

Care for Transgender Youth and Adults: Evidence Compilation Updated March 2024

A strong and well-established body of evidence, developed over decades, demonstrates that individualized and age-appropriate medical care for transgender people, including transgender youth, improves mental health and overall well-being. The positive effects of this care include decreases in depression, anxiety, and suicidal ideation, as well as improvements in quality of life and body satisfaction. These peer-reviewed research studies and systematic reviews have been published in well-respected journals such as the *New England Journal of Medicine*, *Journal of Adolescent Health*, *Pediatrics*, and *The Lancet*.

TOP RESEARCH STUDIES

- 1) Chen D, Berona J, Chan YM, Ehrensaft D, Garofalo R, Hidalgo MA, Rosenthal SM, Tishelman AC, & Olson-Kennedy J. [Psychosocial Functioning in Transgender Youth after 2 Years of Hormones](#). *New England Journal of Medicine*. 2023 Jan 19;388(3):240-250.

Summary: Gender-affirming hormone therapy (GAH) for transgender adolescents (8% had also had previous puberty-delay medications) improved appearance congruence (the feeling that their body matches their gender), positive affect, and life satisfaction. It also decreased depression and anxiety symptoms. These improvements were sustained over a period of 2 years and are consistent with those of other longitudinal studies involving transgender youth receiving GAH.

- 2) Nolan BJ, Zwickl S, Locke P, Zajac JD, & Cheung AS. Early Access to Testosterone Therapy in Transgender and Gender-Diverse Adults Seeking Masculinization: A Randomized Clinical Trial. *JAMA Network Open*. 2023;6(9):e2331919.

Summary: Transgender and gender diverse adults seeking testosterone therapy were randomly divided into two groups: those who started treatment right away and those who waited three months before initiation. Transgender individuals who had immediate access to hormone therapy saw significant decreases in gender dysphoria, depression, and suicidality compared to individuals who had to wait three months for treatment. Furthermore, among individuals experiencing suicidality at the start of the study, 52% of those with immediate treatment access reported their suicidality resolved, compared to only 5% of individuals who waited three months for treatment.

- 3) Tordoff DM, Wanta JW, Collin A, Stepney C, Inwards-Breland DJ, & Ahrens K. [Mental Health Outcomes in Transgender and Nonbinary Youths Receiving Gender-Affirming Care](#). *JAMA Network Open*. 2022;5(2):e220978.

Summary: Transgender and non-binary youth who were followed for one year had lower odds of depression and suicidality after receiving puberty delay medications and/or hormone therapy. Specifically, the study observed 60% lower odds of depression (adjusted odds ratio [aOR], 0.40; 95% CI, 0.17-0.95) and 73% lower odds of suicidality (aOR, 0.27; 95% CI, 0.11-0.65) among youths who had initiated puberty delay medications or hormone therapy compared with youths who had not.

- 4) Costa R, Dunsford M, Skagerberg E, Holt V, Carmichael P, & Colizzi M. [Psychological Support, Puberty Suppression, and Psychosocial Functioning in Adolescents with Gender Dysphoria](#). *Journal of Sexual Medicine*. 2015;12(11):2206-2214.

Summary: At baseline, adolescents with gender dysphoria (GD) showed poor functioning. GD adolescents' global functioning improved significantly after 6 months of psychological support ($p <$

0.001). GD adolescents also receiving puberty suppression had significantly better psychosocial functioning after 12 months of puberty delay medications, compared with when they had received only psychological support ($p = 0.001$).

- 5) Russell ST, Pollitt AM, Li G, & Grossman AH. [Chosen Name Use Is Linked to Reduced Depressive Symptoms, Suicidal Ideation, and Suicidal Behavior Among Transgender Youth](#). *Journal of Adolescent Health*. 2018;63(4):503-505.

Summary: Transgender youth who had a chosen name that they could use freely in different environments—such as home, school, work, and with friends—reported fewer symptoms of depression, less suicidal ideation, and less suicidal behavior. Specifically, an increase by one context in which a chosen name could be used predicted a 5.37-unit decrease in depressive symptoms, a 29% decrease in suicidal ideation, and a 56% decrease in suicidal behavior. Depressive symptoms, suicidal ideation, and suicidal behavior were at the lowest levels when chosen names could be used in all four contexts.

- 6) van der Miesen AIR, Steensma TD, de Vries ALC, Bos H, & Popma A. [Psychological Functioning in Transgender Adolescents Before and After Gender-Affirmative Care Compared with Cisgender General Population Peers](#). *Journal of Adolescent Health*. 2020 Jun;66(6):699-704.

Summary: Before medical treatment, transgender adolescents showed more internalizing problems and reported increased self-harm/suicidality and poorer peer relations compared with their age-equivalent peers. Transgender adolescents receiving puberty delay medications had fewer emotional and behavioral problems than the group that had just been referred to care and had similar or fewer problems than their same-age cisgender peers. Overall, transgender adolescents show poorer psychological well-being before treatment but show similar or better psychological functioning compared with cisgender peers from the general population after the start of specialized transgender care involving puberty suppression.

FULL RESEARCH COMPILATION

MENTAL HEALTH

Numerous research studies show that transgender young people are at risk for poorer mental health outcomes and that access to medically necessary care can improve mental health.

Achille C, Taggart T, Eaton NR, 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*.

- Transgender adolescents and young adults who received treatment for gender dysphoria reported improved mental health and quality of life.

Allen LR, Watson LB, Egan AM, & Moser CN. (2019). [Well-being and suicidality among transgender youth after gender-affirming hormones](#). *Clinical Practice in Pediatric Psychology*.

- Transgender youth who received hormone therapy saw a significant increase in overall well-being and a decrease in suicidality.

Boskey ER, Jolly D, Kant JD, & Ganor O (2023). [Prospective Evaluation of Psychosocial Changes After Chest Reconstruction in Transmasculine and Non-Binary Youth](#). *Journal of Adolescent Health*.

- Transgender individuals aged 15-35 who had chest surgery experienced improved gender and appearance congruence (the feeling that their body matches their gender) and reduced chest dysphoria.

Chelliah P, Lau M, Kuper LE. (2024). [Changes in Gender Dysphoria, Interpersonal Minority Stress, and Mental Health Among Transgender Youth After One Year of Hormone Therapy](#). *Journal of Adolescent Health*.

- After one year of receiving hormone therapy, transgender adolescents reported significant decreases in depression, anxiety, and body dissatisfaction, along with significant improvements in quality of life.

Chen D, Berona J, Chan Y-M, Ehrensaft D, et al. (2023). [Psychosocial Functioning in Transgender Youth after 2 Years of Hormones](#). *New England Journal of Medicine*.

- Treatment for transgender adolescents that included puberty delay medications improved appearance congruence (the feeling that their body matches their gender), positive affect, and life satisfaction, as well as decreasing depression and anxiety symptoms.

De Castro C, Solerdelcoll M, Teresa Plana M, Halperin I, et al. (2022). [High persistence in Spanish transgender minors: 18 years of experience of the Gender Identity Unit of Catalonia](#). *Revista de Psiquiatria y Salud Mental*.

- Among more than 100 minors seen at a gender identity clinic in Spain between 1999 to 2016, 97.6% persisted in their transgender identity after a median follow-up time of 2.6 years.

deVries ALC, Steensma TD, Doreleijers TAH, & Cohen-Kettenis PT. (2010). [Puberty suppression in adolescents with gender identity disorder: a prospective follow-up study](#). *Journal of Sexual Medicine*.

- Puberty delay medications for young transgender people (aged 12-16) were associated with a decrease in behavioral and emotional problems and depressive symptoms, and general functioning improved significantly.

deVries ALC, McGuire JK, Steensma TD, et al. (2014). [Young adult psychological outcome after puberty suppression and gender reassignment](#). *Pediatrics*.

- Treatment starting in adolescence resulted in alleviated gender dysphoria and improved psychological functioning.

Fontanari AMV, Vilanova F, Schneider MA, et al. (2020). [Gender Affirmation Is Associated with Transgender and Gender Nonbinary Youth Mental Health Improvement](#). *LGBT Health*.

- Treatment for transgender young people (aged 16-25) was linked to less anxiety and depression.

Grannis C, Leibowitz SF, Ghan S, et al. (2021). [Testosterone treatment, internalizing symptoms, and body image dissatisfaction in transgender boys](#). *Psychoneuroendocrinology*.

- Testosterone treatment for transgender adolescent boys was associated with a significant decrease in anxiety and depression, as well as greater body satisfaction.

Green AE, DeChants JP, Price MN, & Davis CK. (2022). [Association of Gender-Affirming Hormone Therapy with Depression, Thoughts of Suicide, and Attempted Suicide Among Transgender and Nonbinary Youth](#). *Journal of Adolescent Health*.

- Transgender youth who received hormone therapy had lower odds of depression and suicidal thoughts compared to youth who wanted this care but did not receive it.
- For youth under 18, hormone therapy was associated with 40% lower odds of attempting suicide.

Heylens G, Verroken C, De Cock S, T'Sjoen G, & De Cuypere G. (2014). [Effects of Different Steps in Gender Reassignment Therapy on Psychopathology: A Prospective Study of Persons with a Gender Identity Disorder](#). *Journal of Sexual Medicine*.

- Patients followed for more than three years saw significant decreases in psychological distress (including anxiety and depression) after receiving hormone therapy.
- Patients indicated they had a better mood and increased happiness after receiving treatment.

Hisle-Gorman E, Schvey NA, Adirim TAA, et al. (2021). [Mental Healthcare Utilization of Transgender Youth Before and After Affirming Treatment](#). *Journal of Sexual Medicine*.

- This study of nearly 4,000 transgender adolescents found that, compared to their cisgender siblings, trans and gender diverse adolescents used more mental healthcare services, namely for anxiety, suicidal ideation, and mood, personality, and psychotic disorders.
- This indicates that ongoing mental health support, in addition to necessary medical treatments, are key to supporting the well-being of transgender young people.

Kaltiala R, Heino E, Tyolajarvi M, & Suomalainen L. (2020). [Adolescent development and psychosocial functioning after starting cross-sex hormones for gender dysphoria](#). *Nordic Journal of Psychiatry*.

- Suicidality among adolescents with gender dysphoria who received hormone therapy decreased from 35% to 4% ($p < 0.0001$).

Kuper LE, Stewart S, Preston S, Lau M, & Lopez X. (2020). [Body Dissatisfaction and Mental Health Outcomes of Youth on Gender-Affirming Hormone Therapy](#). *Pediatrics*.

- Transgender adolescents experienced significant improvements in body dissatisfaction after receiving hormone therapy. Symptoms of depression and anxiety also decreased after receiving this care.

Lavender R, Shaw S, Maninger JK, et al. (2023). [Impact of Hormone Treatment on Psychosocial Functioning in Gender-Diverse Young People](#). *LGBT Health*.

- Transgender adolescents who received puberty delay medications followed by hormone therapy experienced significant reductions of gender dysphoria and improvements in social skills (e.g., engaging and interacting with others). They also reported reductions in self-harm and suicidality.
- Caregivers of transgender adolescents observed a significant decrease in depressive and anxious behaviors one year after the adolescent began hormone therapy treatment.

Lee MK, Yih Y, Willis DR, Fogel JM, Fortenberry JD. (2023). [The Impact of Gender-Affirming Medical Care During Adolescence on Adult Health Outcomes Among Transgender and Gender Diverse Individuals in the United States: The Role of State-Level Policy Stigma](#). *LGBT Health*.

- An analysis of survey data from more than 1,000 transgender people found that accessing medical care during adolescence significantly reduced severe psychological distress in adulthood.

Lelutiu-Weinberger C, English D, & Sandanapitchai S. (2020). [The Roles of Gender Affirmation and Discrimination in the Resilience of Transgender Individuals in the US](#). *Behavioral Medicine*.

- Transgender adults who were affirmed in their gender identity—including access to appropriate medical care—had lower odds of suicidal ideation and psychological distress.

Lopez de Lara D, Rodriguez OP, Flores IC, & Masa JLP. (2020). [Psychosocial assessment in transgender adolescents](#). *Anales de Pediatria*.

- Transgender adolescents who received hormone treatment saw significant improvement in emotional symptoms, including less anxiety, depression, and emotional distress.

Nolan BJ, Zwickl S, Locke P, Zajac JD, Cheung AS. [Early Access to Testosterone Therapy in Transgender and Gender-Diverse Adults Seeking Masculinization: A Randomized Clinical Trial](#). *JAMA Network Open*.

- In this randomized controlled trial of transgender and gender diverse adults seeking testosterone therapy, those who had immediate access to hormone therapy saw significant decreases in gender dysphoria, depression, and suicidality compared to individuals who had to wait three months for treatment.

Olsavsky AL, Grannis C, Bricker J, et al. (2023). [Associations Among Gender-Affirming Hormonal Interventions, Social Support, and Transgender Adolescents' Mental Health](#). *Journal of Adolescent Health*.

- Among transgender and nonbinary adolescents, hormone therapy was associated with fewer anxiety symptoms; family support was associated with fewer depressive symptoms and nonsuicidal self-injury; and friend support was associated with fewer anxiety symptoms and less suicidality.

Tordoff DM, Wanta JW, Collin A, et al. (2022). [Mental Health Outcomes in Transgender and Nonbinary Youths Receiving Gender-Affirming Care](#). *JAMA Network Open*.

- Transgender and nonbinary youth who were followed for one year had lower odds of depression and suicidality after receiving treatment that included puberty delay medications or hormone therapy.

Turban JL, King D, Carswell JM, & Keuroghlian AS. (2020). [Pubertal Suppression for Transgender Youth and Risk of Suicidal Ideation](#). *Pediatrics*.

- In survey data from more than 20,000 transgender adults, those who received puberty delay medications had significantly lower odds of lifetime suicidal ideation when compared to transgender adults who wanted this treatment but were unable to obtain it.

Turban JL, King D, Kobe J, Reisner SL, & Keuroghlian AS. (2022). [Access to gender-affirming hormones during adolescence and mental health outcomes among transgender adults](#). *PloS One*.

- Analyzing data from more than 20,000 transgender adults, the study found that access to hormone therapy during adolescence was associated with lower odds of suicidal ideation in the past year compared to accessing hormone therapy during adulthood.

Van der Miesen AIR, Steensma TD, de Vries ALC, Bos H, & Popma A. (2020). [Psychological functioning in transgender adolescents before and after gender-affirmative care compared with cisgender general population peers](#). *Journal of Adolescent Health*.

- Transgender adolescents who received puberty delay medications had fewer emotional and behavioral problems than their transgender peers who didn't receive appropriate medical treatment.

SOCIAL SUPPORT

Numerous studies show that social support (e.g., allowing a young person to use their chosen name and pronouns) improves a range of health outcomes for transgender young people.

Belmont N, Cronin TJ, Pepping CA. (2023). [Affirmation-support, parental conflict, and mental health outcomes of transgender and gender diverse youth](#). *International Journal of Transgender Health*.

- In a study with transgender youth ages 11-17, affirming support from parents predicted fewer depressive symptoms. This included having parents that affirmed their gender identity socially, legally, and medically.
- Parents also cited laws as frequently delaying or controlling desired medical affirmation for their child.

Campbell T, Mann S, van der Meulen Rodgers Y, & Tran N. (2023). [Family Matters: Gender Affirmation and the Mental Health of Transgender Youth](#). *Social Science Research Network*.

- Unsupportive families are associated with a higher risk of suicide attempts and running away from home among transgender young people, whereas supportive family environments mitigate, and in some cases virtually eliminate, these risks.

Costa R, Dunsford M, Skagerberg E, et al. (2015). [Psychological Support, Puberty Suppression, and Psychosocial Functioning in Adolescents with Gender Dysphoria](#). *Journal of Sexual Medicine*.

- Adolescents with gender dysphoria showed significant improvements in psychosocial functioning after receiving psychological support from their families, doctors, and/or therapists.
- Adolescents experienced even further improvements in psychosocial functioning after receiving puberty delay medications.

Fontanari AMV, Vilanova F, Schneider MA, et al. (2020). [Gender Affirmation Is Associated with Transgender and Gender Nonbinary Youth Mental Health Improvement](#). *LGBT Health*.

- Transgender young people (aged 16-25) whose parents used their chosen name had fewer depression symptoms and less anxiety.
- Transgender young people who could not express their true gender had more anxiety and symptoms of depression.

Gupta P, Barrera E, Boskey ER, Kremen J, & Roberts SA (2023). [Exploring the Impact of Legislation Aiming to Ban Gender-Affirming Care on Pediatric Endocrine Providers: A Mixed-Methods Analysis](#). *Journal of the Endocrine Society*.

- A survey of more than 100 pediatric endocrinologists providing care to transgender people found that nearly 60% were concerned about the risk of legal action/medical liability related to their practice.
- More than 25% of providers in states with a medical care ban expressed concerns for their personal safety in the work and/or home settings because of the gender-affirming care they provide.

Kuper LE, Adams N, & Mustanski BS. (2018). [Exploring Cross-Sectional Predictors of Suicide Ideation, Attempt, and Risk in a Large Online Sample of Transgender and Gender Nonconforming Youth and Young Adults](#). *LGBT Health*.

- Friend and family support was associated with decreased suicide attempts and suicidal ideation among transgender youth and young adults (aged 14-30).

Olson KR, Durwood L, DeMeules M, & McLaughlin KA. (2016). [Mental Health of Transgender Children Who Are Supported in Their Identities](#). *Pediatrics*.

- Transgender children who were socially supported—including being able to express their gender identity in public and use their chosen pronouns—had mental health outcomes similar to their peers.

Olson KR, Durwood L, Horton R, et al. (2022). [Gender identity 5 years after transition](#). *Pediatrics*.

- 97.5% of transgender youth who were socially supported at early ages (median age: 8.1 years) continued to identify as transgender after 5 years.

Pariseau EM, Chevalier L, Long KA, et al. (2019). [The relationship between family acceptance-rejection and transgender youth psychosocial functioning](#). *Clinical Practice in Pediatric Psychology*.

- Low acceptance of transgender youths' gender identity from their primary caregivers was associated with increased depressive and anxiety symptoms.
- Lower sibling acceptance of gender identity predicted increased suicidal ideation among transgender youth.

Russell ST, Pollitt AM, Li G, & Grossman AH. (2018). [Chosen Name Use is Linked to Reduced Depressive Symptoms, Suicidal Ideation and Behavior among Transgender Youth](#). *Journal of Adolescent Health*.

- Transgender youth who had a chosen name that they could use freely in different environments—such as home, school, work, and with friends—reported fewer symptoms of depression, less suicidal ideation, and less suicidal behavior.

Simons L, Schrager SM, Clark LF, Belzer M, Olson J (2013). [Parental support and mental health among transgender adolescents](#). *Journal of Adolescent Health*.

- In a study of 66 transgender youth and young adults (aged 12-24), parental support was significantly associated with higher life satisfaction and fewer depressive symptoms.

STUDIES REBUTTING DISINFORMATION

This section highlights research that rebuts common myths and disinformation about gender identity and transgender medical care for youth, such as myths of social contagion, impact on bone density, and persistence of gender dysphoria.

Bauer GR, Lawson ML, Metzger DL; Trans Youth CAN! Research Team. (2022). [Do Clinical Data from Transgender Adolescents Support the Phenomenon of “Rapid Onset Gender Dysphoria”?](#) *Journal of Pediatrics*.

- A study of more than 150 transgender adolescents looked at whether those with more recent knowledge of their gender experienced different outcomes compared to adolescents who had known about their gender for longer. They found that more recent gender knowledge was not associated with symptoms of depression, psychological distress, neurodevelopmental disorders, self-harm, or symptoms of gender dysphoria.
- The study concluded that there is no empirical support for the concept of “rapid onset gender dysphoria.”

Carmichael P, Butler G, Masic U, et al. (2021). [Short-term outcomes of pubertal suppression in a selected cohort of 12- to 15-year-old young people with persistent gender dysphoria in the UK](#). *PloS One*.

- A study that followed 12–15-year-olds with persistent and severe gender dysphoria who received puberty delay medications found no change in baseline in spine bone mineral density nor hip bone mineral density.
- No changes in psychological function were identified. Overall patient experiences of treatment on puberty delay medications were positive.

Gupta P, Patterson BC, Chu L et al. (2023). [Adherence to Gender Affirming Hormone Therapy in Transgender Adolescents and Adults: A Retrospective Cohort Study](#). *The Journal of Clinical Endocrinology and Metabolism*.

- Analyzed data from transgender youth (aged 12+) who initiated gender-affirming hormone therapy from 2000-2019. Of the 385 youth in the study, a little less than one-third started hormone therapy before their 18th birthday.
- Only six participants (1.6%) ultimately discontinued gender-affirming hormone therapy, and at least two patients later resumed receiving care. Reasons for discontinuing hormone therapy included financial barriers, bullying by peers, and experiencing a change in their gender identity.
- Only two patients permanently discontinued receiving hormone therapy, but reported not regretting initiating care because they found it was an important part of understanding their gender identity.

Staphorsius AS, Kreukels BP, Cohen-Kettenis PT, et al. (2015). [Puberty suppression and executive functioning: An fMRI-study in adolescents with gender dysphoria](#). *Psychoneuroendocrinology*.

- Adolescents with gender dysphoria taking puberty delay medications showed no difference in executive brain function compared to adolescents with gender dysphoria who did not take puberty delay medications.

Turban JL, Dolotina B, Freitag TM, King D, Keuroghlian AS (2023). [Age of Realization and Disclosure of Gender Identity Among Transgender Adults](#). *Journal of Adolescent Health*.

- Analyzed data from nearly 27,500 transgender adults who completed the 2015 US Transgender Survey and found that 40.8% reported they realized their gender identity later in life (i.e., 11 years or older).
- Among participants who realized their gender identity in childhood (10 years or younger), the median age at which they first told someone about their gender identity was 22 years old.

van der Loos MATC, Hannema SA, Klink DT, et al. (2022). [Continuation of gender-affirming hormones in transgender people starting puberty suppression in adolescence: a cohort study in the Netherlands](#). *The Lancet Child & Adolescent Health*.

- In a study that followed more than 700 transgender young people in the Netherlands, 98% of those who started medical treatment in adolescence (specifically, puberty delay medications followed by hormone therapy) continued this treatment into adulthood.

van der Loos MATC, Vlot MC, Klink DT, Hannema SE, den Heijer M, Wiepjes CM. (2023). [Bone Mineral Density in Transgender Adolescents Treated with Puberty Suppression and Subsequent Gender-Affirming Hormones](#). *JAMA Pediatrics*.

- In a study of 75 transgender people who received puberty delay medications and hormone therapy, it was found that after 15 years of hormone use, bone density levels returned to pre-treatment (baseline) levels.

QUALITATIVE STUDIES

The studies in this section conducted interviews with transgender adolescents and parents to capture their experiences with providers and the health care system. This section also includes studies that interviewed health care providers and captured their experiences since the rise of anti-trans legislation.

Eisenberg ME, McMorris BJ, Rider GN, et al. (2020). [“It’s kind of hard to go to the doctor’s office if you’re hated there.” A call for gender-affirming care from transgender and gender diverse adolescents in the United States](#). *Health and Social Care in the Community*.

- Transgender adolescents raised the importance of providers asking about their gender and pronouns to show caring and respect.

Goetz TG & Arcomano AC (2023). [“Coming Home to My Body”: A Qualitative Exploration of Gender-Affirming Care-Seeking and Mental Health](#). *Journal of Gay and Lesbian Mental Health*.

- Transgender adults described their desire for, and importance of, accessing care to alleviate their gender dysphoria and be recognized by society as the gender they know themselves to be. Accessing this care improved their mental health, and for many helped them recover from previous eating disorders.
- Several barriers prevent transgender adults from accessing the care they wanted, including (1) high financial costs for care and inadequate insurance coverage; (2) logistical barriers (i.e., lack of local providers, inability to take time off work); (3) personal fears about suboptimal outcomes; and (4) fears of societal discrimination, such as family rejection and job loss.

Gridley SJ, Crouch JM, Evans Y, et al. (2016). [Youth and Caregiver Perspectives on Barriers to Gender-Affirming Health Care for Transgender Youth](#). *Journal of Adolescent Health*.

- Transgender youth and caregivers described barriers in accessing medically necessary care, including (1) few accessible pediatric providers are trained in transgender care; (2) lack of consistently applied protocols; (3) inconsistent use of chosen name/pronoun; (4) uncoordinated care and gatekeeping; (5) limited/delayed access to pubertal blockers and hormone therapy; and (6) insurance exclusions.

Guss CE, Woolverton GA, Borus J, et al. (2019). [Transgender Adolescents' Experiences in Primary Care: A Qualitative Study](#). *Journal of Adolescent Health*.

- Transgender adolescents and young adults described affirming care as having providers who correctly used their chosen name, respected them, took them seriously, and treated them “like a normal person.”

Hughes LD, Gamarel KE, Restar AJ, et al. (2023). [Adolescent Providers' Experiences of Harassment Related to Delivering Gender-Affirming Care](#). *Journal of Adolescent Health*.

- In a survey of more than 100 medical and mental healthcare providers across the U.S., 70% shared that they, their practice, or their institution had received threats for delivering care to transgender patients.
- Providers described the impact of this targeted harassment on their physiological well-being and on their ability to deliver care to their patients.

Kidd KM, Sequeira GM, Katz-Wise SL et al. (2023). [“Difficult to Find, Stressful to Navigate”: Parents' Experiences Accessing Affirming Care for Gender-Diverse Youth](#). *LGBT Health*.

- Surveyed 277 parents of gender diverse youth, nearly all of whom described the positive impact of transgender medical care on their child's mental health.
- On experiences accessing care, some had to travel far distances to a clinic and experienced long wait times (e.g., 8 months). Many parents expressed relief in finding a gender-affirming care provider. “We felt like we were drowning, and the immediate support and medical care helped us catch our breath. – Mother of a transgender son from Ohio
- Parents said that some providers threatened to report them to child protective services. Others had positive experiences with healthcare providers who created a safe and respectful space and worked closely with both the parents and the child.

Roden RC, Billman M, Francesco A, et al. (2023). [Treatment Goals of Adolescents and Young Adults for Gender Dysphoria](#). *Pediatrics*.

- In a study of 176 transgender adolescents and young adults, the majority expressed interest in starting hormone therapy. A smaller percentage expressed interest in eventual surgery, and most of the participants with surgery did not want genital surgery.

Vrouenraets LJJ, de Vries MC, Hein IM, et al. (2021). [Perceptions on the function of puberty suppression of transgender adolescents who continued or discontinued treatment, their parents, and clinicians](#). *International Journal of Transgender Health*.

- Clinicians described how almost all transgender adolescents suffer from (the anticipation of) the development of secondary sex characteristics that come with puberty. Most clinicians are aware that delaying or avoiding development of those changes through puberty delay medications would help reduce this suffering.

- Parents, clinicians, and adolescents stated that puberty delay medications give them time to think about whether they want to pursue next steps in medical care without worrying about irreversible changes.

REVIEWS

The studies in this section reviewed large numbers of research studies to draw overall conclusions about the established body of literature that demonstrates the benefits of this care for transgender people.

Bustos VP, Bustos SS, Mascaro A, et al. (2021). [Regret after Gender-affirmation Surgery: A Systematic Review and Meta-analysis of Prevalence](#). *Plastic and Reconstructive Surgery: Global Open*.

- A systematic review of 27 studies, pooling 7,928 transgender patients who underwent any type of surgery to treat gender dysphoria, found that the pooled prevalence of regret after these surgeries was 1%.

Connolly MD, Zervos MJ, Barone CJ, et al. (2016). [The Mental Health of Transgender Youth: Advances in Understanding](#). *Journal of Adolescent Health*.

- A review of 15 articles published since 2011 found that transgender youth have higher rates of depression, suicidality and self-harm, and eating disorders when compared with their peers.
- Appropriate care and social support in childhood was associated with improved psychological functioning for gender-variant children and adolescents.

Goodrich E, Walcott Q, Dallman J, Crow H, & Templeton K. (2023). [Bone Health in the Transgender Population](#). *JBJS Reviews*.

- A review of the scientific literature found that transgender youth who receive puberty delay medications experience either no change or a slight decrease in bone mineral density, and bone mineral density returns to baseline after starting hormone therapy.

King WM & Gamarel KE. (2021). [A Scoping Review Examining Social and Legal Gender Affirmation and Health Among Transgender Populations](#). *Transgender Health*.

- A review of 24 studies on social affirmation (e.g., family support) and legal affirmation (e.g., name or gender marker change) found positive relationships with several health outcomes. This included findings that social and legal affirmation was associated with fewer reports of depression, anxiety, PTSD, and psychological distress.

Mahfouda S, Moore JK, Siafarikas A, et al. (2017). [Puberty suppression in transgender children and adolescents](#). *Lancet Diabetes & Endocrinology*.

- A review of the literature on the impact of puberty delay medications on transgender youth notes that psychiatric disorders have been shown to decrease in intensity after receipt of medical interventions. Studies have found significant reductions in depression and improvements in overall functioning.
- Notably, after receiving treatment for gender dysphoria, transgender youth become similar to their same-age non-transgender peers in quality of life, life satisfaction, and happiness.

Maung, H.H. (2024). [Gender Affirming Hormone Treatment for Trans Adolescents: A Four Principles Analysis](#). *Bioethical Inquiry*.

- This analysis of the four principles of biomedical ethics and the body of research on gender-affirming care concludes that the provision of gender-affirming hormone therapy for transgender adolescents is ethically required and that restricting this care is ethically wrong. The analysis describes the

literature as it pertains to 1) beneficence – the obligation to bring benefit to the person; 2) nonmaleficence – the obligation to avoid harm to the person; 3) autonomy – the obligation to respect the person’s right to self-determination; and 4) justice – the obligation to provide just treatment for the person.

National Academies of Sciences, Engineering, and Medicine. 2023. [Supporting the Health and Well-Being of Transgender and Gender Diverse Youth: Proceedings of a Workshop in Brief](#). Washington, DC: National Academies Press.

- In a workshop featuring physicians, transgender youth, and their parents, it was noted the evidence-based guidelines for care set forth by organizations such as the American Academy of Pediatrics, The Endocrine Society, the American Society for Reproductive Medicine, and the World Professional Association for Transgender Health indicate that medical care alleviates gender dysphoria in a way that mental health care alone cannot address.

Ramos GGF, Mengai ACS, Daltro CAT, et al. (2021). [Systematic Review: Puberty suppression with GnRH analogues in adolescents with gender incongruity](#). *Journal of Endocrinological Investigation*.

- A review of 11 studies found that the use of puberty delay medications improved mental health in transgender adolescents.

Swan J, Phillips T, Sanders T, et al. (2022). [Mental health and quality of life outcomes of gender-affirming surgery: A systematic literature review](#). *Journal of Gay & Lesbian Mental Health*.

- A review of 53 studies found reduced rates of suicide attempts, anxiety, and depression among transgender adults after surgery to treat gender dysphoria.
- Findings also indicate higher levels of life satisfaction, happiness, and quality of life after surgery to treat gender dysphoria.

OTHER HEALTH OUTCOMES

This section contains research that looked at the impact of care on other health outcomes and utilization of health services, including for transgender adults.

Andrzejewski J, Dunville R, Johns MM, et al. (2018). [Medical Gender Affirmation and HIV and Sexually Transmitted Disease Prevention in Transgender Youth: Results from the Survey of Today's Adolescent Relationships and Transitions, 2018](#). *LGBT Health*.

- Transgender youth who could access treatment that included puberty delay medications or hormone therapy were more likely to have gotten tested for sexually transmitted diseases (STDs) and have heard about PrEP.
- Uptake and awareness of sexual health services is particularly important for transgender youth who are at disproportionately high risk for HIV and STDs.

Bruce L, Khouri AN, Bolze A, et al. (2023). [Long-Term Regret and Satisfaction with Decision Following Gender-Affirming Mastectomy](#). *JAMA*.

- In this cross-sectional study of 139 transgender survey respondents who underwent mastectomy in the past 30 years, the median satisfaction score was 5 on a 5-point scale, with higher scores indicating higher satisfaction. The median decisional regret score was 0 on a 100-point scale, with lower scores indicating lower levels of regret.
- Additional commentary in JAMA: [Low Rate of Regret After Gender-Affirming Mastectomy Highlights a Double Standard](#)

Falck F, Bränström R. (2023). [The significance of structural stigma towards transgender people in health care encounters across Europe: Health care access, gender identity disclosure, and discrimination in health care as a function of national legislation and public attitudes.](#) *BMC Public Health*.

- This study analyzed survey data from more than 6,500 transgender individuals across the 27 European Union (EU) member states. In countries with more discriminatory laws against transgender people (e.g., requiring medical or surgical interventions to change one's legal gender), transgender people were about 25% less likely to seek necessary medical care compared to countries with more inclusive laws and policies.

Goldenberg T, Jadwin-Cakmak L, Popoff E, et al. (2019). [Stigma, gender affirmation, and primary healthcare use among black transgender youth.](#) *Journal of Adolescent Health*.

- Black transgender youth (ages 16-24) who were not affirmed in the doctor's office delayed or chose not to seek out health care. Affirmation included the use of the person's pronouns in the doctor's office and the ability of their doctor to provide resources that affirmed their gender identity.

Hung YC, Park BC, Assi PE, et al. (2023). [Multidimensional Assessment of Patient-Reported Outcomes After Gender-Affirming Surgeries Using a Validated Instrument.](#) *Annals of Plastic Surgery*.

- A study of more than 200 transgender and gender diverse patients who had surgery to treat gender dysphoria (average age 31.8 years) found that surgery sustainably improved patients' self-reported health, including gender dysphoria.

Jedrzejewski BY, Marsiglio MC, Guerriero J, et al. (2023). [Regret after Gender-Affirming Surgery: A Multidisciplinary Approach to a Multifaceted Patient Experience.](#) *Plastic Reconstructive Surgery*.

- In a review of nearly 2,000 individuals who had surgery to treat gender dysphoria between 2016-2021, only 0.3% requested the surgery be reversed or transitioned back to their sex assigned at birth. This rate of regret is consistent with other evidence-based findings.

Kilmer LH, Chou J, Campbell CA, DeGeorge BR, Stranix JT (2024). [Gender-Affirming Surgery Improves Mental Health Outcomes and Decreases Anti-Depressant Use in Patients with Gender Dysphoria.](#) *Plastic and Reconstructive Surgery*.

- In a study of more than 3,000 adults with gender dysphoria who obtained gender-affirming surgery, there were significant decreases in depression, anxiety, suicidal ideation and suicide attempts within 10 years after surgery as compared to pre-surgery.

Lelutiu-Weinberger C, English D, & Sandanapitchai S. (2020). [The Roles of Gender Affirmation and Discrimination in the Resilience of Transgender Individuals in the US.](#) *Behavioral Medicine*.

- Transgender adults who were affirmed in their gender identity—including access to medical care—were more likely to have sought out healthcare in the past year and reported better overall health.

Narayan SK, Hontscharuk R, Danker S, et al. (2021) [Guiding the conversation-types of regret after gender-affirming surgery and their associated etiologies.](#) *Annals of Translational Medicine*.

- In a survey of surgeons who had collectively treated approximately 18,000-27,000 transgender patients over their careers, they reported only 62 patients expressed regret for their surgery, which is a regret rate of 0.2-0.3%.
- The reasons why patients regretted surgery included being misdiagnosed or changing their gender identity (42%), being rejected or alienated from their family and social circles (15%), and difficulty in their romantic relationships (11%).

Olson-Kennedy J, Warus J, Okonta V, Belzer M, & Clark LF. (2018). [Chest Reconstruction and Chest Dysphoria in Transmasculine Minors and Young Adults: Comparisons of Nonsurgical and Postsurgical Cohorts.](#) *JAMA Pediatrics*.

- Among transgender adolescents and young adults, those who had not undergone chest surgery reported significantly higher levels of chest dysphoria. Additionally, self-reported regret was near zero.

Price MA, Hollinsaid NL, McKetta S, et al. (2023). [Structural transphobia is associated with psychological distress and suicidality in a large national sample of transgender adults](#). *Social psychiatry and psychiatric epidemiology*.

- Using data from more than 27,000 transgender adults, the researchers found that those in US states with more structural transphobia (i.e., anti-trans laws/policies and transphobic attitudes) reported more severe psychological distress and were more likely to have experienced suicidal ideation in the past year.

Anti-Transgender Policies and Politics

The research in this section details the negative impacts of anti-transgender policies (e.g., conversion therapy), politics, and rhetoric on the well-being of transgender youth.

Borah L, Zebib L, Sanders HM, Lane M, Stroumsa D, Chung KC (2023). State Restrictions and Geographic Access to Gender-Affirming Care for Transgender Youth. *JAMA*

- Analyzed drive times to the nearest gender-affirming care clinic under optimal conditions (i.e., no traffic) compared to state bans on care. Only 1.4% of trans youth lived more than a 1-day drive from a clinic before state bans took effect, compared to 25.3% of trans youth once state restrictions were enacted.

Campbell T & van der Meulen Rodgers Y. (2023). [Conversion therapy, suicidality, and running away: An analysis of transgender youth in the U.S.](#) *Journal of Health Economics*.

- Analyzed data from the 2015 U.S. Transgender Survey and found that exposure to conversion therapy substantially increased the likelihood a transgender adolescent would attempt suicide (55% increase in risk) and run away (more than double the risk).
- These effects were largest when exposure to conversion therapy happened between 11-14 years of age.

Dhanani LY & Totton RR (2023). [Have You Heard the News? The Effects of Exposure to News About Recent Transgender Legislation on Transgender Youth and Young Adults](#). *Sexuality Research and Social Policy*.

- This study examined the implications of consuming news related to proposed bans on medically necessary care for transgender people. Consuming more news related to anti-transgender legislation was associated with more persistent or unwanted thoughts and poorer physical health symptoms among transgender youth and adolescents.

Hughes LD, Kidd KM, Gamarel KE, et al. (2021). [“These Laws Will Be Devastating”: Provider Perspectives on Legislation Banning Gender-Affirming Care for Transgender Adolescents](#). *Journal of Adolescent Health*.

- In a survey of more than 100 physicians, nurse practitioners, and physician’s assistants across the country, it was widely agreed that anti-transgender laws would have an adverse effect on the mental health of transgender youth and would worsen discrimination and societal exclusion.
- Providers described anti-transgender laws as unnecessary political influence in medical care and noted that this legislation goes against science and evidence-based practice.

Hughto JMW, Meyers DJ, Mimiaga MJ, et al. (2021). [Uncertainty and Confusion Regarding Transgender Non-discrimination Policies: Implications for the Mental Health of Transgender Adults](#). *Sexuality and Social Policy*.

- Transgender adults who were concerned about the enactment of state-level, anti-transgender policies had greater odds of depression, anxiety, and PTSD.

Kidd KM, Sequeira GM, Paglisotti T, et al. (2021). [“This Could Mean Death for My Child”: Parent Perspectives on Laws Banning Gender-Affirming Care for Transgender Adolescents.](#) *Journal of Adolescent Health.*

- More than 250 parents of transgender and gender diverse youth expressed fear that the proposed anti-transgender laws would worsen their child’s mental health, including increased depression, anxiety, and suicidal ideation.
- Parents emphasized that bans on medically necessary care are government overreach into private medical decisions.

McNamara M, Sequeira GM, Hughes L, Goepferd AK, & Kidd K (2023). [Bans on Gender-Affirming Healthcare: The Adolescent Medicine Provider's Dilemma.](#) *Journal of Adolescent Health.*

- Approximately 45% of board-certified adolescent medicine providers practice in the jurisdiction of a proposed or enacted ban on treatment for gender dysphoria. This piece speaks to the need for supported public engagement, linkage of clinical services across state borders, institutional backing, and medical society advocacy to protect access to this care.

Paceley MS, Dikitsas ZA, Greenwood E, et al. (2021). [The Perceived Health Implications of Policies and Rhetoric Targeting Transgender and Gender Diverse Youth: A Community-Based Qualitative Study.](#) *Transgender Health.*

- Transmasculine and nonbinary youth described how anti-trans policies had negative impacts on their mental health, including depression, suicidality, and fear. They also expressed the structural impacts of these policies, including impacts on their personal safety and fear of losing access to health care.

White BP, Abuelezam NN, Fontenot HB, & Jurgens CY. (2022). [Exploring Relationships Between State-Level LGBTQ Inclusivity and BRFSS Indicators of Mental Health and Risk Behaviors: A Secondary Analysis.](#) *Journal of the American Psychiatric Nurses Association.*

- Using HRC’s State Equality Index measure, researchers found that LGBTQ youth in states with low LGBTQ inclusivity had higher odds of reporting their health as fair or poor and as experiencing poor mental health days.

DETRANSITION

This section highlights research on individuals who decided to discontinue their gender transition (often referred to as detransitioners).

Cavve BS, Bickendorf X, Ball J, et al. (2024). [Reidentification With Birth-Registered Sex in a Western Australian Pediatric Gender Clinic Cohort.](#) *JAMA Pediatrics.*

- In a study of nearly 550 youth who were referred to a pediatric gender clinic between 2014-2020, only two patients reidentified with their sex assigned at birth (i.e., no longer identified as transgender) after starting puberty delay medications. This represented 1.2% of all patients in the study who had ever initiated puberty suppression.

MacKinnon KR, Gould WR, Enxuga G, et al. (2023). [Exploring the gender care experiences and perspectives of individuals who discontinued their transition or detransitioned in Canada.](#) *PlosOne*

- In this study of 28 individuals who detransitioned, the majority of participants felt that medical interventions for transitioning were the right choice for them at the time and reported positive

feelings about their gender transition. A majority also expressed support in autonomy to make healthcare decisions and an individualized approach to care.

- Of note, 60% of individuals in the study shifted from a binary transgender identity at the time of initiating their transition to a nonbinary identity as they continue to explore their gender.

Pullen Sansfaçon A, Gravel É, Gelly M, et. Al. (2024). [A retrospective analysis of the gender trajectories of youth who have discontinued a transition](#). *International Journal of Transgender Health*.

- This was a study of 20 young people (aged 16-25) who discontinued their transition (socially, medically, and/or legally). Of these participants, 12 had undergone hormone therapy and only one participant decided to discontinue using this treatment.
- Participants discussed shifts in their views on gender, with many deciding to adopt other labels to describe their gender, such as agender, nonbinary, fluid, or not defining themselves with any one label.
- During transition, most participants mentioned feeling better in their bodies and/or experiencing less gender dysphoria.

EXPERIENCES OF TRANSGENDER YOUTH

Herrmann L, Bindt C, Hohmann S, Becker-Hebly I (2023). [Social media use and experiences among transgender and gender diverse adolescents](#). *International Journal of Transgender Health*.

- Compared to adolescents in the general population, transgender adolescents spent similar amounts of time online and slightly less time on social media. Most of the time they spent online was for listening to music, watching movies/series, and communicating with friends.
- For transgender adolescents, their experience of gender was most influenced by puberty and distress around their body.

Tsai MV, Kuper LE, Lau M. (2024). [Transgender Youth Readiness for Health Care Transition: A Survey of Youth, Parents, and Providers](#). *Transgender Health*.

- In a study of transgender youth, their parents, and their healthcare providers, all three had similar ratings of the young person's knowledge of gender-affirming care across a range of skills, including knowing and explaining their medical needs, knowing the name and dosage of their treatment, and knowing the long-term plan for hormone therapy.

CLINICAL GUIDELINES

The evidence-based clinical guidelines and standards of care that guide support and medical care for transgender people are detailed below.

Coleman E, Radix AE, Bouman WP, et al. (2022). [Standards of Care for the Health of Transgender and Gender Diverse People, Version 8](#). *International Journal of Transgender Health*.

Hembree WC, Cohen-Kettenis PT, Gooren L, et al. (2017). [Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline](#). *Journal of Clinical Endocrinology and Metabolism*.

Rafferty J, Committee on Psychosocial Aspects of Child and Family Health, Committee on Adolescence, et al. (2018). [Ensuring Comprehensive Care and Support for Transgender and Gender-Diverse Children and Adolescents \(American Academy of Pediatrics Policy Statement\)](#). *Pediatrics*.

UCSF Gender Affirming Health Program, Department of Family and Community Medicine, University of California San Francisco. [Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People; 2nd edition](#). Deutsch MB, ed. June 2016.