment recommendations.[2] The Review was shaped by a distinct set of goals: namely, to clarify the evidentiary landscape; identify areas of uncertainty; and support the development of accountable care models. As such, it does not follow formal guideline development procedures, such as the use of Grading of Recommendations Assessment, Development, and Evaluation (GRADE) to inform clinical recommendations. The purview of this Review is limited to evidence and best practices for the care of minors.
2. This Review does not make any specific policy recommendations regarding the regulation of medicine. For instance, it does not make policy recommendations about the treatment of children and adolescents who have already begun puberty blockers or cross-sex hormones.

## Strengths

This Review also has some strengths.

1. Although not a CPG, this document provides clinicians and other decision makers with essential pieces of knowledge regarding pediatric gender medicine (PGM).
    a. *Quality of evidence*: This Review describes the very low-quality evidence underpinning treatment approaches in pediatric gender medicine (Chapter 5).
    b. *Risk profile of hormones and surgeries*: This Review contains an extensive description of potential or plausible harms associated

[1] For strengths and limitations specific to the overview of systematic reviews (SRs), see Chapter 5.
[2] This is not technically a limitation (as this Review does not purport to be a CPG), but a clarification.

with certain treatment options (namely, hormonal interventions and surgeries), some of which are significant (Chapter 7).

c. *Ethics review*: This Review contains an ethical assessment of the use of hormonal interventions and surgeries for treatment of gender dysphoria (GD) in children and adolescents. It concludes that these interventions are inconsistent with widely endorsed principles of medical ethics (Chapter 13).

d. *Consideration of alternative treatments*: The role of psychotherapy, which has been sidelined in discussions of PGM, is one focus of this Review. This Review examines psychotherapy for GD in detail and concludes that its risk/benefit profile is favorable (Chapter 14).

2. The review of guidelines (Chapter 9) demonstrates that CPGs recommending psychotherapy for pediatric GD are higher-quality and are commensurate with evidence from PGM systematic reviews (SRs). In contrast, CPGs recommending an approach involving standard-of-care use of puberty blockers (PBs), cross-sex hormones (CSH), or surgery are lower-quality, with recommendations that are not commensurate with evidence from SRs. CPGs followed in the U.S., in particular WPATH's, are of the latter type and are inadequate to inform clinical practice for a vulnerable and distressed population of children and adolescents. High quality CPGs are urgently needed in this field.
3. This Review describes the enforced professional insularity of the field of pediatric gender medicine and the intense and hostile nature of the debates around PGM. Stakeholders should keep these in mind when presented with claims of medical consensus among U.S. medical organizations (Chapter 12).

## Conclusion

The delegation of authority to the medical profession rests on an implicit social contract: Doctors as a profession receive the 'privilege of self-regulation' and

> financial awards on the expectation that they will serve the health needs of individual patients and society.[3]

A central theme of this Review is that many U.S. medical professionals and associations have fallen short of their duty to prioritize the health interests of young patients. First, there was a rapid expansion and implementation of a clinical protocol that lacked sufficient scientific and ethical justification. Second, when confronted with compelling evidence that this protocol did not deliver the health benefits it promised, and that other countries were changing their policies appropriately, U.S. medical professionals and associations failed to reconsider the “gender-affirming” approach. Third, conflicting evidence—evidence that challenged the foundational assumptions of the protocol and the professional standing of its advocates—was mischaracterized or insufficiently acknowledged. Finally, dissenting perspectives were marginalized, and those who voiced them were disparaged.

While no clinician or medical association intends to fail their patients—particularly those who are most vulnerable—the preceding chapters demonstrate that this is precisely what has occurred.

[3] Patashnik et al. (2017, p. 10).

# APPENDICES

# Appendix 1. Abbreviations

| | |
|---|---|
| AACAP | American Academy of Child and Adolescent Psychiatry |
| AAP | American Academy of Pediatrics |
| AGREE | Appraisal of Guidelines for Research and Evaluation |
| AHRQ | Agency for Healthcare Research and Quality |
| AMA | American Medical Association |
| AMSTAR | A MeaSurement Tool to Assess systematic Reviews |
| APA | American Psychological Association/American Psychiatric Association |
| ASD | Autism Spectrum Disorder; also ASC (Autism Spectrum Condition) |
| BDD | Body Dysmorphic Disorder |
| BMI | Body Mass Index |
| CBT | Cognitive Behavioral Therapy |
| CDC | Centers for Disease Control and prevention |
| CMS | Centers for Medicare and Medicaid |
| COHERE | Council for Choices in Health Care (Finland) |
| COI | Conflict of Interest |
| CPG | Clinical Practice Guideline |
| CPP | Central Precocious Puberty |
| CSH | Cross-Sex Hormones |
| DBT | Dialectical Behavioral Therapy |
| DSD | Disorder (Difference) of Sex Development |
| DSM | *Diagnostic and Statistical Manual of Mental Disorders* |
| DSM-5-TR | DSM, 5th edition, Text Revision (latest version, 2024) |
| DSM-5 | DSM, 5th edition (2013) |
| DSM-IV | DSM, 4th edition (1994) |
| DSM-III | DSM, 3rd edition (1980) |
| EBM | Evidence-Based Medicine |
| EPC | Evidence-based Practice Center (at Johns Hopkins) |
| ES | Endocrine Society |
| FAERS | FDA's Event Reporting System |

| | |
|---|---|
| FBT | Family-Based Treatment |
| FDA | Food and Drug Administration |
| FM | Female-to-Male |
| FP | Fertility Preservation |
| FSH | Follicle-Stimulating Hormone |
| FT-ED | Family Therapy for Eating Disorders |
| GD | Gender Dysphoria (DSM-5; formerly Gender Identity Disorder (GID) in the DSM-IV) |
| GDG | Guideline Development Group |
| GeMS | Gender Multispeciality Service (at Boston Children's; formerly Gender Management Service) |
| GICE | Gender Identity Conversion Efforts |
| GIDS | Gender Identity Development Service (U.K.) |
| GnRHa | Gonadotropin Releasing Hormone Agonist |
| GRADE | Grading of Recommendations Assessment, Development and Evaluation |
| HBIGDA | Harry Benjamin International Gender Dysphoria Association |
| HH | Hypogonadotropic Hypogonadism |
| HPG | Hypothalamic-Pituitary Gonadal axis |
| HRC | Human Rights Campaign |
| ICD-11 | WHO's International Classification of Diseases, 11th edition (latest version, 2022) |
| IQ | Intelligence Quotient |
| ITJH | *International Journal of Transgender Health* |
| JAMA | *Journal of the American Medical Association* |
| JHU | Johns Hopkins University |
| LH | Luteinizing Hormone |
| MDC | Medical Decision-making Competence |
| MDT | MultiDisciplinary Teams |
| MF | Male-to-Female |
| MHP | Mental Health Professional |
| MMHA | Major Medical and mental Health Association |

| | |
|---|---|
| NAM | National Academy of Medicine |
| NEJM | *New England Journal of Medicine* |
| NGCF | Netherlands Gender Care Foundation |
| NHS | National Health Service (U.K.) |
| NICE | National Institute for Health and Care Excellence (U.K.) |
| NIH | National Institutes of Health |
| NLM | National Library of Medicine |
| NOS | Newcastle-Ottawa Scale |
| OCD | Obsessive Compulsive Disorder |
| PBs | Puberty Blockers |
| PCOS | Polycystic Ovary Syndrome |
| PDT | PsychoDynamic Therapy |
| PGM | Pediatric Gender Medicine |
| PICO | Population, Intervention, Comparator, Outcome |
| PMT | Pediatric Medical Transition |
| PRISMA | Preferred Reporting Items for Systematic reviews and Meta-Analyses |
| RCT | Randomized Controlled Trial |
| RoB 2 | Cochrane Risk-of-Bias tool |
| ROBINS-I | Risk of Bias in Non-randomized Studies - of Interventions |
| ROBIS | Risk of Bias in Systematic reviews |
| ROGD | Rapid-Onset Gender Dysphoria |
| RSG | Review of Data, Statistics and Research on Sex and Gender (U.K., 2025) |
| SAMHSA | Substance Abuse and Mental Health Services Administration |
| SOC-8 | *Standards of Care for the Health of Transgender and Gender Diverse People*, Version 8 (latest version, 2022) |
| SOC-7 | *Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People*, Version 7 (2012) |
| SOC-6 | *Standards of Care for Gender Identity Disorders*, Version 6 (2001) |
| SR | Systematic Review |
| SRS | Sex Reassignment Surgery |
| SSRI | Selective Serotonin Reuptake Inhibitor |

| | |
|---|---|
| TGD | Transgender and Gender Diverse |
| UCSF | University of California, San Francisco |
| USPATH | United States Professional Association for Transgender Health |
| USTS | US Transgender Survey |
| WHO | World Health Organization |
| WPATH | World Professional Association for Transgender Health |

# Appendix 2. Diagnostic Criteria

**DSM-III (1980)**[1]

*Diagnostic criteria for Transsexualism*

A. Sense of discomfort and inappropriateness about one's anatomic sex.

B. Wish to be rid of one's own genitals and to live as a member of the other sex.

C. The disturbance has been continuous (not limited to periods of stress) for at least two years.

D. Absence of physical intersex or genetic abnormality.

E. Not due to another mental disorder, such as Schizophrenia.

*Diagnostic criteria for Gender Identity Disorder of Childhood*

*For females:*

A. Strongly and persistently stated desire to be a boy, or insistence that she is a boy (not merely a desire for any perceived cultural advantages from being a boy).

B. Persistent repudiation of female anatomic structures, as manifested by at least one of the following repeated assertions:

(1) that she will grow up to become a man (not merely in role)

(2) that she is biologically unable to become pregnant

(3) that she will not develop breasts

(4) that she has no vagina

(5) that she has, or will grow, a penis

C. Onset of the disturbance before puberty.

*For males:*

[1] American Psychiatric Association (1980, pp. 261–266).

A. Strongly and persistently stated desire to be a girl, or insistence that he is a girl.

B. Either (1) or (2):

(1) persistent repudiation of male anatomic structures, as manifested by at least one of the following repeated assertions:

(a) that he will grow up to become a woman, (not merely in role)

(b) that his penis or testes are disgusting or will disappear

(c) that it would be better not to have a penis or testes

(2) preoccupation with female stereotypical activities as manifested by a preference for either cross-dressing or simulating female attire, or by a compelling desire to participate in the games and pastimes of girls

C. Onset of the disturbance before puberty.

**DSM-IV (1994)**[2]

*Diagnostic criteria for Gender Identity Disorder*

A. A strong and persistent cross-gender identification (not merely a desire for any perceived cultural advantages of being the other sex). In children, the disturbance is manifested by four (or more) of the following:

(1) repeatedly stated desire to be, or insistence that he or she is, the other sex

(2) in boys, preference for cross-dressing or simulating female attire; in girls, insistence on wearing only stereotypical masculine clothing

(3) strong and persistent preferences for cross-sex roles in make-believe play or persistent fantasies of being the other sex

[2] American Psychiatric Association (1994, pp. 537–538).

(4) intense desire to participate in the stereotypical games and pastimes of the other sex

(5) strong preference for playmates of the other sex

In adolescents and adults, the disturbance is manifested by symptoms such as a stated desire to be the other sex, frequent passing as the other sex, desire to live or be treated as the other sex, or the conviction that he or she has the typical feelings and reactions of the other sex.

B. Persistent discomfort with his or her sex or sense of inappropriateness in the gender role of that sex.

In children, the disturbance is manifested by any of the following: in boys, assertion that his penis or testes are disgusting or will disappear or assertion that it would be better not to have a penis, or aversion toward rough-and-tumble play and rejection of male stereotypical toys, games, and activities; in girls, rejection of urinating in a sitting position, assertion that she has or will grow a penis, or assertion that she does not want to grow breasts or menstruate, or marked aversion toward normative feminine clothing.

In adolescents and adults, the disturbance is manifested by symptoms such as preoccupation with getting rid of primary and secondary sex characteristics (e.g., request for hormones, surgery, or other procedures to physically alter sexual characteristics to simulate the other sex) or belief that he or she was born the wrong sex.

C. The disturbance is not concurrent with a physical intersex condition.

D. The disturbance causes clinically significant distress or impairment in social, occupational, or other important areas of functioning.

**DSM-5 (2013)**[3]

*Gender Dysphoria*

[3] American Psychiatric Association (2013, pp. 452–453).

Diagnostic Criteria

*Gender Dysphoria in Children*

A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least six of the following (one of which must be Criterion A1):

1. A strong desire to be of the other gender or an insistence that one is the other gender (or some alternative gender different from one's assigned gender).

2. In boys (assigned gender), a strong preference for cross-dressing or simulating female attire: or in girls (assigned gender), a strong preference for wearing only typical masculine clothing and a strong resistance to the wearing of typical feminine clothing.

3. A strong preference for cross-gender roles in make-believe play or fantasy play.

4. A strong preference for the toys, games, or activities stereotypically used or engaged in by the other gender.

5. A strong preference for playmates of the other gender.

6. In boys (assigned gender), a strong rejection of typically masculine toys, games, and activities and a strong avoidance of rough-and-tumble play; or in girls (assigned gender), a strong rejection of typically feminine toys, games, and activities.

7. A strong dislike of one's sexual anatomy.

8. A strong desire for the primary and/or secondary sex characteristics that match one's experienced gender.

B. The condition is associated with clinically significant distress or impairment in social, school, or other important areas of functioning.

*Gender Dysphoria in Adolescents and Adults*

A. A marked incongruence between one's experienced/expressed gender and assigned gender, of at least 6 months' duration, as manifested by at least two of the following:

1. A marked incongruence between one's experienced/expressed gender and primary and/or secondary sex characteristics (or in young adolescents, the anticipated secondary sex characteristics).

2. A strong desire to be rid of one's primary and/or secondary sex characteristics because of a marked incongruence with one's experienced/expressed gender (or in young adolescents, a desire to prevent the development of the anticipated secondary sex characteristics).

3. A strong desire for the primary and/or secondary sex characteristics of the other gender.

4. A strong desire to be of the other gender (or some alternative gender different from one's assigned gender).

5. A strong desire to be treated as the other gender (or some alternative gender different from one's assigned gender).

6. A strong conviction that one has the typical feelings and reactions of the other gender (or some alternative gender different from one's assigned gender).

B. The condition is associated with clinically significant distress or impairment in social, occupational or other important areas of functioning.

**ICD-11 (2022)**[4]

*Gender incongruence of adolescence or adulthood*

[4] World Health Organization (2022b).

Gender Incongruence of Adolescence and Adulthood is characterized by a marked and persistent incongruence between an individual's experienced gender and the assigned sex, which often leads to a desire to 'transition', in order to live and be accepted as a person of the experienced gender, through hormonal treatment, surgery or other health care services to make the individual's body align, as much as desired and to the extent possible, with the experienced gender. The diagnosis cannot be assigned prior to the onset of puberty. Gender variant behavior and preferences alone are not a basis for assigning the diagnosis.

*Gender incongruence of childhood*

Gender incongruence of childhood is characterized by a marked incongruence between an individual's experienced/expressed gender and the assigned sex in pre-pubertal children. It includes a strong desire to be a different gender than the assigned sex; a strong dislike on the child's part of his or her sexual anatomy or anticipated secondary sex characteristics and/or a strong desire for the primary and/or anticipated secondary sex characteristics that match the experienced gender; and make-believe or fantasy play, toys, games, or activities and playmates that are typical of the experienced gender rather than the assigned sex. The incongruence must have persisted for about 2 years. Gender variant behavior and preferences alone are not a basis for assigning the diagnosis.

# Appendix 3. Systematic Reviews and Evidence-Based Medicine

Imagine a courtroom where guilt or innocence is decided solely by the police, drawing on their extensive experience of investigating crime. Someone can be convicted of murder, say, on the verdict of these criminal experts, who have seen many murders before, and who have firm opinions about the sort of people most likely to commit them.

Such a courtroom would be better than nothing. The police have relevant knowledge and experience and are not simply guessing. But it would be far inferior to a real courtroom, where police testimony is just part of the evidence brought before judge and jury: the blood-stained knife, fingerprints, cellphone records, eyewitness testimony, and so on, are all included. Moreover, every piece of evidence is critically examined, weighed, and compared. The attitude is more scientific. Not all evidence is equal: eyewitness testimony can be unreliable, whereas properly collected DNA evidence is of high quality. Independent pieces of evidence (DNA, cellphone records) can point to the same conclusion, making the verdict more secure. Of course, the process is imperfect, but it's a vast improvement over simply relying on the opinions of police officers.

Medicine used to be more like the first (hypothetical) courtroom than the second:

> Clinical practice was historically viewed as the "art of medicine." Expert opinion, experience, and authoritarian judgment were the foundation for decision making. The use of scientific methodology, as in biomedical research, and statistical analysis, as in epidemiology, were rare in the world of medicine.[1]

Starting in the 1970s, evidence-based medicine (EBM) has attempted to move medicine from the first courtroom to the second, towards more empirical rigor.

EBM "is the conscientious, explicit, and judicious use of current best evidence in making decisions about the care of individual patients."[2] The fundamental EBM principle is that clinical practice and practice guidelines should be based on the totality of evidence,

[1] Sur & Dahm (2011, p. 487).
[2] Sackett et al. (1996, p. 71).

assessed and synthesized in clear and reproducible ways from the medical literature. EBM contrasts with "eminence-based medicine," in which physicians make clinical decisions based on personal experience and expertise, and treatment guidelines themselves are created using a process humorously described as "GOBSAT" ("good old boys sitting around a table").[3]

It is important to emphasize that EBM does not say that evidence about treatments should be the *only* factor in medical decisions. Quite the opposite. According to the American Medical Association's (AMA) *User's Guides to Medical Literature: Essentials of Evidence-Based Clinical Practice*:

> [E]vidence alone is never sufficient to make a clinical decision. Decision makers must always trade off the benefits and risks, burden, and costs associated with alternative management strategies and, in doing so, consider their patients' unique predicament and values and preferences.[4]

Evidence is never sufficient to make health policy either, although policy makers have different priorities than clinicians. A clinician's primary concern is for the individual patient and their "unique predicament"; policy makers need to set general rules and standards with public health in mind. They may consider the cost-effectiveness of treatment, public values and preferences, the feasibility of widely offering the treatment, how its benefits can be distributed fairly, and so forth.

EBM uses a "hierarchy of evidence," often depicted as pyramid with colored layers, as in Figure A.1. Since the layers represent different types of study, the hierarchy is more strictly a hierarchy of *research methods* than a hierarchy of evidence. The pyramid in Figure A.1 should not be taken too seriously: many pyramids have been proposed, with varying numbers of layers and kinds of labels, not to mention colors.[5] In fact, the AMA's

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[3] Lima, Tangamornsuksan et al. (2023, p. 1).
[4] Guyatt et al. (2015, p. 10, emphasis omitted). "Burden [of treatment]" means "the inconvenience of attending to the treatment's optimal use, of its monitoring, the limitations in lifestyle that it entails, and the possibility of interactions with other treatments" (p. 426). "Values and preferences" refer to "the collection of goals, expectations, predispositions, and beliefs that individuals have for certain decisions and their potential outcomes. The incorporation of patient values and preferences in decision making is central to evidence-based medicine" (p. 490).
[5] Blunt (2022). For another pyramid, see Cass (2024a, p. 55).

*User's Guides to Medical Literature* contains no such illustration.[6] But the basic point these pyramids make is sound: some ways of gathering evidence about the effects of a treatment are better than others. Systematic reviews (SRs, to be explained below) and meta-analyses are better than randomized controlled trials (RCTs), which are better than cohort studies and case reports,[7] with expert opinion coming in last. The medical consensus based on expert opinion or experience has been shown to be wrong many times before, after rigorous experimental studies were conducted. (See Section 1.2.2.)

EBM prioritizes findings from population-level research, such as RCTs and observational epidemiological studies. This can have drawbacks, sometimes resulting in insufficient consideration of biochemical or physiological evidence from laboratory, animal, or in vitro studies.[8]

In the last few decades EBM has been refined and improved. This appendix includes a brief introduction to SRs, the methodology to systematically identify, synthesize, and assess the best available evidence, and to Grading of Recommendations Assessment, Development, and Evaluations (GRADE), the methodology to assess the quality of evidence and determine the strength of recommendations.

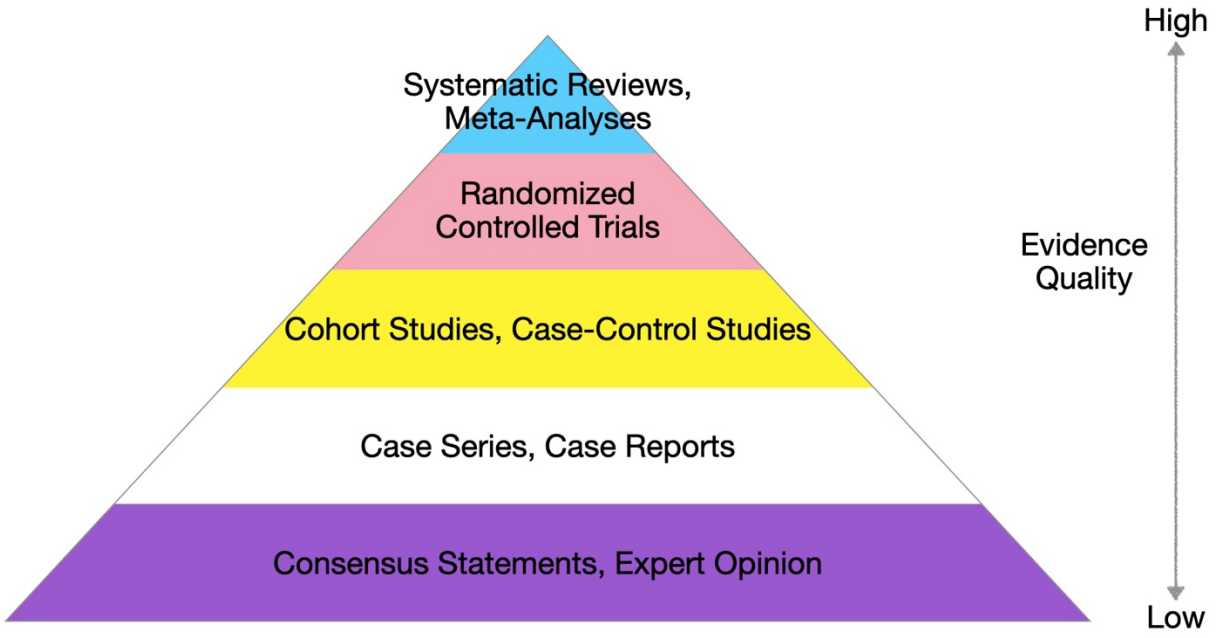
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[6] See Guyatt et al. (2015, p. 48, Figure 4-1), which displays a simple three-level hierarchy of evidence in a blue box.

[7] A *meta-analysis* combines data from separate similar studies and statistically analyses the result. Two studies may investigate the same treatment in sufficiently different ways so that a meta-analysis of both is not possible. SRs may involve meta-analyses but need not. A *randomized controlled trial* (RCT) allocates treatment/non-treatment randomly to a group (*cohort*) of patients and follows them over time; the no-treatment group is the *control* group. Control groups may receive another kind of treatment, a *placebo* (an inert pill or procedure that superficially mimics the treatment), or no treatment at all. In a *double-blind* RCT neither the patients nor the attending medical staff know who is in the treatment group and who is in the control group. *Cohort studies* (or *longitudinal* studies) examine groups of patients over time, either *prospectively* (data collected as the study proceeds) or *retrospectively* (the data has already been collected, say in past medical records); there is no randomization to treatment/non-treatment as in an RCT. A *case-control* study starts with two groups, those who have the disease or condition of interest (the *cases*), and those who don't (the *controls*), and examines them retrospectively. The latter two kinds of study are called *observational*, to contrast them with RCTs. A *case report* describes a single patient's treatment and outcome; a *case series* is a collection of similar case reports.

[8] Clarke et al. (2014).

**Figure A1.1 Example EBM Pyramid**




**1. Systematic reviews**

SRs synthesize evidence from multiple studies in the medical literature and assess its quality, using a standard and reproducible methodology. The general steps are outlined below:[9]

*Research questions and study eligibility criteria*

SRs begin by asking four questions. What is the population being studied? What is the intervention or treatment? What groups are being compared to the group that received the treatment? What results or outcomes are of interest? This is the "PICO" framework: Population, Intervention, Comparator, Outcome. Study eligibility criteria are defined accordingly and documented.

*Comprehensive search*

Having defined the eligibility criteria for studies, the next step is to locate them. A properly conducted search requires expertise, and includes searching a variety of

[9] What follows is simplified; for more detail see Higgins et al. (2019).

medical databases, for instance Embase (produced by the publisher Elsevier) and Medline (produced by the U.S. National Library of Medicine (NLM)). The search could also cover registries of clinical trials and so-called grey literature (material outside academic publishing, such as reports and government documents).

*Study selection*

Reviewers then screen the search results, looking at a study's title and abstract, and then its full text to determine if the study is eligible to be included in the SR. This study selection process follows the pre-defined eligibility criteria. To minimize the risk of bias in the review process, independent duplicate screening may be applied in both the stage of title and abstract screening, and the stage of full text screening.

*Data extraction and effect estimate computation*

The reviewers extract all relevant data from the studies. The procedure is standardized, and the same kind of data is extracted from all studies. Most of this is in the methods and results sections of the study (and the supplementary material). Depending on the data, there are various ways of measuring the effect of an intervention; the extracted data may need to be converted to a consistent format so the treatment effect estimates reported across eligible studies can be combined as a pooled effect estimate.

*Risk of bias assessment*

*Bias* is "systematic error, or deviation from the truth, in results. Biases can lead to under-estimation or over-estimation of the true intervention effect and can vary in magnitude: some are small (and trivial compared with the observed effect) and some are substantial (so that an apparent finding may be due entirely to bias)."[10] Two or more independent reviewers assess the risk of bias of each study, using appropriate tools. One major consideration for choosing a risk of bias tool is the type of study design. For example, Version 2 of the Cochrane Risk-of-Bias tool for randomized trials (RoB 2) is the recommended tool to assess the risk of bias in randomized trials included in

[10] Higgins et al. (2019, pp. 177–178). Note that "biased" here does not mean *prejudiced*. Fair and impartial researchers may produce a "biased" study in the sense relevant to this Appendix.

Cochrane Reviews, while Risk Of Bias In Non-randomized Studies - of Interventions (ROBINS-I) is the recommended tool to assess the risk of bias in non-randomized studies.

*Data synthesis and analysis*

One key step for SRs is evidence synthesis, synthesizing or combining the results from the different studies. Meta-analyses of effect estimates (a quantitative synthesis strategy) may be performed, as well as sensitivity analyses (which examine whether the results would change if different statistical assumptions were made, if outcomes were defined slightly differently, and so on). If a meta-analysis is not feasible, other ways of synthesizing the results are available. A narrative that describes results study by study is not acceptable.[11]

*Quality of evidence assessment*

The quality of the evidence is now evaluated using, for instance, the methodological framework GRADE (explained in the following section).

*Discussion and conclusion*

The discussion section of the SR includes: “Summary of main results (benefits and harms); potential biases in the review process; overall completeness and applicability of evidence; certainty of the evidence; agreements and disagreements with other studies or reviews.”[12] The conclusions section considers the implications for clinical practice and for research.

High-quality SRs organize their PICO information, search strategy, methodologies, and findings according to the Preferred Reporting Items for Systematic reviews and Meta-Analyses (PRISMA) statement, which facilitates completeness, accuracy, transparency, and replicability.[13] Registering the protocol for a SR in a system such as PROSPERO increases transparency and trustworthiness of an SR.

[11] McKenzie & Brennan (2024).
[12] Higgins et al. (2019, p. 404, quotation marks and capitalization omitted).
[13] Page et al. (2021). See also Santesso et al. (2020).

**2. GRADE**

Grading of Recommendations Assessment, Development, and Evaluations is a widely adopted framework for assessing the quality (or "certainty") of the evidence and strength of recommendations.[14] GRADE uses four tiers to classify quality:

> *High*: We are very confident that the true effect lies close to that of the estimate of the effect.
>
> *Moderate*: We are moderately confident in the effect estimate: The true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different
>
> *Low*: Our confidence in the effect estimate is limited: The true effect may be substantially different from the estimate of the effect
>
> *Very low*: We have very little confidence in the effect estimate: The true effect is likely to be substantially different from the estimate of effect.[15]

There is frequent confusion about the relationship between GRADE and tools that assess individual studies for risk of bias such as RoB 2 and ROBINS-I. When assessing risk of bias, the reviewers are assessing individual studies. When SR authors assess the quality or certainty of evidence with GRADE, they are assessing the total body of evidence. They ask: How confident should we be in the effect estimate (for instance, the estimate of average mortality, level of depression, degree of disease progression), given the evidence derived from all the included studies? GRADE does consider risk of bias in the individual studies that yielded the estimate, but that is just one of five factors that can downgrade the quality of the evidence. The other four are *inconsistency* (how consistent the results are across all the studies reporting on the same outcome); *indirectness* (how applicable the evidence is to the PICO in question); *imprecision* (whether the sample is too small or confidence intervals[16] surrounding the estimates too

[14] However, because GRADE "has become increasingly complex, such that new as well as existing users may find it unwieldy," a simplified and slightly revised version has recently been proposed, "Core GRADE" (Guyatt et al., 2025).
[15] Balshem et al. (2011, Table 2). See also M. Prasad (2024, p. 2).
[16] A confidence interval is a range of effect values and is used to quantify uncertainty about effect estimates.

wide), and *publication bias* (for instance, whether studies with negative results have not been published).[17] Evidence quality can be upgraded if there is a large effect size, a clear dose-response relationship, or if confounding factors would likely reduce the observed effect but did not.

GRADE not only provides guidance on assessing the quality of evidence, but guidance on recommending treatments. Key determinants for the strength of recommendations include the balance between benefits and harms of the alternative treatments, the certainty of evidence, values and preferences, and cost and resource allocation. Values and preferences of patients are a major consideration, especially when the certainty of evidence is low or very low.

In GRADE, there is an "explicit separation of the process for assessing the quality of a body of evidence from the process for making recommendations based in part on those assessments. Although higher quality evidence is more likely to be associated with strong recommendations than lower quality evidence, a particular level of quality does not imply a particular strength of recommendation. Sometimes, low or very low-quality evidence can lead to a strong recommendation."[18] For example, a low-cost safe treatment supported by low-quality evidence could lead to a strong recommendation if the potential benefits are large and there is no alternative. Conversely, a treatment might be supported by high quality evidence and yet not be strongly recommended, because it has side effects that some patients would not be willing to accept.

A treatment might be potentially promising but have harmful side effects with only weak evidence of benefit. In such cases a recommendation for "treatment-only-in-research" may be given under the following conditions:

> [T]here is insufficient evidence supporting an intervention for a panel to recommend its use; further research has a large potential for reducing uncertainty about the effects of the intervention; and further research is deemed good value for the anticipated costs.[19]

[17] Higgins et al. (2019, Table 2-1).
[18] Balshem et al. (2011, p. 402).
[19] J. Andrews et al. (2013, p. 724).

### 3. Overviews of reviews

Overviews of reviews, or “umbrella reviews,” such as the one performed to systematically assess the clinical evidence for this Review, use a similar methodology to SRs to evaluate SRs themselves. Overviews employ explicit and systematic methods to identify and analyze multiple systematic reviews that address related research questions within a common topic area, with the goal of synthesizing results across key outcomes.[20] This approach is particularly useful when multiple systematic reviews exist on overlapping or related research questions within the same topic area, or when stakeholders need a high-level synthesis to inform clinical, policy, or public health decision-making. Like SRs, overviews use GRADE or related tools and standardized reporting practices.

The process of an overview follows these steps:

1. Systematically search for all SRs addressing the relevant PICOs.

2. Identify and include the eligible SRs

3. Extract information about the estimated treatment effects, and assess each SR for risk of bias using a tool such as “Risk of Bias in Systematic reviews” (ROBIS)

4. Collect, analyze, and present the data from included systematic reviews, including characteristics of the SRs and their included primary studies; risk of bias of included primary studies; outcome data; and certainty of evidence for pre-defined, clinically important outcomes. Specifically, for each outcome of interest, reviewers summarize the information about treatment estimates from the SRs.

To assess the certainty of evidence, reviewers may opt to summarize and report the original GRADE ratings reported by the SRs in the included systematic reviews. However, reviewers may need to re-analyze outcome data from systematic reviews or conduct GRADE assessments themselves using the information reported in the SRs, for example, when the SRs do not include GRADE assessment, or when there is disagreement across included SRs.

[20] Pollock et al. (2024).

Performing a new SR is preferred when there is a lack of recent SRs or when existing SRs are limited in quality; but if the literature contains several recent high-quality SRs the overview is an approved option.[21]

**4. Other types of reviews**

Not every medical publication with “review” in its title is an SR or an overview of SRs. Such publications can be useful but are not systematic and reproducible syntheses of evidence. Other types of reviews include:

*Narrative reviews*

Also called *literature reviews*, a narrative review is “a review article (such as a typical book chapter) that is not conducted using methods to minimize bias (in contrast to a systematic review).”[22] For this reason, narrative reviews must be treated with caution, although they can be helpful as an introduction to a research topic.

*Scoping reviews*

The purpose of a scoping review is to survey the available research on a specific topic. Scoping reviews are systematic and reproducible like SRs but are usually not as rigorous. The aim of a scoping review is to survey existing research and suggest areas for future study, not to assess the evidence for a particular intervention.[23]

[21] Pollock et al. (2024).
[22] Guyatt et al. (2015, p. 461).
[23] Tricco et al. (2016).

# Appendix 4. Overview of Systematic Reviews: Methodology, Evidence Synthesis, Tables

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# Exhibit I to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

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News Release

# AAP Statement on HHS Report Treatment for Pediatric Gender Dysphoria

By: Susan J. Kressly, MD, FAAP, president, American Academy of Pediatrics

“The American Academy of Pediatrics (AAP) is deeply alarmed by the report released by the U.S. Department of Health and Human Services (HHS) today on medical care for transgender and gender-diverse individuals and the process that informed its development. For such an analysis to carry credibility, it must consider the totality of available data and the full spectrum of clinical outcomes rather than relying on select perspectives and a narrow set of data.

This report misrepresents the current medical consensus and fails to reflect the realities of pediatric care.

As we have seen with immunizations, bypassing medical expertise and scientific evidence has real consequences for the health of America's children. AAP was not consulted in the development of this report, yet our policy and intentions behind our recommendations were cited throughout in inaccurate

**For Release:**
5/1/2025

**Media Contact:**
Jennifer Nimke

jnimke@aap.org

and misleading ways. The report prioritizes opinions over dispassionate reviews of evidence.

Patients, their families, and their physicians—not politicians or government officials —should be the ones to make decisions together about what care is best for them based on evidence-based, age-appropriate care.

We urge government officials and policymakers to approach these conversations with care, humility, and a commitment to considering the full breadth of peer-reviewed research. The AAP remains focused on supporting pediatricians in delivering the best possible care to every child, informed by science and the lived experiences of patients and families. We will continue to support the well-being of all children and access to high-quality care that meets their needs."

###

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# Exhibit J to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

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# Exhibit K to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

THE SECRETARY OF HEALTH AND HUMAN SERVICES
WASHINGTON, D.C. 20201

# DECLARATION OF THE SECRETARY OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES

## RE: Safety, Effectiveness, and Professional Standards of Care for Sex-Rejecting Procedures on Children and Adolescents

**Date:** December 18, 2025

**Declarant:** Robert F. Kennedy Jr., Secretary of U.S. Department of Health and Human Services

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I, Robert F. Kennedy, Secretary of the U.S. Department of Health and Human Services (HHS), pursuant to my authority and responsibilities under federal law, and pursuant to 42 CFR § 1001.2, hereby declare as follows

## I. BACKGROUND AND AUTHORITY

### A. Rising Prevalence of Gender Dysphoria Diagnoses in Youth

In recent years, medical professionals have documented a substantial increase in gender dysphoria diagnoses among young people in the United States, with similar trends throughout Europe.[1] In response to this phenomenon and following the publication of the "Dutch Protocol," and subsequent endorsements by the World Professional Association for Transgender Health (WPATH) and the Endocrine Society (ES), the number of children and adolescents receiving medical interventions for gender dysphoria increased substantially.[2] These interventions, referred to in this Declaration as sex-rejecting procedures, include puberty-suppressing hormones, cross-sex hormones, and surgical procedures.

Research indicates that thousands of American children have undergone these sex-rejecting procedures.[3] Yet current medical evidence does not support a favorable risk/benefit profile for using these interventions to treat pediatric gender dysphoria. Moreover, existing clinical guidelines endorsing these procedures demonstrate significant variation in methodological rigor and quality.

To address these methodological concerns and evaluate the evidence for sex-rejecting procedures for children and adolescents, on May 1, 2025, HHS released a review of the evidence to identify best practices for treating pediatric gender dysphoria.[4] On November 19, 2025, HHS released the final, peer-reviewed report, *Treatment for Pediatric Gender Dysphoria: Review of Evidence and Best Practices* ("the HHS Report").[5] The HHS Report is a comprehensive review of the evidence and literature related to sex-rejecting procedures.

**B. Expansion of Medical Interventions for Gender Dysphoria**

Following the 2006 publication of what became known as the "Dutch Protocol" in *The European Journal of Endocrinology*, pediatric medical interventions for gender dysphoria increased substantially.[6] During the subsequent decade, growing numbers of children and adolescents diagnosed with gender dysphoria began receiving medical procedures advocated by organizations such as the WPATH and the ES.[7]

WPATH's Standards of Care Version 8 (SOC-8) specifically acknowledged this trend, attributing the development of a dedicated adolescent chapter partly to what it characterized as exponential increases in youth referrals.[8] While earlier health system studies documented referral rates below 0.1 percent, more recent surveys identifying "transgender" youth report prevalence ranging from 1.2 to 2.7 percent, with "gender diverse" identification reaching as high as 9 percent.[9] WPATH documentation also indicates that adolescent females seek these interventions at rates between two and seven times higher than adolescent males.[10]

WPATH guidelines recommend that providers conduct thorough biopsychosocial evaluations of adolescents seeking medical transition, incorporating input from mental health specialists, medical professionals, parents or guardians, except in circumstances where parental involvement might cause harm.[11]

**C. Scale of Pediatric Interventions in the United States**

The number of pediatric patients seeking sex-rejecting procedures can only be roughly estimated. The decentralized and largely privatized nature of the American healthcare system has facilitated the proliferation of specialized gender clinics alongside numerous independent practitioners offering these services.[12] Conservative estimates from March 2023 identified 271 gender clinics operating across the United States, with approximately 70 rendered inactive due to state legislative restrictions.[13]

The treatment approach referenced in this declaration as sex-rejecting procedures—terminology that some refer to as “gender-affirming care”—encompasses several intervention types, when provided to minors: puberty-suppressing drugs that prevent the onset of puberty, cross-sex hormones that induce secondary sex characteristics of the opposite-sex, and surgical procedures, including breast removal and, less commonly, genital reconstruction. Thousands of American minors have undergone these interventions.[14]

Research published in 2023 estimated that from 2016 through 2020, approximately 3,700 adolescents in the U.S., aged 12 to 18 with gender dysphoria diagnoses underwent surgical interventions. This figure includes more than 3,200 youth who underwent breast or chest surgery and over 400 who had genital surgeries resulting in permanent reproductive organ alterations and compromised sexual function.[15] Separate research examining the period from 2017 to 2021 identified more than 120,000 children ages 6 through 17 diagnosed with gender dysphoria, with over 17,000 of these minors initiating either puberty blockers or hormonal therapy.[16] However, as discussed in the HHS Review, current medical evidence does not support a favorable risk/benefit profile for the use of chemical or surgical procedures in children to treat gender dysphoria.

**D. Legal Authority for This Declaration**

This declaration is issued pursuant to the authority vested in the HHS Secretary, and is informed by 42 CFR § 1001.2, which provides that "when the Department has declared a treatment modality not to be safe and effective, practitioners who employ such a treatment modality will be deemed not to meet professionally recognized standards of health care." As such, this declaration supersedes

"Statewide or national standards of care, whether in writing or not, that professional peers of the individual or entity whose provision of care is an issue, recognize as applying to those peers practicing or providing care within a State." For reasons explained in this Declaration, standards of care recommended by certain medical organizations are unsupported by the weight of evidence and threaten the health and safety of children with gender dysphoria.

# II. COMPREHENSIVE REVIEW OF EVIDENCE

HHS issued a comprehensive evidence review and best practices assessment regarding pediatric gender dysphoria care on May 1, 2025.[17] After the publication of this preliminary report, HHS also invited peer reviews from major medical associations, including the American Academy of Pediatrics (AAP), the American Psychiatric Association (APA), and the ES, as well as clinical experts and evidence-based medicine methodologists. While both the AAP and the ES declined to participate, HHS received reviews from the APA and seven invited peer reviewers for consideration. The report also engaged with two unsolicited reviews that were previously published in journals. In keeping with its commitment to radical transparency, HHS published all nine peer reviews alongside its detailed responses to each one,[18] as well as a final, revised report incorporating the feedback in November 2025.[19]

Employing an evidence-based medicine approach, the HHS Review identified substantial concerns regarding outcomes from specific medical interventions—namely puberty blockers, cross-sex hormones, and surgical procedures—intended to facilitate children's and adolescents' transition away from their sex. The Review documents significant risks from these procedures, including permanent harms such as infertility, while finding markedly insufficient evidence of therapeutic benefit. Crucially, the Review determined that existing evidence cannot support effectiveness claims for medical and surgical interventions in ameliorating mental health conditions or reducing gender dysphoria symptoms. As the Review states: "Analysis of the biological plausibility of harms is necessary and suggests that some short- and long-term harms are likely (in some cases expected) sequelae of treatment."[20] The evidence examined in the HHS Review demonstrates an unfavorable risk/benefit profile for medical and surgical interventions in children and adolescents with gender dysphoria diagnoses. While the HHS Review refrains from making specific clinical, policy, or legislative recommendations, it furnishes essential insights for policymakers charged with promoting health and safety, particularly for vulnerable populations such as children and adolescents.[21]

## A. HHS Review Methodology

The HHS Review conducted an "umbrella review" of existing systematic reviews, including those that informed European health authorities' policy decisions, to assess their methodological quality and the evidence regarding the benefits and harms of hormonal and surgical interventions for treating pediatric gender dysphoria. The review found that the overall quality of evidence concerning the effects of sex-rejecting procedures on psychological outcomes, quality of life, regret, or long-term health, is very low.

## B. Evidence Quality Regarding Therapeutic Benefits

The HHS Review also concluded that available evidence cannot support determinations regarding the effectiveness of medical and surgical interventions for mental health or alleviating gender dysphoria symptoms.

The Review states that pediatric medical transition evidence for benefit remains highly uncertain, while harm evidence demonstrates less uncertainty.[22] The evidence compilation indicates that medical and surgical interventions for children and adolescents diagnosed with gender dysphoria present an unfavorable risk-benefit profile.

**C. Evidence and Analysis of Treatment Harms**

While acknowledging that systematic reviews provide limited direct evidence of harms from sex-rejecting procedures in minors, the HHS Review offers plausible rationales for why such evidence may have been inadequately sought, detected, or reported. Contributing factors include the relatively recent implementation of hormonal and surgical treatment, deficiencies in monitoring and reporting adverse effects within existing studies, and publication bias.

Despite the absence of robust evidence from large-scale population studies, the HHS Review identifies known and plausible harm risks from puberty blockers, cross-sex hormones, and surgeries based on human physiology and pharmacological agents used. The Review notes that short- and long-term adverse effects are likely, and include infertility and sterility, sexual dysfunction, impaired bone density development, adverse cognitive effects, cardiovascular and metabolic disease, psychiatric conditions, surgical complications, and regret.[23]

**D. International Shift Away from Pediatric Medical Transition**

The HHS Review chronicles both the weak evidentiary basis and the growing international movement away from using puberty blockers, cross-sex hormones, and surgeries for treating gender dysphoria in minors, highlighting significant harm risks.[24] The Review provides methodologically rigorous assessment of evidence underlying surgical and endocrine interventions, including puberty suppression and cross-sex hormone use, while incorporating international practice evaluations such as the United Kingdom's Cass Review.

The Review documents mounting concerns regarding both the scarcity of reliable benefit evidence and the presence of significant harm risks associated with this care model, identifying psychotherapy as a non-invasive alternative approach.

**E. Ethical Analysis and Conclusions**

The HHS Review invokes widely recognized medical ethics principles to conclude that "medical interventions pose unnecessary, disproportionate risks of harm, healthcare providers should refuse to offer them even when they are preferred, requested, or demanded by patients."[25]As the Review states, "in the domain of pediatrics, these norms limit the authority not only of patients (who in any case lack full decision-making capacity) but of parents as well."[26] The first obligation of the physician, under the Hippocratic Oath, originating in the fourth century BC, is to first do no harm, as the purpose of the practice of medicine is to heal. Sex-rejecting procedures introduce a unique set of iatrogenic harms for minors, which may include "surgeries to remove healthy and functioning organs."[27] The Review states: "To discharge their duties of nonmaleficence and beneficence, clinicians must ensure, insofar as reasonably possible, that any interventions they offer to patients have clinically favorable risk/benefit profiles relative to the set of available alternatives, which includes doing nothing."[28] As related previously in this Declaration, the risk-benefit profile of these procedures for children is extremely poor. "The best available evidence," it finds, is that pediatric sex-rejecting procedures "have not been shown to improve mental health outcomes." "At the same time," the Review notes, "there is increasing recognition of the risk and harms associated" with pediatric sex-rejecting procedures, including "possible outcomes, such as impaired cognitive function, greater susceptibility to hormone-sensitive cancers, cardiac disease, reduced bone density, sexual dysfunction, infection, and infertility [that] are objectively detrimental to health." The Review concludes that "[s]uch medical harms, or plausible risks thereof, should not be imposed on children or adolescents in the absence of a reasonable expectation of proportionate medical benefit."[29]

Though the HHS Review deliberately avoids making clinical, policy, or legislative recommendations, it supplies critical information that should guide policymakers in decisions promoting health and safety, especially for vulnerable populations such as minors.[30]

# III. INADEQUACY OF CLINICAL GUIDELINE FROM MEDICAL ORGANIZATIONS

I acknowledge that guidance from prominent U.S. medical professional organizations, including the American Medical Association (AMA), AAP, and APA, has characterized sex-rejecting procedures—termed by these organizations as "gender-affirming care"—as safe and effective.[31,32,33,34] These endorsements from medical societies have encouraged widespread clinician adoption of sex-rejecting procedures throughout the United States. The most influential sources of clinical guidance for treating pediatric gender dysphoria in the United States are the WPATH and the ES clinical practice guidelines and the AAP guidance document. However, a recent systematic review of international guideline quality by researchers at the University of York found that all three documents as very low quality and should not be implemented.[35]

As the HHS Review notes regarding the role of medical organizations in the treatment of pediatric gender medicine:

> U.S. medical associations played a key role in creating a perception that there is professional consensus in support of pediatric medical transition. This apparent consensus, however, is driven primarily by a small number of specialized committees, influenced by WPATH. It is not clear that the official views of these associations are shared by the wider medical community, or even by most of their members. There is evidence that some medical and mental health associations have suppressed dissent and stifled debate about this issue among their members.[36]

## A. Endocrine Society

The ES issued clinical practice guidelines in 2017 entitled “Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons.” As the HHS Review notes:

> In WPATH and ES guidelines, the principal goal of CSH administration is to induce physical characteristics typical of the opposite sex. When hormone levels rise beyond the typical reference range for a person’s sex, they are considered supraphysiologic. ES guidelines suggest that the sex an individual identifies as—as opposed to their biological sex—should determine the target reference range for hormonal concentrations. Critics have argued that perceived identity does not alter physiological processes and that such a belief can result in inappropriate and potentially dangerous hormone dosing.[37]

The HHS Review states:

> The ES 2017 guideline, which used the GRADE [Grading of Recommendations Assessment, Development and Evaluation] framework, has been criticized for making strong recommendations for hormonal interventions in the setting of a weak evidence base. Notably, none of the systematic reviews that supported the ES guidelines were based on outcomes for children or adolescents. The ES recommendation to initiate puberty blockade using gonadotropin-releasing hormone agonists was derived by putting a higher value on achieving a “satisfactory physical appearance” while putting the lowest value on avoiding physical harms. The ES recommendation for the initiation of cross-sex hormones no earlier than age 16 was justified by placing a higher value on adolescent’s purported ability to meaningfully consent to

cross-sex hormones (CSH) and placing a lower value on avoiding harm from potentially prolonged pubertal suppression.

**B. WPATH**

As explained in Chapter 9 of HHS Review, the guidelines issued by the WPATH "have been rated among the lowest in quality and have not been recommended for implementation by systematic reviews (SRs) of guidelines."[38] As the HHS Review points out: "Despite their lack of trustworthiness, for more than a decade WPATH guidelines have served as the foundation of the healthcare infrastructure for gender dysphoric (GD) youth in the United States. The WPATH Standards of Care guidelines are embedded in nearly all aspects of healthcare including clinical education, delivery of care, and reimbursement decisions by private and public insurers." In 2022, WPATH issued guidelines entitled "Standards of Care for the Health of Transgender and Gender Diverse People, Version 8" (SOC-8). These guidelines relaxed eligibility criteria for children to access sex-rejecting procedures, and ultimately recommends that adolescents wishing to undergo sex-rejecting procedures receive them. Besides the problems identified in systematic reviews of international guidelines, during recommendation development, WPATH suppressed systematic evidence reviews, failed to appropriately manage conflicts of interest, and prioritized legal and political rather than clinical considerations.[39] The HHS Review states: "In the process of developing SOC-8, WPATH suppressed systematic reviews its leaders believed would undermine its favored treatment approach. SOC-8 developers also violated conflict of interest management requirements and eliminated nearly all recommended age minimums for medical and surgical interventions in response to political pressures."[40] The HHS Review goes on to explain: "The recommendations are couched in cautious-sounding language, stating that GD should be "sustained over time," particularly before administering CSH. However, no clear standard is set; the only guidance offered is the vague and clinically meaningless phrase "several years, leaving critical decisions open to broad and subjective interpretation.""[41]

On the surface, WPATH SOC-8 might appear to recommend a cautious approach toward assessment. Mental health providers are to conduct a "comprehensive biopsychosocial assessment" prior to initiating medical interventions in order "to understand the adolescent's strengths, vulnerabilities, diagnostic profile, and unique needs to individualize their care." At the same time, however, WPATH recommends that clinicians use the International Classification of Diseases 11th Revision diagnosis of "Gender Incongruence of Adolescence and Adulthood," which, unlike the DSM-5 diagnosis of "Gender Dysphoria," requires only "marked and persistent incongruence between an individual's experienced gender and the assigned sex." Because SOC-8 defines transgender in a similar way ("people whose gender identities and/or gender expressions are not what is typically expected for the sex to which they were assigned at birth") and provides no meaningful distinction between this meaning of transgender and gender non-conformity, SOC-8 effectively recognizes transgender identification as a medical condition justifying medical interventions.[42]

The HHS Review also argues: "Although WPATH's guidelines do not necessarily discourage mental healthcare, they likewise do not require it as a precondition for PMT [pediatric medical transition]. Some guideline authors opposed even minimal requirements for mental health support, arguing that such provisions were analogous to "conversion therapy."35 SOC-8's only formal recommendation is for a "comprehensive biopsychosocial assessment," although WPATH emphasizes that its guideline is "flexible," thereby leaving room for considerable variation in clinical practice."[43]
A recent systematic review evaluating international guideline quality concluded that healthcare professionals should account for the inadequate quality and independence of available guidance when utilizing WPATH and Endocrine Society international guidelines in practice.[44]

**C. AMA and AAP**

While the AMA and the AAP have not issued their own treatment guidelines, they support the ES and WPATH guidelines, as discussed previously in this proposed rule. AAP issued a policy statement in 2018 supporting the use of puberty blockers, cross-sex hormones, and surgeries for minors.[45] In support of sex-rejecting surgeries, AAP stated that while "current protocols [(ES, WPATH)] typically reserve surgical interventions for adults, they are occasionally pursued during adolescence on a case-by-case basis, considering the necessity and benefit to the adolescent's overall health and often including multidisciplinary input from medical, mental health, and surgical providers as well as from the adolescent and family." The AAP reaffirmed its policy statement in 2023, but also stated that it was conducting its own review of the evidence and guideline development---which still have not been released.[46]

Regarding the AAP policy statement, the HHS Review states:

> The AAP 2018 policy statement is not technically a CPG [clinical practice guideline] but has been widely cited in the U.S. as influential in establishing how pediatricians respond to children and adolescents with GD [gender dysphoria]. Because the document offers extensive clinical recommendations regarding every step of PMT—from social transition to PBs [puberty blockers], CSH [cross-sex hormones], and surgery—the York team assessed the trustworthiness of the AAP guidance using the same criteria they applied to CPGs. Using the AGREE II criteria, the AAP policy statement received the second-lowest average score among all international guidelines: 2 out of 7. As noted in Chapter 2, the AAP's policy statement's use of "gender diverse" casts a very wide net regarding which patients the organization considers eligible for medical intervention. The statement has been heavily criticized in peer-reviewed articles, which have pointed out that it is rife with referencing errors and inaccurate citations. Despite persistent advocacy among its members, who have petitioned the organization to release updated, evidence-based guidance for treating pediatric GD, the organization chose to reaffirm their policy statement in 2023.[47]

The Review comprehensively documents how SOC-8 development represented a significant departure from unbiased, evidence-driven clinical guideline development principles.[48]

The failure of professional organizations in the United States to protect children, and follow the principles of evidence-based medicine, highlights the need for this Declaration.

Global guidelines supporting care for children and adolescents experiencing gender dysphoria demonstrate variable methodological rigor and quality. The HHS Review's assessment reveals fundamental deficiencies in both the development processes and evidentiary foundations of the most frequently cited guidelines endorsing sex-rejecting procedures for minors.

## IV. INTERNATIONAL EVIDENCE REVIEWS AND CONSENSUS

The HHS Review's findings align with conclusions from multiple European nations that conducted independent, rigorous systematic evidence reviews. Sweden, Finland, and the United Kingdom each commissioned independent systematic evidence reviews through their public health authorities. All three nations concluded that medicalization[49] risks may exceed benefits for children and adolescents with gender dysphoria, subsequently implementing sharp restrictions on gender transition interventions for minors.[50,51,52,53,54,55] These three countries now recommend exploratory psychotherapy as initial treatment. Sweden and Finland reserve hormonal interventions exclusively for exceptional cases, recognizing their experimental nature.[56,57,58,59]

**A. United Kingdom's Cass Review**

The United Kingdom's Cass Review represents the most influential evaluation to date—a four-year independent assessment of pediatric gender medicine published in April 2024. The Cass Review findings precipitated closure of the United Kingdom's Gender Identity Development Service (GIDS), which the Care Quality Commission had rated "inadequate" in 2021.

The Cass Review recommended restructuring the care delivery model away from centralized "gender clinic" approaches toward more holistic frameworks emphasizing psychosocial support delivered through regional hubs. The Review's findings also led the United Kingdom to prohibit puberty blocker use outside clinical trial settings and substantially restrict cross-sex hormone access.[60]

Though cross-sex hormones remain officially available, the National Health Service (NHS) recently disclosed that since the Cass Review's publication, no minor has satisfied eligibility criteria for receiving cross-sex hormones under updated policies.[61] Note that the United Kingdom has never provided gender dysphoria-related surgery to minors through the NHS.[62]

**B. Sweden**

Sweden's National Board of Health and Welfare (NBHW) reviewed and revised its guidelines for minors under age 18 in 2022. The NBHW determined that risks from puberty-suppressing treatment using GnRH-analogues (injectable medications preventing ovarian and testicular hormone production) and hormonal treatment promoting opposite-sex characteristics likely exceed potential benefits.[63,64]

The NBHW specified that mental health support and exploratory psychological care should constitute first-line treatment. Hormonal interventions may serve as last-resort measures for select youth. Sweden has elected to restrict gender transition procedures for minors to research settings exclusively, limiting eligibility to early childhood-onset gender dysphoria cases.

**C. Finland**

Finland's Council for Choices in Health Care, the monitoring agency for national public health services, issued guidelines in 2020 calling for psychosocial support as primary treatment, hormone therapy only after careful case-by-case consideration, and no surgical treatment for minors.[65, 66] Finland has restricted gender transition procedure eligibility to minors with early childhood-onset gender dysphoria and without mental health comorbidities.

**D. Denmark**

Denmark experienced increased sex-rejecting procedure referrals from 97 individuals in 2016 to 352 in 2022, with biological females aged 11-18 constituting 70 percent.[67] Concerned about rising referrals and reports of treatment regret or attempts to reverse hormone-induced bodily changes, Denmark adopted an approach emphasizing assessment and psychosocial support for minors while postponing hormone therapy decisions, including puberty blockers and cross-sex hormones, particularly when gender incongruence has been brief or when questions exist regarding gender identity stability.[68]

**E. Norway**

Norway's Norwegian Commission for the Investigation of Health Care Services (UKOM), an independent state agency, issued 2023 recommendations regarding treatment for children and young people with gender incongruence.[69] Recommendations included classifying puberty blockers and surgical treatment for children as experimental, revising national guidelines based on systematic

knowledge synthesis, and establishing a national registry to enhance quality and reduce treatment variation. Norway's public health authority has indicated intentions to adjust current treatment guidelines in response to UKOM concerns.[70]

**F. Additional Countries**

Italy,[71] Brazil,[72] and Australia[73] represent additional countries that have restricted or contemplated restricting various sex-rejecting procedures for minors.

**G. International Developments Summary**

Growing international concern exists regarding hormonal and surgical interventions for pediatric gender dysphoria among countries conducting rigorous, independent, evidence-based evaluations. While certain medical associations have endorsed sex-rejecting procedures, the HHS Review emphasizes that these endorsements lack grounding in evidence-based medicine and often reflect suppression of opposing ideas.

## V. DECLARATION

Based on the comprehensive evidence review published by the Department of Health and Human Services, documented risks of significant harm, markedly weak evidence of benefit, unfavorable risk-benefit profiles, inadequate existing clinical guidelines, growing international consensus among countries conducting rigorous evidence reviews, and applicable medical ethics principles, I hereby declare:

**Sex-rejecting procedures for children and adolescents are neither safe nor effective as a treatment modality for gender dysphoria, gender incongruence, or other related disorders in minors, and therefore, fail to meet professional recognized standards of health care. For the purposes of this declaration, "sex-rejecting procedures" means pharmaceutical or surgical interventions, including puberty blockers, cross-sex hormones, and surgeries such as mastectomies, vaginoplasties, and other procedures, that attempt to align an individual's physical appearance or body with an asserted identity that differs from the individual's sex.**

This Declaration does not apply (1) To treatment of an individual with a medically verifiable disorder of sexual development; (2) For purposes other than attempting to align an individual's physical appearance or body with an asserted identity that differs from the individual's sex; or (3) To treat complications, including any infection, injury, disease, or disorder that has been caused by or exacerbated by the performance of a sex-rejecting procedure. 42 CFR § 1001.2 allows the Secretary to declare a "treatment modality *not* to be safe and effective," (emphasis added), and accordingly nothing in this declaration recommends a particular treatment for gender dysphoria or any other condition. However, the HHS Review points to psychotherapy (talk therapy) as a noninvasive alternative to sex-rejecting procedures. As Sweden's national health authority has recommended, "[p]sychosocial support that helps adolescents deal with natal puberty without medication needs to be the first option when choosing care measures."[74]

Under 42 U.S.C. § 1320a-7(b)(6)(B), the Secretary "may" exclude individuals or entities from participation in any Federal health care program if the Secretary determines the individual or entity has furnished or caused to be furnished items or services to patients of a quality which fails to meet professionally recognized standards of health care. This declaration does not constitute a determination that any individual or entity should be excluded from participation in any Federal health care program. Any such determination could only be made after a separate determination under 42 C.F.R. § 1001.701, which is subject to further administrative and judicial review under 42 C.F.R. §§ 1001.2007,

1005.21. Before making any such determination, HHS will ensure compliance with applicable laws, regulations, court orders, and any required procedures.

This declaration rests upon the best available scientific evidence and aims to promote the health, safety, and well-being of children and adolescents, who constitute an especially vulnerable population deserving the highest standards of care.

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**DECLARED** this 18th day of December, 2025.

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Robert F. Kennedy Jr.
Secretary
U.S. Department of Health and Human Services

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# Exhibit L to

# DECLARATION OF CHRIS ERCHULL IN SUPPORT OF PLAINTIFFS' EXPEDITED MOTION FOR A PRELIMINARY INJUNCTION

Press Releases Dec 18, 2025

# HHS Acts to Bar Hospitals from Performing Sex-Rejecting Procedures on Children

Administration Hospitals Medicaid & CHIP

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**HHS Acts to Bar Hospitals from Performing Sex-Rejecting Procedures on Children**

WASHINGTON — The U.S. Department of Health and Human Services (HHS) today announced a series of proposed regulatory actions to carry out President Trump's Executive Order directing HHS to end the practice of sex-rejecting procedures on children that expose young people to irreversible harm. These procedures include pharmaceutical or surgical interventions of specified types that attempt to align a child's physical appearance or body with an asserted identity different from their sex.

The Centers for Medicare & Medicaid Services (CMS) will release a notice of proposed rulemaking proposing to bar hospitals from performing sex-rejecting procedures on children under age 18 as a condition of participation in Medicare and Medicaid programs. Nearly all U.S. hospitals participate in Medicare and Medicaid and this action is designed to ensure that the U.S. government will not be in business with organizations that intentionally or unintentionally inflict permanent harm on children. CMS is proposing this rulemaking pursuant to its longstanding authority in sections 1861(e)(9), 1871, and 1905(a) of the Social Security Act, which authorize the agency to establish standards necessary to protect patient health and safety in Medicare- and Medicaid-participating hospitals.

CMS will release an additional notice of proposed rulemaking to prohibit federal Medicaid funding for sex-rejecting procedures on children under age 18. The same prohibition would apply to federal Children's Health Insurance Program (CHIP) funding for these procedures on individuals under age 19. Currently, 27 states do not provide Medicaid coverage of sex-rejecting procedures on children.

Sex-rejecting procedures on children — which include puberty blockers, cross-sex hormones, and surgical operations — cause irreversible damage, including infertility, impaired sexual function, diminished bone density, altered brain development, and other irreversible physiological effects.

Health and Human Services Secretary Robert F. Kennedy, Jr. today signed a declaration, based on an HHS peer-reviewed report, finding that these procedures do not meet professionally recognized standards of health care. Under the declaration, practitioners who perform sex-rejecting procedures on minors would be deemed out of compliance with those standards.

"Under my leadership, and answering President Trump's call to action, the federal government will do everything in its power to stop unsafe, irreversible practices that put our children at risk," **Secretary Kennedy said.** "This Administration will protect America's most vulnerable. Our children deserve better — and we are delivering on that promise."

"Children deserve our protection, not experimental interventions performed on them, that carry life-altering risks with no reliable evidence of benefit," **said CMS Administrator Dr. Mehmet Oz**. "This proposal seeks to clarify that hospitals participating in our programs cannot conduct these unproven procedures on children. CMS will ensure that federal program standards reflect our responsibility to promote the health and safety of children."

The U.S. Food and Drug Administration (FDA) is issuing warning letters to 12 manufacturers and retailers for illegal marketing of breast binders to children for the purposes of treating gender dysphoria. Breast binders are Class 1 medical devices used for purposes such as assistance in recovery from cancer-related mastectomy. The warning letters will formally notify the companies of their significant regulatory violations and how they should take prompt corrective action.

"Illegal marketing of these products for children is alarming, and the FDA will take further enforcement action such as import alerts, seizures, and injunctions if it continues," **said FDA Commissioner Marty Makary, M.D., M.P.H.**

HHS is also moving to reverse the Biden administration's attempt to include gender dysphoria within the definition of a disability. The Office for Civil Rights' newly proposed revision to Section 504 of the Rehabilitation Act of 1973 clarifies that the definitions of "disability" and "individual with a disability" exclude "gender dysphoria" not resulting from physical impairments. The rule would reassure recipients of HHS funding that policies preventing or limiting sex-rejecting procedures do not violate Section 504's disability nondiscrimination requirements.

"The Biden administration abused a law that was never intended to require health care providers or health programs to support transgender surgeries for minors," **said Health and Human Services Deputy Secretary Jim O'Neill**. "Our rule would restore regulatory clarity and ensure that organizations receiving federal funds can set evidence-based policies without fear of violating federal civil rights requirements."

Last month, HHS published *Treatment for Pediatric Gender Dysphoria: Review of Evidence and Best Practices*, its peer-reviewed study of the medical dangers posed to children from attempts to change their biological sex. According to claims data, nearly 14,000 minors received sex-rejecting procedures between 2019 and 2023.

Assistant Secretary for Health and Head of the United States Public Health Service Commissioned Corps Admiral Brian Christine, M.D., today signed a public health message to inform health care providers, families, and policymakers that current evidence does not support claims that puberty blockers, cross-sex hormones, and surgeries are safe and effective treatments for pediatric gender dysphoria. "Children's health and well-being guide our every move," **said ADM Christine**. "Evidence shows sex-rejecting puberty blockers, cross-sex hormones, and surgeries are dangerous. Providers have an obligation to offer care grounded in evidence and to avoid interventions that expose young people to a lifetime of harm."

###

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**UNITED STATES DISTRICT COURT**
**DISTRICT OF NEW HAMPSHIRE**

GINA GOE, individually and as parent and next friend of GRACE GOE; KARLA KOE, individually and as parent and next friend of KYLIE KOE; LAURA LOE, individually and as parent and next friend of LOGAN LOE; and MELISSA MOE, individually and as parent and next friend of MAYA MOE,

*Plaintiffs,*

v.

UNITED STATES DEPARTMENT OF HEALTH AND HUMAN SERVICES; ROBERT F. KENNEDY, JR., in his official capacity as Secretary of Health and Human Services; CENTERS FOR MEDICARE & MEDICAID SERVICES; and MEHMET OZ, in his official capacity as Administrator of CMS,

*Defendants.*

Civil Action No. 1:26-cv-803

**[PROPOSED] ORDER GRANTING PLAINTIFFS' MOTION FOR PRELIMINARY INJUNCTION**

The Court has considered Plaintiffs' Expedited Motion for Preliminary Injunction, the supporting memorandum and materials, and the record. The Court finds that Plaintiffs have demonstrated a strong likelihood of success on the merits and the possibility that Plaintiffs face immediate, irreparable harm from the Rule titled "Prohibition on Federal Medicaid and Children's Health Insurance Program Funding for Sex-Rejecting Procedures Furnished to Children," 91 Fed. Reg. 52,406–52,474 (Aug. 13, 2026) (to be codified at 42 C.F.R. §§ 441.800–441.802 and 42 C.F.R. § 457.476) (the "Rule"). Plaintiffs are entitled to injunctive relief as follows:

1. The Court finds that Plaintiffs have carried their burden of showing that (a) they face a possibility of irreparable injury; (b) they are likely to succeed on the merits; (c) the balance

of equities favors Plaintiffs; and (d) the public interest favors relief. Accordingly, this preliminary injunction is **GRANTED** pursuant to Federal Rule of Civil Procedure 65(a) and the Court's inherent equitable powers.

2. Pending final judgment in this action or further order of the Court, Defendants United States Department of Health and Human Services, Robert F. Kennedy, Jr., in his official capacity as Secretary of Health and Human Services, Centers for Medicare & Medicaid Services, and Mehmet Oz, in his official capacity as Administrator of CMS (collectively, "Defendants"), any subagencies of HHS, their officers, agents, successors, servants, employees, and attorneys, and any other persons who are in active concert or participation with them, as provided in Federal Rule of Civil Procedure 65(d)(2), are **ENJOINED** from implementing, enforcing, or applying the Rule, insofar as the Rule prohibits federal financial participation for puberty-suppressing medications or hormone therapy prescribed to Plaintiffs Grace Goe, Kylie Koe, Logan Loe, or Maya Moe to treat gender dysphoria.

3. This injunction is limited to the treatment and Plaintiffs identified in Paragraph 2. It does not enjoin or otherwise address the Rule's separate provisions concerning surgical procedures or its application to any person who is not a named Plaintiff.

4. Pursuant to Federal Rule of Civil Procedure 65(c), the Court waives security.

5. This Order is effective immediately and shall remain in effect pending final judgment in this action or further order of the Court.

**SO ORDERED**.

Dated: _____

_____
United States District Judge