



Addendum to *Impact of Puberty Blockers in Gender- Dysphoric Adolescents: An evidence brief*

2024

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Introduction

This addendum provides an update on *Impact of Puberty Blockers in Gender-Dysphoric Adolescents: An evidence brief* (evidence brief). The initial evidence brief, which the Ministry of Health – Manatū Hauora (the Ministry) undertook, included publications up to 30 September 2023. From October 2023 to May 2024, an additional 160 articles and reports, including the final Cass Report, have been published. These publications have been screened, and those considered eligible have been included in this addendum. The addendum should be read in conjunction with the evidence brief.

The medical management of gender dysphoria

Epidemiology

One new study on the epidemiology of adolescents with gender dysphoria was identified. It focused on age of onset of gender dysphoria and referral for assessment (Gutiérrez et al 2024).

Age of onset of gender dysphoria and referral for assessment

The observational retrospective study from Colombia, published in 2024 (Gutiérrez et al., 2024), used ICD-10 codes for gender incongruence recorded in electronic medical records to identify patients under the age of 18 years who received gender-affirming care at a specialist clinic (Gutiérrez et al 2024). Between 2018 and 2022, 43 participants were identified (58% assigned female at birth (AFAB) and 42% assigned male at birth (AMAB)) as being gender incongruent. The median age of onset of gender incongruence was 10 years (interquartile range (IQR): 5–13 years) for the entire cohort, 11 years (IQR: 6–13 years) for individuals AFAB, and 5 years (IQR: 4–13) for individuals AMAB. At the first consultation, 88% of individuals AFAB had reached Tanner stage V, while 28% of individuals AMAB had reached Tanner stage V. The time between onset of gender incongruence and first assessment at the gender identity service (GIS) was 3 years (IQR: 1–10 years). This study was deemed to be of high quality. Table 1 in the Supplementary Material provides details about the included study.

This study does not change the conclusions in the evidence brief.

Population prevalence of gender dysphoria

No new studies were identified.

Proportion of people with gender dysphoria assigned male or female at birth

No new studies were identified.

Physical health

Six new studies examining physical health of gender-dysphoric adolescents receiving gonadotropin-releasing hormone analogue (GnRHa) treatment were identified.¹ Of these, four reported on body composition² (Boogers et al 2023; Fisher et al 2023; Perl et al 2021; Roy et al 2024), two on bone density (Roy et al 2024; van der Loos et al 2023), two on blood pressure (Fisher et al 2023; Perl et al 2021), one on rate-corrected QT (QTc) interval (Waldner et al 2023) and one on laboratory parameters (Fisher et al 2023). These studies varied in quality: three were considered to be of good quality (Boogers et al 2023; Perl et al 2021; van der Loos et al 2023) and the other three (Fisher et al 2023; Roy et al 2024; Waldner et al 2023) of poor quality. Table 1 in the **Supplementary Material** provides details about the included studies.

None of these studies changes the conclusions in the evidence brief.

Body composition and growth

For individuals AMAB, lean mass z-scores decreased during GnRHa treatment, while total fat z-scores increased, particularly in individuals who began GnRHa therapy at a later Tanner stage (IV or V) (Boogers et al 2023).

Height z-score was also found to decrease during GnRHa therapy for both AMAB and AFAB individuals. The changes in lean mass and total fat z-scores were similar for individuals AFAB (Roy et al 2024).

Bone health

The study by van der Loos et al (2023) included the cohort reported by Klink et al (2015) in the evidence brief but was larger (n=75) and had a longer follow-up time (three years). The results were similar to those reported by Klink et al (2015). For individuals identified as AMAB, bone mineral density (BMD) z-scores were significantly below the age- and sex-matched population controls before GnRHa treatment and decreased further during treatment. The BMD z-scores also decreased for individuals identified as AFAB.

The study by Roy et al (2024) had 10 months follow-up and reported similar results, with total body BMD z-scores decreasing for both AMAB and AFAB individuals. However, the study included only 19 individuals and the results were not found to be statistically significant.

Cardiometabolic outcomes

The study by Perl et al (2021) reported a significant increase in diastolic blood pressure (DBP) in AMAB individuals during GnRHa treatment, whereas the study by Fisher et al (2023) reported no significant changes in blood pressure.

¹ Ten were excluded for the following reasons; not peer reviewed (6) (Conference proceedings (5), Preprint (1)). Review articles with no original research (3), did not provide data on GnRHa (4) and a study protocol (1).

² Height, weight, BMI, body fat and lean body mass.

The study by Waldner et al (2023) reported an analysis of the cardiac QTc interval in gender-dysphoric adolescents receiving GnRHa treatment. Of the 33 individuals included in the study, 15 received medications known to prolong the QTc interval, primarily psychotropic medications. However, none of the individuals was found to have a prolonged QTc interval as defined by a cut-off of 460 milliseconds.

The study by Fisher et al (2023) reported no significant changes in laboratory parameters (HbA1c, AST, ALT and lipid levels) during GnRHa therapy in gender-dysphoric adolescents. Slightly elevated HDL levels were observed in AMAB individuals.

Fertility

No new studies were identified that were considered eligible for inclusion.

Impact of puberty blockers on mental health and wellbeing outcomes for gender-dysphoric adolescents

Three new studies (Fisher et al 2023; McGregor et al 2024; McPherson and Freedman, 2024) and one additional study (van der Miesen et al 2020) on the impact of GnRHa on mental health and wellbeing in gender-dysphoric adolescents were identified and considered eligible for inclusion. Table 2 in the **Supplementary Material** summarises these studies. All four studies were of low or very low quality and had serious or critical risk of bias for the outcomes reported.³

Systematic reviews

Two further systematic reviews have been published between October 2023 and May 2024. Both were commissioned as part of the Cass Review (Cass 2024).

For the first review, Heathcote et al (2024) carried out a quantitative systematic review of 10 studies published between 2015 and 2021. The inclusion criteria were children and adolescents up to the age of 18 years with gender incongruence, gender dysphoria/gender-related distress or referral to a paediatric or adolescent gender service and any psychological or psychosocial intervention as an outcome. Nine studies were rated as low quality and one as moderate quality. Of the five studies focused on psychosocial changes, all reported quantitative analysis and three also reported qualitative findings.⁴ The review found there was either a benefit or no reported change from the interventions studied. It also concluded there were no indications of adverse or negative effects from any of the interventions, suggesting that evidence-based interventions tailored for children and/or adolescents with gender dysphoria/incongruence have the potential to result in positive outcomes. It remains unclear which approach works best, for which population and in what circumstances. There also remains a gap in research on mental health and wellbeing interventions for pre-pubertal children and adolescents with complex needs (Heathcote et al 2024).

The second systematic review reported on the risks and benefits of suppression of puberty in adolescents with gender dysphoria (Taylor et al 2024). It included mental/psychological health and psychosocial functioning as outcomes. Fifty studies were

³ The quality issues were due to the methodological designs, including small numbers of participants, methods of analysis, use of assessment tools and managing confounding variables.

⁴ Three of these ten studies were included in our systematic reviews. The other seven were excluded mainly because they did not meet the criteria of being a targeted intervention designed for adolescents experiencing gender dysphoria.

included in this review. All the key studies cited in Taylor et al (2024), providing evidence on mental health and wellbeing outcomes, have been included in the evidence brief or within this addendum (Carmichael et al 2021; Costa et al 2015; de Vries et al 2011; van der Miesen et al 2020).⁵ The review concluded:

these findings add to other systematic reviews in concluding there is insufficient and/or inconsistent evidence about the effects of puberty suppression on gender dysphoria, body satisfaction, psychological and psychosocial health, cognitive development, cardiometabolic risk and fertility. (p 12)

In line with the observations in the evidence brief, Taylor et al (2024) note that the key limitations across all studies were the lack of representativeness among study participants and lack of comparability of selected control groups.

Targeted mental health and wellbeing interventions for adolescents who are more likely to experience gender dysphoria

The search identified two additional studies on targeted interventions that met the inclusion criteria. One involved a therapeutic parent support group (low quality) and the other examined the experience of attending school-based counselling (high quality). Both studies reported positive outcomes from evidence-based interventions tailored for children and/or adolescents with gender dysphoria/incongruence. However, given the heterogeneity of two studies and that neither took a holistic approach that included family, the adolescent and social factors together in the same intervention, the evidence remains limited (see Table 3 in the **Supplementary Material**).

⁵ The findings in Carmichael et al (2021) have recently been re-analysed in McPherson and Freedman (2024). For these updated findings, see the systematic reviews section of this addendum.

Final Cass Review

The Cass Review is an independent review of gender identity services for children and young people commissioned by NHS England in 2020. The final report was released in April 2024 (Cass 2024).⁶ It has dedicated significant resource to understanding the needs and evidence base for gender identity services. To inform the review, Dr Cass consulted extensively with clinicians, adolescents and families. The review contains 32 recommendations that fall under 17 areas: assessment, diagnosis, clinical approach, social transition, long-term outcomes, clinical decision-making, service models, workforce, training and education, service improvement, clinical research, service pathways, transferring to adult services, detransitioning services, private services, implementation, and wider system learning.

Table 4 gives an overview of the Cass Review and the Ministry's planned work programme.

Table 4: Cass Review and the Ministry of Health – Manatū Hauora work programme

The Cass Review	Ministry of Health – Manatū Hauora work programme
Commissioning	
NHS England commissioned an Independent Review of Gender Identity Services for Children and Young People to make recommendations on the questions relating to the provision of these services. ⁷	The Director-General of Health commissioned an evidence review of 'Impact of puberty blockers on clinical and mental health outcomes in gender-dysphoric adolescents'.
Evidence	
Key questions <ol style="list-style-type: none"> 1. How has the population of children presenting with gender dysphoria and/or gender-related distress changed over time? 2. What are the appropriate referral, assessment and treatment pathways for children with gender dysphoria and/or gender-related distress? 3. What are the short-, medium- and long-term outcomes for children with gender dysphoria and/or gender-related distress? 	Key questions <ol style="list-style-type: none"> 1. What are the clinical and mental health and wellbeing outcomes for gender-dysphoric adolescents prescribed GnRHa? 2. What are other jurisdictions' legislative or governance arrangements relating to the prescription of GnRHa for gender-dysphoric adolescents?

⁶ The evidence brief covered the interim report (Cass 2022).

⁷ For the full terms of reference, go to: cass.independent-review.uk/about-the-review/terms-of-reference/.

The Cass Review	Ministry of Health – Manatū Hauora work programme
<p>The Cass Review contains:</p> <ol style="list-style-type: none"> 1. six commissioned systematic reviews of research 2. two commissioned reviews of guidelines and recommendations 3. international survey of clinical services 4. one original research qualitative study focusing on narrative accounts of gender questioning. <p>Future plans include two original quantitative studies:⁸</p> <ul style="list-style-type: none"> • Assessment, Management and Outcomes for Children and Young People Referred to a National Gender Identity Development Service • Epidemiology and Outcomes for Children and Young People with Gender Dysphoria: Retrospective Cohort Study Using Electronic Primary Care Records. 	<p>The evidence brief contains four systematic literature reviews and one overview of international context,⁹ covering:</p> <ol style="list-style-type: none"> 1. the epidemiology and prevalence of gender dysphoria 2. the impact of puberty blockers on clinical outcomes in gender-dysphoric adolescents 3. the impact of puberty blockers on mental health and wellbeing outcomes for gender-dysphoric adolescents 4. targeted mental health and wellbeing interventions for adolescents who are more likely to experience gender dysphoria 5. an overview of international legislative and governance arrangements. <p>Future plans include two original research projects to better understand the epidemiology and treatment pathways for children and young people experiencing gender related distress in Aotearoa New Zealand:</p> <ul style="list-style-type: none"> • Project 1: A retrospective audit to assess the use and impact of GnRHa in gender-dysphoric/incongruent adolescents over the last five years in transgender youth services across Aotearoa New Zealand • Project 2: A prospective, longitudinal observational cohort study of individuals prescribed puberty blockers for gender dysphoria/incongruence.

⁸ The quantitative analyses in the review were not completed due to a variety of system-wide issues with data collection and data privacy. Recommendations 17 and 18 and the service improvement section address these data system issues.

⁹ The systematic reviews include all the clinical outcomes referred to in the Cass Review. These have been updated to include evidence up to 22 May 2024 (in this addendum). All studies included in the systematic reviews that the Cass Review commissioned were reviewed and included in this update if appropriate.

The Cass Review	Ministry of Health – Manatū Hauora work programme
Clinical approach and clinical management	
<p>Clinical guidelines</p> <p>In the commissioned systematic reviews of clinical guidelines,^{10,11} only two guidelines were considered to have appropriate levels of rigour.¹² These were the Finnish¹³ and Swedish¹⁴ guidelines.</p> <p>One of the other guidelines reviewed was <i>Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in New Zealand</i>, published by the University of Waikato.¹⁵</p> <p>Many of the guidelines referred to other guidelines as their basis for making the same recommendations. Early versions of two international guidelines, the Endocrine Society 2009 [since updated in 2017]¹⁶ and World Professional Association for Transgender Healthcare (WPATH) 7 [since updated in 2022]¹⁷ influenced nearly all the other guidelines.</p> <p>Recommendation 3 in the Cass Review addresses these clinical guideline issues.</p>	<p>Clinical guidelines</p> <p>This addendum includes an overview of international regulations and clinical guidelines.</p> <p>The evidence brief and addendum will inform the clinical care pathways work that Health New Zealand has begun.</p>

¹⁰ Taylor J, Hall R, Heathcote C, et al. 2024. Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of guideline quality (part 1). *Archives of Disease in Childhood*. DOI: 10.1136/archdischild-2023-326499.

¹¹ Taylor J, Hall R, Heathcote C, et al. 2024. Clinical guidelines for children and adolescents experiencing gender dysphoria or incongruence: a systematic review of recommendations (part 2). *Archives of Disease in Childhood*. DOI: 10.1136/archdischild-2023-326500.

¹² As appraised by the Appraisal of Guidelines for Research and Evaluation II (Agree II) Instrument: Agree Next Steps Consortium. 2017. *The Agree II Instrument*. URL: agreetrust.org/wp-content/uploads/2017/12/AGREE-II-Users-Manual-and-23-item-Instrument-2009-Update-2017.pdf (accessed 11 June 2024).

¹³ Recommendation of the Council for Choices in Health Care in Finland (PALKO / COHERE Finland). 2020. *Medical Treatment Methods for Dysphoria Related to Gender Variance in Minors*. URL: segm.org/sites/default/files/Finnish_Guidelines_2020_Minors_Unofficial%20Translation.pdf (accessed 11 June 2024).

¹⁴ Socialstyrelsen: The National Board for Health and Welfare. 2022. Care of children and adolescents with gender dysphoria. URL: socialstyrelsen.se/om-socialstyrelsen/pressrum/press/uppdaterade-rekommendationer-for-hormonbehandling-vid-konsdysfori-hos-unga/ (accessed 11 June 2024).

¹⁵ Oliphant J, Veale J, Macdonald J, et al. 2018. *Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand*. URL: patha.nz/resources/Documents/Guidelines%20for%20Gender%20Affirming%20Health%20low%20res.pdf (accessed 11 June 2024).

¹⁶ Endocrine Society. 2017. *Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society Clinical Practice Guideline*. URL: endocrine.org/clinical-practice-guidelines/gender-dysphoria-gender-incongruence (accessed 11 June 2024).

¹⁷ 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* 23(sup1): S1–S259. DOI: 10.1080/26895269.2022.2100644.

The Cass Review	Ministry of Health – Manatū Hauora work programme
Research capacity <p>A living systematic review approach should be considered to incorporate relevant new evidence as it becomes available to inform the clinical approach of the new services, ensuring it remains up to date and dynamic.</p> <p>Priorities for research should include analysis of the characteristics of the population and formal research protocols underpinning both medical and non-medical interventions with follow-up into adulthood.</p> <p>It is necessary to establish a research strategy and build the required infrastructure to fill gaps in the evidence.</p> <p>Recommendation 20 in the Cass Review addresses research capacity and strategy needs.</p>	
	<p>The Ministry will continue to keep a watching brief on emerging evidence on the impact of puberty blockers in gender-dysphoric adolescents. Where substantive evidence emerges or considerable time has passed since the last update, the evidence brief will be updated to reflect the latest evidence.</p> <p>The research projects, when commissioned, will support the development of an Aotearoa New Zealand-specific evidence base on any impacts of puberty blockers in gender-dysphoric/incongruent adolescents.</p>

Overview of international regulations, governance structures, and guidelines related to GnRHa

Table 5 provides information on the regulations and/or governance arrangements related to GnRHa both in Aotearoa New Zealand and overseas. It includes any recent changes in those regulations, information on access to puberty blockers for gender-dysphoric/incongruent adolescents, and details of any guidelines published by national or state health organisations. All information contained in Table 5 is open source and publicly available.

Table 5: Governance structures, regulations and guidelines related to GnRHa for managing gender dysphoria in adolescents in Aotearoa New Zealand and internationally

Current regulation		Recent changes	Service providers	Guidelines
Australasia				
Aotearoa New Zealand				
Ministry of Health Health New Zealand Pharmac	Health New Zealand provides information on transgender and gender diversity services. ¹⁸ Pharmac advises that clinicians can prescribe GnRHa 'off-label' ¹⁹ for gender dysphoria when an individual and their doctor agree it's a suitable treatment option. It is the responsibility of the prescriber to discuss the benefits and risks of each treatment with their patients and ensure the treatment is appropriate. ²⁰	The Ministry's position on the use of puberty blockers states that clinicians who initiate puberty blockers should be experienced in providing gender-affirming care and be part of an interprofessional team offering a full range of support to young people	Any registered medical practitioner.	The Professional Association for Transgender Health Aotearoa (PATHA) ²¹ recommends the use of the World Professional Association for Transgender Health (WPATH) Standards of Care for the Health of Transgender and

¹⁸ Transgender and gender diversity. URL: <https://info.health.nz/keeping-healthy/transgender-gender-diversity/> (accessed 11 June 2024).

¹⁹ 'Off-label' use is defined as the use of an approved medicine under the direction or supervision of a health care professional for an unapproved indication, age group, dosage or route or form of administration.

²⁰ Funding of GnRH analogues for indications not approved by Medsafe (children and adolescents). URL: pharmac.govt.nz/news-and-resources/official-information-act/official-information-act-responses/funding-of-gnrh-analogues-for-indications-not-approved-by-medsafe-children-and-adolescents (accessed 11 June 2024).

²¹ URL: <https://patha.nz/> (accessed 11 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
		presenting with gender-related issues. See Ministry of Health (2024) Position Statement on the Use of Puberty Blockers in Gender-Affirming Care June 2024.		Gender Diverse People, Version 8. ²² Health NZ is developing a clinical care pathway for gender-affirming health care. The Transgender Research Lab, University of Waikato has published guidelines for gender-affirming health care. ²³
Australia				
Department of Health and Aged Care	In Australia, the Therapeutic Goods Administration, under the direction of the Federal Government, is responsible for identifying, assessing and evaluating the risks of therapeutic products.	Nil.	GnRHA are prescribed by a paediatrician or paediatric endocrinologist ^{26,27} and must be funded privately. ²⁸	<i>Australian Standards of Care and Treatment Guidelines: For trans and gender diverse children and adolescents.</i> ²⁹
Therapeutic Goods Administration	States and territories lead the provision of gender services.	Gender-affirming services other than GnRHA are in general funded. Some specialist services have a funded research arm.	Specialist gender services across a number of jurisdictions provide care to young people based on a multidisciplinary approach tailored to individual circumstances and needs.	WPATH, Australian Professional Association for Trans Health, the Royal Australasian College of Physicians, the Royal Australasian College of General Practitioners and the Australian Endocrine Society all endorse access to puberty suppression
Pharmaceutical Benefits Scheme	Use of GnRHA for managing gender dysphoria is available on the Pharmaceutical Benefits Scheme for the treatment of certain cancers and precocious puberty. When used for gender-affirming hormone therapy, these medicines are supplied on private prescriptions only. ²³			

²² 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* 23(sup1): S1–S259. DOI: [10.1080/26895269.2022.2100644](https://doi.org/10.1080/26895269.2022.2100644).

²³ Oliphant J, Veale J, Macdonald J, et al. 2018. *Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand*. URL: patha.nz/resources/Documents/Guidelines%20for%20Gender%20Affirming%20Health%20low%20res.pdf (accessed 11 June 2024).

²⁶ The Royal Children's Hospital Melbourne. Gender service. URL: rch.org.au/adolescent-medicine/gender-service/ (accessed 11 June 2024).

²⁷ 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* 23(sup1): S1–S259. DOI: [10.1080/26895269.2022.2100644](https://doi.org/10.1080/26895269.2022.2100644).

²⁸ Trans Hub. Puberty blockers. URL: transhub.org.au/puberty-blockers#how-to-access-puberty-blockers (accessed 11 June 2024).

²⁹ Telfer M, Tollit MA, Pace CC. 2020. *Australian Standards of Care and Treatment Guidelines: For trans and gender diverse children and adolescents*. The Royal Children's Hospital. URL: rch.org.au/uploadedFiles/Main/Content/adolescentmedicine/australian-standards-of-care-and-treatment-guidelines-for-trans-andgender-diverse-children-and-adolescents.pdf (accessed 11 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
	If there is a disagreement between any of the clinical team, the young person and the family about the diagnosis, treatment or capacity of the minor to provide informed consent, the family court has ruled this requires an application to the court to resolve the dispute consistent with the child's best interests. ^{24,25}			for trans young people and adolescents. ³⁰
United Kingdom				
England³¹				
The National Health Service (UK) The Medicines and Healthcare products Regulatory Agency (MHRA)	<p>The MHRA has not licensed GnRHa for use in managing gender dysphoria.</p> <p>In March 2024 NHS England published a clinical policy that changed practice. It stated that prescription of puberty blockers to individuals under the age of 18 years is limited to those enrolled in a clinical trial.</p> <p>In June 2024 NHS England announced that there will be a temporary ban (until September 2024) on prescription of puberty blockers to individuals under 18 years of age newly diagnosed with gender-dysphoria. The</p>	Up to eight regional centres to assess and manage adolescents with gender dysphoria are planned, which will be based within specialist children's hospitals.	<p>GnRHa for managing gender dysphoria is only available to those under the age of 18 years.</p> <p>Two centres have been established (Manchester and London) to manage individuals with gender dysphoria.³⁴</p>	<p>The guidelines for managing children and young people with gender dysphoria are available on the NHS website and were last updated in May 2020.³⁵</p> <p>The Royal College of Psychiatrists has published guidance for management for gender identity disorders in children and adolescents.³⁶</p>

²⁴ Department of Health and Aged Care. Information brief. URL: health.gov.au/sites/default/files/2023-12/foi-4713-released-documents-briefing-on-gender-dysphoric-in-children.pdf (accessed 11 June 2024).

²⁵ Parents of Gender Diverse Children. Legal. URL: pgdc.org.au/legal (accessed 11 June 2024).

³⁰ Parents of Gender Diverse Children. Legal. URL: <https://www.pgdc.org.au/legal> (accessed 11 June 2024).

³¹ Anderson M, Pitchforth E, Edwards N, et al. 2022. *The United Kingdom: Health System Summary, 2022*. URL: eurohealthobservatory.who.int/publications/i/united-kingdom-health-system-summary (accessed 11 June 2024).

³⁴ Arden & Gem. National referral support service for the NHS gender incongruence service for children and young people. URL: ardengemcsu.nhs.uk/services/clinical-support/national-referral-support-service-for-the-nhs-gender-incongruence-service-for-children-and-young-people/ (accessed 11 June 2024).

³⁵ NHS. Treatment: gender dysphoria. URL: nhs.uk/conditions/gender-dysphoria/treatment/ (accessed 11 June 2024).

³⁶ Royal College of Psychiatrists. 1998. Gender identity disorders in children and adolescents. URL: spitalmures.ro/_files/protocoale_terapeutice/psihiatrie/tulburari%20de%20identitate%20sexuala%20la%20copii%20si%20adolescent.pdf (accessed 11 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
	<p>temporary ban will apply to private providers as well.³²</p> <p>A new national Children and Young People's Gender Dysphoria Research Oversight Board is being established to provide evidence-based care for children and young people experiencing gender incongruence.³³</p> <p>Children, young people and their families are strongly discouraged from getting puberty blockers or gender-affirming hormones from unregulated sources or online providers that are not regulated by UK regulatory bodies.³³</p>			
Wales				
The regulation of GnRHa in Wales is coordinated with the services provided by NHS England.				
Scotland				
NHS Scotland	<p>In April 2024 NHS Greater Glasgow and Clyde and NHS Lothian issued a joint statement confirming a pause on new prescriptions for puberty hormone suppressants and cross-sex hormone medication for young people with gender dysphoria.³⁷</p> <p>The Cass Review was limited to an assessment of the care of adolescents in England and did not assess care in Scotland.</p>	Referrals to paediatric endocrinology for the prescription of puberty-suppressing hormones have been paused, but anyone referred will be given 'the psychological support they require' while care pathways are reviewed in line with the Cass Review findings.	<p>Scotland has temporarily banned prescription of puberty blockers to individuals under the age of 18 years.</p> <p>This ban will not affect young people currently receiving these medicines.³⁸</p>	Guidelines are yet to be released.

³² NHS England. UR: **New restrictions on the prescription and supply of puberty blockers (rpharms.com)**

³³ NHS England. Implementing advice from the Cass Review. URL: [england.nhs.uk/commissioning/spec-services/npc-crg/gender-dysphoria-clinical-programme/implementing-advice-from-the-cass-review/](https://www.england.nhs.uk/commissioning/spec-services/npc-crg/gender-dysphoria-clinical-programme/implementing-advice-from-the-cass-review/) (accessed 11 June 2024).

³⁷ McCool M. 2024. Scotland's under-18s gender clinic pauses puberty blockers. *BBC Scotland News*. URL: [bbc.com/news/uk-scotland-68844119](https://www.bbc.com/news/uk-scotland-68844119) (accessed 11 June 2024).

³⁸ Cass Review and Gender Identify Healthcare: Statement by Minister for Public Health and Women's Health. URL: [gov.scot/publications/gender-identity-healthcare-young-people/](https://www.gov.scot/publications/gender-identity-healthcare-young-people/) (accessed 11 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
North America				
Canada³⁹				
Health Canada Pharmaceutical Drugs Directorate States have primary control over health care services.	The Pharmaceutical Drugs Directorate applies the food and drug regulations under the authority of the Food and Drugs Act. States regulate the provision of and public access to transgender care, including GnRHa therapy.	Alberta is considering, but has not yet enacted, a ban on the use of puberty blockers for young people aged under 16 years unless they are already receiving treatment. This ban would largely eliminate the use of puberty blockers as most adolescents will have completed puberty by the age of 16 years.	Primary care doctors are able to prescribe GnRHa for gender dysphoria. Funding for medicines and surgery varies from state to state, including for access to GnRHa for puberty suppression. Access through clinical processes involving individuals and their families, as part of comprehensive gender-affirming care.	No official Canadian guidelines exist. The Canadian Paediatric Society supports the use of gender-affirming treatment in adolescents, including puberty blockade. ⁴⁰
United States of America				
US Food and Drug Administration	The US Food and Drug Administration (FDA) functions at the federal level to govern the prescription of puberty blockers for gender	Many states are currently enacting new legislation addressing access to puberty blockers.	The FDA has not approved use of puberty blockers for puberty blockade in	Guidelines have been published by many different US professional organisations. ^{41,42,43,44}

³⁹ Marchildon GP. 2008. Canada, Health system of. *International Encyclopedia of Public Health*. URL: [sciencedirect.com/science/article/pii/B9780123739605003026?via%3Dihub](https://www.sciencedirect.com/science/article/pii/B9780123739605003026?via%3Dihub) (accessed 11 June 2024).

⁴⁰ Vandermorris A, Metzger D. 2023. Position statement: An affirming approach to caring for transgender and gender-diverse youth. *Paediatrics and Child Health* 28: 437–48. URL: cps.ca/en/documents/position/an-affirming-approach-to-caring-for-transgender-and-gender-diverse-youth (accessed 11 June 2024).

⁴¹ Adelson SL. 2012. Practice parameter on gay, lesbian, or bisexual sexual orientation, gender nonconformity, and gender discordance in children and adolescents. *Journal of the American Academy of Child and Adolescent Psychiatry* 51(9): 957–74. URL: [sciencedirect.com/science/article/pii/S089085671200500X?via%3Dihub](https://www.sciencedirect.com/science/article/pii/S089085671200500X?via%3Dihub) (accessed 11 June 2024).

⁴² 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. *Pediatrics* 142(4). URL: publications.aap.org/pediatrics/article/142/4/e20182162/37381/Ensuring-Comprehensive-Care-and-Support-for?autologincheck=redirected (accessed 11 June 2024).

⁴³ American Psychological Association. 2015. Guidelines for psychological practice with transgender and gender nonconforming people. *American Psychologist* 70(9): 832–64. DOI: 10.1037%2Fa0039906.

⁴⁴ Deutsch M. 2016. *Guidelines for the Primary and Gender-Affirming Care of Transgender and Gender Nonbinary People*. URL: transcare.ucsf.edu/guidelines (accessed 11 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
	<p>dysphoria. The FDA regulates pharmaceuticals but does not regulate the practice of medicine.</p> <p>State health departments are responsible for licensing practitioners and providing health services.</p> <p>Private insurance and health care facilities manage the provision of health services for the majority of the population, including gender care.</p>		<p>transgender adolescents but they may be used off-label.</p> <p>The ability to access GnRHa varies considerably between states.</p>	
Europe (European Union)				
<p>The European Medicines Agency (EMA) provides an overarching regulatory body for national health authorities, enabling a coordinated approach to pharmaceutical regulation in Europe.</p> <p>The EMA has not licensed GnRHa for use in managing gender dysphoria and is used 'off-label'.</p>				<p>European Society for Sexual Medicine Position Statement: Assessment and Hormonal Management in Adolescent and Adult Trans People, with Attention for Sexual Function and Satisfaction.⁴⁵</p>
The Netherlands				
European Medicines Agency	<p>Access through clinical processes involving individuals and their families, as part of comprehensive gender-affirming care.</p> <p>Adolescents are able to access GnRHa from the age of 12 years, and once they have reached Tanner stage II.</p>	<p>On 15 February 2024, the Dutch Parliament ordered that an investigation be conducted into the physical and mental health outcomes for children prescribed puberty blockers.⁴⁶</p>	<p>GnRHa are prescribed through specialist gender clinics.</p>	<p>The Dutch protocol has formed the basis for a range of guidelines for managing gender-affirming care including the use of puberty blockers for adolescents before they start gender-affirming hormone treatment.⁴⁷</p>

⁴⁵ T'Sjoen G, Arcelus J, De Vries ALC, et al. 2020. European Society for Sexual Medicine Position Statement: Assessment and Hormonal Management in Adolescent and Adult Trans People, with Attention for Sexual Function and Satisfaction. *Journal of Sexual Medicine* 17(4): 570–84. DOI: 10.1016/j.jsxm.2020.01.012.

⁴⁶ Harris S. 2024. Europe and the puberty blocker debate. *Medscape*. URL: [medscape.com/viewarticle/europe-and-puberty-blocker-debate-2024a1000831?form=fpf](https://www.medscape.com/viewarticle/europe-and-puberty-blocker-debate-2024a1000831?form=fpf) (accessed 12 June 2024).

⁴⁷ van der Loos M, Klink D, Hannema S, et al. 2023. Children and adolescents in the Amsterdam Cohort of Gender Dysphoria: trends in diagnostic- and treatment trajectories during the first 20 years of the Dutch Protocol. *Journal of Sexual Medicine* 20(3). URL: academic.oup.com/jsm/article/20/3/398/7005631 (accessed 12 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
Finland				
European Medicines Agency	Prescription of puberty blockers is limited to those enrolled in a clinical trial.	Finland's Council for Choices in Health Care revised its guidelines ⁴⁸ in 2020 to prioritise psychosocial support over medical intervention. However, it also confirmed that initiation of hormonal interventions may be considered in a person before the age of 18 years 'if it can be ascertained that their identity as the other sex is of a permanent nature and causes severe dysphoria'.		The Council for Choices in Healthcare in Finland has published guidelines for the medical treatment methods for dysphoria associated with variations in gender identity in minors. ⁴⁹
Norway				
European Medicines Agency	Prescription of puberty blockers is limited to those enrolled in a clinical trial.	In 2023 Norway's Healthcare Investigation Board recommended to the Ministry of Health that puberty blockers for children and young people should be defined as experimental treatment. Explicit new guidance from the country has not yet been issued.	Limited to clinical trials.	Norwegian Directorate of Health has published <i>Gender Incongruence: National professional guideline</i> in 2020. ⁵⁰

⁴⁸ Council for Choices in Healthcare. 2020. Medical treatment methods for dysphoria associated with variations in gender identity in minors – recommendation. URL: palveluvalikoima.fi/documents/1237350/22895008/Summary_minors_en.pdf/aaf9a6e7-b970-9de9-165c-abadfae46f2e/Summary_minors_en.pdf (accessed 12 June 2024).

⁴⁹ Council for Choices in Healthcare. 2020. Medical treatment methods for dysphoria associated with variations in gender identity in minors – recommendation. URL: <https://palveluvalikoima.fi/en/recommendations#genderidentity> (accessed 12 June 2024).

⁵⁰ URL: helsedirektoratet.no/retningslinjer/kjonnssinkongruens (accessed 12 June 2024).

Current regulation		Recent changes	Service providers	Guidelines
Sweden				
European Medicines Agency	Prescription of puberty blockers is limited to those enrolled in a clinical trial.	In 2022 Sweden's National Board of Health and Welfare said that the risks of puberty blockers for people younger than 18 years currently outweigh the potential benefits for the group as a whole.		The Swedish National Board of Health and Welfare has published <i>Care of Children and Young People with Gender Dysphoria: National knowledge support with recommendations for the profession and decision makers</i> in 2022. ⁵¹
France				
European Medicines Agency	Prescription continues to be possible with parental authorisation at any age.	France's National Academy of Medicine recommended in 2022 that the 'greatest reserve' is required for the use of puberty blockers in children and adolescents. ⁵²		
Spain				
European Medicines Agency	Individuals with gender dysphoria receive care through specialist gender identity services. ^{53,54}	Nil	Specialist GIS	WPATH guidelines ⁵⁵

⁵¹ URL: socialstyrelsen.se/globalassets/sharepoint-dokument/artikelkatalog/kunskapsstod/2022-12-8302.pdf (accessed 12 June 2024).

⁵² Medicine and gender transidentity in children and adolescents. URL: academie-medecine.fr/la-medecine-face-a-la-transidentite-de-genre-chez-les-enfants-et-les-adolescents/?lang=en (accessed 12 June 2024).

⁵³ Moreno-Pérez O, de Antonio I, GIDSEEN. 2012. Clinical practice guidelines for assessment and treatment of transsexualism. SEEN identity and sexual differentiation group (GIDSEEN). *Endocrinología y Nutrición (English edn)* 59(6): 367–82.

⁵⁴ de Antonio I, Araque NA, Murillo FH, et al. 2015. Position statement: gender dysphoria in childhood and adolescence. Working group on gender identity and sexual development of the Spanish society of endocrinology and nutrition (GIDSEEN). *Endocrinología y Nutrición (English edn)* 62: 380–3.

⁵⁵ 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* 23(sup1): S1–S259, DOI: 10.1080/26895269.2022.2100644.

Current regulation		Recent changes	Service providers	Guidelines
Denmark				
European Medicines Agency Danish Health Authority	<p>Individuals with gender dysphoria receive care through specialist gender identity services.</p> <p>People under the age of 18 years who are seeking health care related to gender identity, as well as their parents, must be offered counselling and supportive talks before initiating any treatment.</p> <p>If there is disagreement between the parents and the young adult older than 15 years, and if the young adult according to the health care professional's assessment understands the consequences of their own decision, the decision to give consent is ultimately that of the young adult.</p>	National guidelines updated in 2017	Specialist GIS	<i>Guide on Healthcare related to Gender Identity.</i> ⁵⁶

⁵⁶ Danish Health Authority. 2018. *Guide on Healthcare related to Gender Identity*. URL: sst.dk/-/media/English/Publications/2018/Guide-on-healthcare-related-to-gender-identity.ashx (accessed 12 June 2024).

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