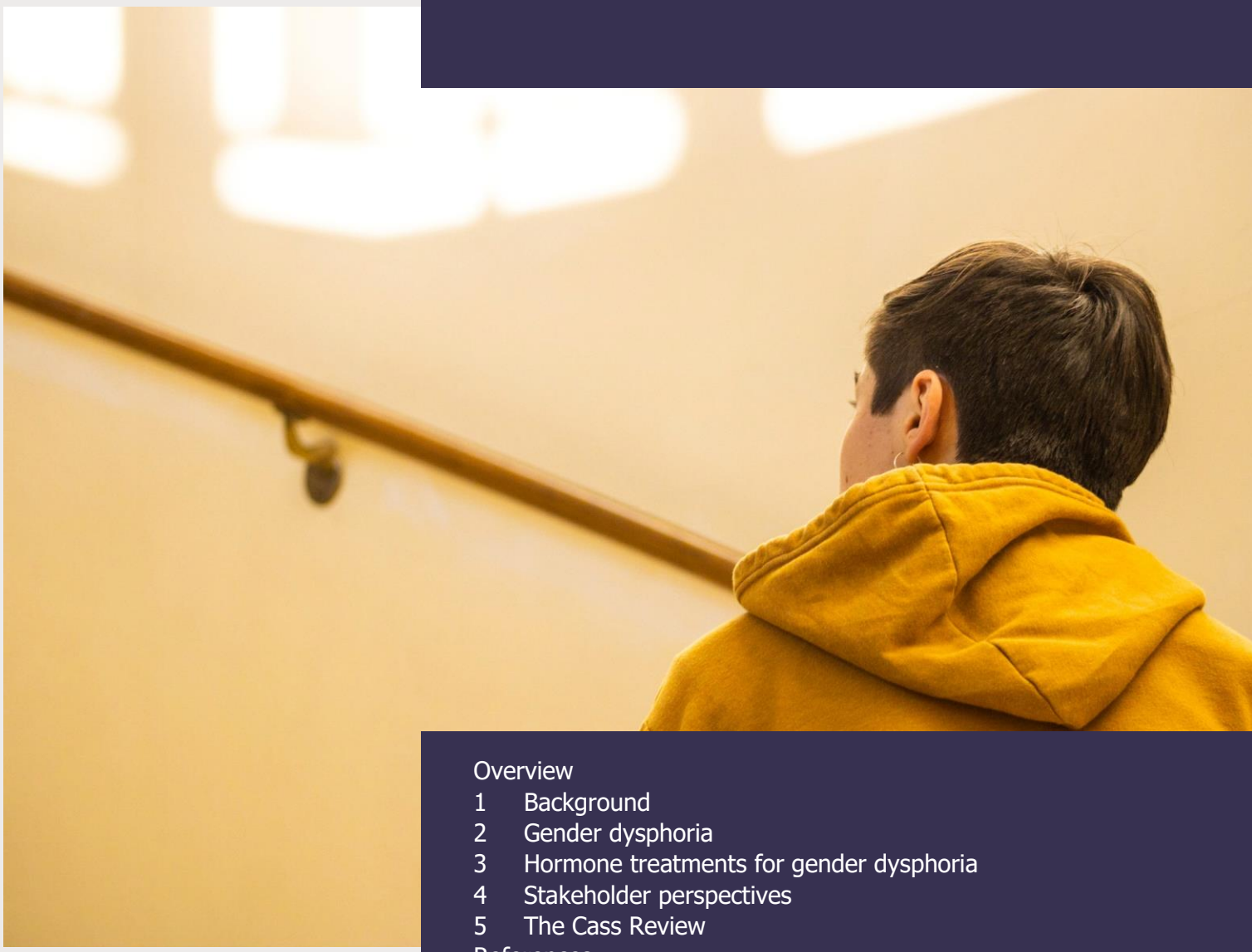
UK Parliament
POST

POSTbrief 55

By Charlotte Constable Fernandez, Sarah Bunn

22 November 2023

Hormone treatments for children and young people with gender dysphoria



About this publication

Feedback

If you have any comments on our briefings, please email post@parliament.uk. Please note that we are not always able to engage in discussions with members of the public who express opinions about the content of our research, although we will carefully consider and correct any factual errors.

If you have general questions about the work of the House of Commons email hcenquiries@parliament.uk or the House of Lords email hlinfo@parliament.uk.

Suggested citation

Parliamentary Office of Science and Technology (POST). 2023. POSTbrief 55: Hormone Treatments for Children and Young People with Gender Dysphoria. UK Parliament.

DOI: doi.org/10.58248/PB55

Image Credits

Komorebi Photo on Unsplash

Contents

Overview

- In recent years, demand for access to specialist gender identity services in the NHS by children and young people has increased. Some children and young people may receive hormones as part of a treatment plan for gender dysphoria. This POSTnote describes the hormone treatments used and summarises the evidence on the safety and the outcomes for children and young people. It also highlights stakeholder perspectives and recent legal cases.

- Hormone treatments that block puberty are one medical intervention for children and young people with gender dysphoria. Other hormones that can partially irreversibly masculinise or feminise the body can be prescribed for those aged over 16.

- A lack of high-quality evidence means that questions remain about the efficacy, safety and long-term outcomes of hormone treatments used in this context.

- There are conflicting views about the use of these drugs as a treatment for children and young people with gender dysphoria.

- An independent review of Gender Identity Development Services in England (the Cass Review) is expected to report in late 2023. Its interim report, published in February 2022, did not make any policy recommendations on hormone treatments due to gaps in the evidence.

- NHS England recently ran a consultation on an interim clinical policy on hormone treatments, on the proposition that they are not recommended routinely.

1 Background

The number of children and young people[1] referred to the NHS Gender Identity Development Service (GIDS)[1] has increased from 210 in 2011-12 to over 5,000 by 2021-22.[2,3] GIDS cares for children and young people from across the UK who are experiencing difficulties with their gender identity; some of these children and young people are transgender.[4]

Language in this area is contextual and evolving. Box 1 summarises terms used in this briefing.

Some children and young people experiencing severe distress – gender dysphoria – associated with their gender identity have been prescribed hormone treatments, which are one aspect of NHS treatment accessed via GIDS.

Hormone treatments used to treat gender dysphoria are subject to ongoing research, and legal and societal debates in the UK and internationally.[5–11] Debate relates to access, their effectiveness and physical and mental health impacts, and children's capacity to consent to take them.

An in-depth Independent Review of Gender Identity Development Services for children and young people in England (the Cass Review[12]) is underway. The review is exploring how children and young people are referred, diagnosed and treated, including the use of hormone treatments. It will make recommendations to improve care and outcomes for this group.

This briefing does not discuss other care and treatments for gender dysphoria offered by the NHS, such as psychological support, or any other interventions.

Factors that may shape gender incongruence and gender dysphoria are discussed in POSTbrief 53.[13]

This briefing outlines gender identity services in England and trends in referrals, hormone treatments available for gender dysphoria, recent relevant legal cases, and the Cass Review and relevant changes within the NHS.

[1] In this briefing, the term children and young people is used, and refers to those aged 17 years old and under.

2 Gender dysphoria

Gender distress is the feeling of unease because of a mismatch between biological sex and gender identity.[14] For some, it can occur without causing significant distress: this is termed gender incongruence.[15] Gender dysphoria is characterised by the NHS as involving severe distress.[16] The way gender dysphoria is described in medicine is evolving, and the use and meaning of the term varies in the guidance available for health professionals.[17,18] The latest developments in the use of the term in medicine are discussed in POSTbrief 53.[13]

Gender dysphoria does not necessarily mean that an individual is transgender and not all transgender individuals experience dysphoria.[19]

Gender incongruence and any distress associated with this may present in early childhood, at the onset of puberty, or anytime during adolescence and in adulthood. Many children and young people may experience gender fluidity and exploration, without developing gender dysphoria or needing medical intervention.[20]

Box 1 Terminology used in this briefing

The language used in this area is contextual and evolving. When referring to studies used in this briefing, the terminology used by the research authors may be quoted.

- **Sex** generally refers to biological and physiological characteristics, determined by sex chromosomes, reproductive function, hormones and their interactions.[21,22]
- **Gender** is not defined in UK legislation that refers to it.[23,24] It is commonly understood as a social or cultural identity expressed in terms of femininity or masculinity.[25]
- **Gender identity** refers to an individual's experience of their gender and can include a range of identities such as man, woman, and non-binary (where someone does not exclusively identify as male or female).[26] A person's gender identity may not match their sex registered at birth.[25] Some people consider that they do not have a gender identity.
- **Gender incongruence** occurs when a person's gender identity markedly and persistently does not match their sex registered at birth.
- **Gender dysphoria** refers to psychological distress from an incongruence between sex registered at birth and gender identity. To meet criteria for diagnosis as dysphoria, the incongruence must be

associated with significant distress or impairment in social or occupational functioning.[27]

- **Trans** is used as an umbrella term for a person whose gender identity is different from their sex registered at birth.[28] A trans woman is a person registered male at birth who identifies as a woman. A trans man is a person registered female at birth who identifies as a man.[29]

2.1 Treating children and young people with gender dysphoria

A range of approaches to diagnose and treat gender dysphoria are available. The aim is to understand gender-related distress, to explore ways to manage this and to investigate any co-existing mental or other health concerns. Treatment approaches may include psychological support, and physical interventions such as hormone treatments.[30] A diagnosis of gender dysphoria is a pre-requisite for accessing some NHS therapeutic pathways, including hormone treatments.[31]

NHS services for children and young people with gender dysphoria

Some children and young people may require specialist services to explore their gender identity and to manage distress. Until March 2023, specialised services in England were provided in the NHS by one national service; the Gender Identity Development Service (GIDS) at the Tavistock and Portman NHS Foundation Trust in London[4] and in Leeds, with other satellite centres.[32]

These teams comprised specialists including clinical psychologists, paediatric endocrinologists, psychotherapists, child and adolescent psychiatrists, and social workers.[33] After referral to GIDS, a child had psychosocial assessments over 3 to 6 appointments with one or two mental health professionals.[33] Other therapeutic sessions involved family sessions with parents and siblings.[33]

In response to interim recommendations from the independent review of NHS services (the Cass Review) published in early 2022, the structure and operation of this service in England is changing,[12,34] informed by a new National Board for Gender Services.[35] NHS England published an interim service specification for children and young people with gender incongruence in June 2023.[36] Details on future provision in regional hubs are described in POSTbrief 53.[13] Teams in these hubs will adopt a multidisciplinary integrated approach. A recent NHS policy document states that the primary intervention will be focussed on psychosocial and psychological support.[37]

2.2 Recent trends in referrals to the NHS

Historically, children and young people could be referred to GIDS by GPs, children and young people's mental health services, paediatric services, schools, social care, and a range of relevant voluntary organisations.[38] From March 2023, referrals[2] are made through a national NHS service; self-referrals are not accepted.[39,40]

In 2011-12, GIDS reported 210 referrals from across the UK, rising to over 5,000 by 2021-22.[2,3] There has been a change in the characteristics of those presenting for care. Children and young people registered female at birth now account for most referrals. In 2018-19, 74% of referrals were children and young people registered female at birth compared to 42% in 2010-11.[2,41] GIDS has published data on the ages of children and young people referred.[2] Children aged between 12-15 represent the largest number of referrals. The youngest children referred are recorded as being 3 years old.[2]

The Cass Review interim report noted that some children and young people referred to the service are presenting with "complex needs".[12] It reported that one third of children and young people referred to GIDS have autism or other forms of neurodiversity and are overrepresented in referrals.[12] Several research studies have examined this association, and reported an increased prevalence of gender dysphoria in those with autism spectrum disorder.[42,43]

A GIDS study of 668 children and young people reported the average age of the first endocrinology[3] appointment between 2017 and 2019 was 15 years old, with the youngest referred at age 10 years and oldest at age 18 years.[44] The first appointment does not necessarily result in a prescription for a hormone treatment, the timing of which also depends on the stage of puberty (see Box 2).

Another study by GIDS of 44 patients reported that 98% of 12-15 year olds taking Gonadotropin releasing hormone analogues (see definition below) elected to continue on with gender-affirming hormones after reaching age 16.[45]

It is not clear how the prescribing of hormone treatments in the NHS may have changed over time due to lack of data.

[2] The current referral document states that referrals will be accepted from "GPs, children's mental health clinician or other health, social care, or education professionals".[39]

[3] Endocrinology is the medical specialty relating to hormones and glands.

3 Hormone treatments for gender dysphoria

In the NHS, following assessment, a child with gender dysphoria may be referred to an endocrinologist: a doctor with specialist knowledge of hormones. Two types of hormone treatment can be prescribed to children and young people with gender dysphoria:

- **Gonadotropin releasing hormone (GnRH) analogues** are treatments that suppress the release of sex-hormones that control the progression of puberty (see Boxes 2 and 3). They are sometimes referred to as puberty blockers.
- **Gender-affirming hormones** are used to masculinise the female body or to feminise the male body. They are sometimes called cross-sex hormones.

Currently, clinical practice in the use of these drugs is informed by guidance from NHS England, but also from international organisations such as the Endocrine Society[46] and the World Professional Association for Transgender Health (WPATH)[47].

There is currently a lack of high-quality evidence on the effectiveness and long-term outcomes of these hormone treatments. The Cass Review has commissioned a research programme to improve the evidence base that will inform its recommendations.[48]

Box 2 Puberty

The complex series of physical, psychosocial and cognitive transitions that occur during adolescence is known as puberty.[49] Puberty consists of a series of predictable changes triggered by sex hormones.[50–52] The development of puberty is described in medicine using a scale called the Tanner Stages 1-5.[49]

The age at which puberty begins varies, on average at age 11 in females and age 12 in males.[53] Reproductive maturity follows later. In girls, menstruation usually starts 2 years after the first sign of puberty and indicates that reproductive function has been achieved.[54] In boys, semen ejaculation usually occurs from Tanner Stage 4 at around age 14.[55] Tanner stage 2 describes the beginning of puberty and results in early breast development in girls and the start of testicle growth in boys. Tanner stage 2 is the earliest point at which GnRH analogues have been prescribed for those with gender dysphoria.[46]

Given the complexities of pubertal development, many studies have examined the impacts of hormone treatments on a range of physical characteristics. During puberty, there is a rapid increase in bone mass that is important for maximising peak bone mineral density in adulthood. Studies have therefore focussed on bone development, and range of other physical attributes, such as metabolic functions. Adolescence is also a period of significant and complex changes in the structure and function of the brain. Research also seeks to capture information about the impact of the treatment on a broad range of mental health outcomes, and measures reporting patients' experiences of treatment. Some studies specifically measure the impacts of treatment on gender dysphoria itself.

3.1 Quality of research evidence about hormone treatments for gender dysphoria

Systematic reviews are one type of study that explore the range and quality of research available, analysing data from all available primary research literature. Specific criteria are designed and used to determine which studies to include or exclude.

The Cass Review commissioned two systematic reviews of evidence to report on what is known about the clinical effectiveness, safety and cost-effectiveness of these treatments for children and young people.[48] These reviews were compiled by the National Institute of Health and Care Excellence (NICE) in 2020 and examined:

- GnRH analogues to block puberty to treat gender dysphoria[56] [4]
- gender-affirming hormones to treat gender dysphoria[57] [5]

Both studies concluded that the quality of evidence available at the time of the review was low and that the certainty about the outcomes of their use is low when assessed with GRADE, a tool used to measure the quality of evidence in clinical practice.[58] This relates to the lack of reliable comparative studies on hormone treatments used in this context; incomplete reporting of treatments used; different approaches to measure outcomes; the influence of bias, confounding effects and chance on the results; and a lack of long-term follow up.

The Scottish Government commissioned Healthcare Improvement Scotland to conduct a rapid review (not peer-reviewed) of the evidence on using GnRH analogues, published after the NICE review, in order to inform national commissioning of services.[59] Published in July 2023, it concluded that although a few new studies had been published since the NICE review, they

[4] This review included analysis of nine individual studies.

[5] This review included analysis of ten individual studies.

are of low quality and do not lend more certainty to the conclusions of the NICE evidence review.

Another systematic review of both types of hormone therapy was commissioned by the Swedish Agency for Health Technology Assessment and Assessment of Social Services, and was published in 2023.[60] Of the 10,000 studies identified for consideration in the review, only 24 were of sufficient quality to be included. Of those included, the authors reported that the evidence was of low quality. This related to a lack of studies using a randomised control method to minimise bias, studies with small participant numbers, and a lack of long-term follow-up data.

Another academic systematic review of treatments was published in August 2023.[61] This used an analytical tool called PRISMA, allowing researchers to evaluate outcomes from multiple studies. It included 19 studies, reported that there was no impact on gender dysphoria symptoms and drew the same conclusion as the previous reviews relating to a paucity of evidence and a lack of follow-up research on participants.

The main findings from some of these studies are detailed later. Research in this area is subject to a high level of scrutiny and stakeholders may interpret research in different ways.

3.2 Gonadotropin-releasing hormone analogues

Gonadotropin-releasing hormone (GnRH) analogues, sometimes referred to as hormone or puberty blockers, suppress the release of hormones associated with puberty and stall the development of secondary sex characteristics (see Box 3).[56] GnRH analogues can be prescribed to transgender adults to interrupt the body's hormone production so that gender-affirming hormones can be more effective.[62]

Box 3 Mechanism of action of GnRH analogues

GnRH analogues are similar to the naturally produced hormone, Gonadotropin-Releasing Hormone. GnRH analogues pause puberty by acting on the pituitary gland in the brain to suppress the release of sex hormones.[56] This in turn halts the production of oestrogen by the ovaries and testosterone by the testes.[63] This inhibits physical development, notably of the secondary sex characteristics.

In girls, secondary sex characteristics include breast development and widening of the hips. In boys, this refers to characteristics including the growth of facial hair, increased muscle mass and deepening of the voice.

- In girls, GnRH analogues halt breast development and suppress menstruation.

- In boys, GnRH analogues halt the growth of genitalia and facial hair and lowering of the voice.[63]

Common side effects of these drugs include hot flushes, fatigue, headaches and low mood; these are usually short-term.[64] Triptorelin, the GnRH analogue used in England, is more commonly also used to pause precocious (or early onset) puberty or treat endometriosis and prostate cancer.[64]

The intention of prescribing GnRH analogues is to reduce the distress associated with the physical changes of puberty, especially as dysphoria may intensify with these changes.[65] It is argued by some that delaying puberty can give children and young people and their families more time to think about and explore gender identity.[66] Clinicians who have worked with children and young people with gender dysphoria suggest that not intervening and allowing natural puberty to progress may increase distress and harm psychological wellbeing.[66,67]

Currently, GnRH analogues may be prescribed from the early stages of puberty (Tanner Stage 2) after considering the risks of not intervening using these drugs.[68] GnRH analogues have been described by GIDS and other organisations with relevant expertise[46,69] as a physically reversible intervention: if a young person ceases treatment their body will continue to develop physically based on their sex hormones.[65]

However, there are uncertainties about the long-term effects of GnRH analogues when used in this context, at the time of significant and complex changes in all aspects of children's physical and psychological development during puberty.[30,56] Information provided by the NHS highlights that the psychological effects and impacts on some aspects of development are uncertain.[30]

One of these drugs is licensed as an effective treatment for children with a condition called precocious puberty. This drug can be prescribed off-label (see Box 4) to treat gender dysphoria.[70,71] The Cass Review[12] noted that "it is important that it is not assumed" that the same outcomes and side-effects of a GnRH analogue in precocious puberty, for which it is licensed, carries over to use in children and young people with gender dysphoria.

Box 4 Prescribing off-label

In England, a GnRH analogue called triptorelin[64,72] is licensed for use in precocious, or early onset, puberty. The use of this or other such drugs to treat gender dysphoria is 'off-label'.[73] This means that using GnRH analogues to delay puberty in children and young people with gender distress is not described as a use in the drug's licence. Using drugs 'off-label'[73] is not uncommon practice in medicine, especially in paediatric care. Prescribers use their professional judgement and knowledge of the research evidence to determine the benefit to individuals when using drugs 'off-label'.[74]

The impact of GnRH analogues on children and young people's development and mental health

The NICE systematic evidence review evaluated nine observational studies focussing on the clinical effectiveness of GnRH analogues.[56]

The review assessed the evidence to assess their impact on a range of outcomes including gender dysphoria, mental health and quality of life. Other outcomes evaluated the impacts on body image, bone density and cognitive functioning.

The review highlighted that, from the literature included in its analysis, it is not known if puberty suppression negatively impacts bone health in the long-term.

It is unclear how GnRH analogues and puberty disruption may affect adolescent brain development, and if there is an impact, whether it is fully reversible.[30,56,75]

One study referred to in the NICE review examined the impact of treatment on mental health in 70 children and young people. It reported that symptoms of depression improved, but the treatment did not affect anxiety.[76] As with other studies included in the NICE review, the evidence was considered to be of low quality using the GRADE system.

Impact of GnRH analogues on gender dysphoria

The systematic reviews by NICE, Healthcare Improvement Scotland and others have analysed the impact of the treatment on gender dysphoria. They concluded that the quality of the evidence for the impact of this treatment on this outcome was of very low certainty. The data thus far indicates that there is no statistically significant effect on gender dysphoria in the periods over which the studies included in the analyses took place.

3.3 Gender-affirming hormones

Gender-affirming hormones aim to induce the sex characteristics congruent with the individual's gender identity. The hormones used are testosterone for those registered female at birth and oestrogen for those registered male at birth. The NHS currently states that gender-affirming hormones can only be given once an individual has spent a minimum of 12 months on GnRH analogues, and only in those aged over 16 years.[30]

Impacts of gender-affirming hormones on development

Testosterone and oestrogen treatment can cause changes which are likely to be reversible, such as acne and decreased spontaneous erections respectively.[46] However, some changes are likely to be irreversible, for example voice lowering caused by taking testosterone or breast development with oestrogen medication.[30]

Impacts of gender-affirming hormones on gender dysphoria

A second NICE systematic review (commissioned by the Cass Review) analysed the impact of this treatment on gender dysphoria.[57] It concluded that the quality of the evidence for the impact of this treatment on this outcome was of very low certainty. One study suggested an improvement, but this was based on small study with 23 participants and using a study design lacking a control group.[77]

Impacts on fertility

Gender-affirming hormone treatment suppresses reproductive function and over time this can lead to a loss of fertility which may be irreversible.[78] Testosterone administration in girls can suppress the menstrual cycle and ovulation.[5] Prolonged oestrogen treatment in boys can lead to shrinking of the testicles and a loss of sperm production.[5]

The Human Fertilisation and Embryology Authority (HEFA), the UK regulatory body, states that fertility may be restored by stopping gender-affirming hormone treatment, but this is not guaranteed.[78] Before starting gender-affirming hormone treatment, NHS guidance states that the impact on fertility must be discussed with the individual and they may be referred to a NHS fertility clinic to discuss their options to retrieve and store eggs or sperm.[79]

However, for adolescents who have not gone through full puberty due to treatment with GnRH analogues, sexual maturation and reproductive function are not fully reached. There are techniques to preserve fertility once individuals produce gametes (tissues or eggs from the ovaries, and sperm from the testes).[78] Stopping hormone medication for a time could allow the usual progression of puberty to restart, permitting sexual maturation to finish.

3.4 Stakeholder perspectives on the NICE evidence reviews

In response to the lack of high quality research described in the NICE evidence reviews,[56,57] some have argued that the criteria NICE used to decide whether to include a study in its analysis was too restrictive and reserved for clinical trials research, rather than wider research done in a clinical setting. It is argued that important and valuable research was not included as part of the evidence review due to the narrow criteria.

The gold standard research method to explore the effectiveness of interventions is Randomised Controlled Trials (RCTs) where a control and treatment group are compared. It has been argued that it is not possible to produce this type of evidence as it would be unethical not to offer an intervention to children and young people, and that this method is not an appropriate tool with which to measure the effects of interventions.[80,81] The ethics committee reviewing a study by GIDS on treatment intervention (2011-14)[82] refused permission for this type of study. However, as documented in the NICE evidence reviews, some studies do compare a treatment group to another intervention, such as psychological support or social transition.[56,57]

3.5 International reviews on the use of hormone treatments

The Netherlands' main gender identity clinic developed the approach to prescribe GnRH analogues not earlier than Tanner Stage 2 (sometimes termed the 'Dutch approach').[83] GIDS implemented this approach from 2011 in a research protocol before it became routine clinical practice from 2014.[12,84] While many countries continue to offer a similar approach, several others are reviewing practices and issuing revised guidance based on their assessments of the scope and quality of the available evidence:

- A recent update to guidelines in Finland urged caution of the use of GnRH analogues but said that puberty suppression can be considered on a thorough case-by-case basis.[7,9]
- In France, the use of hormone treatments is available at any age with parental consent. However, the National Academy of Medicine issued a statement in 2022 advising caution in their use given unknown side-effects.[8]
- In 2022, the Swedish National Board of Health and Welfare announced a switch from recommending hormone treatments to children with gender dysphoria to avoiding them except in exceptional cases,[10] after completing a systematic review which showed insufficient evidence of the safety and efficacy of hormone treatments.[85]

- The Scottish Government commissioned Healthcare Improvement Scotland to review the most recent evidence on using GnRH analogues to treat children and young people. This is to inform the development of a nationally commissioned gender identity service.[59]

- In the US, the American Academy of Paediatrics has recently restated its gender-affirming approach, that includes hormone treatments, pending a systematic review.[86]

The Cass Review is conducting an international survey of clinical services in other countries with comparable health systems, to understand the range of medical guidance and services provided.[87]

3.6 Legal cases relating to hormone treatments

The use of hormone treatments in children and young people with gender dysphoria has resulted in legal challenges and rulings in England and Wales, relating to prescribing practices, and children and young people's ability to consent (Box 5).[88,89]

For those aged under 16 years old, the concept of Gillick competence[88,90] is the principle used to judge a child's ability to consent to medical treatment.[91] [6] This concept recognises children's ability – growing with age – to make important decisions, understand their implications and to give their consent.[92] Adults with parental responsibility can, in principle, give consent when a child is not Gillick competent, where the adults are acting within the scope of that parental responsibility (for instance, taking appropriate medical advice).

The courts in England and Wales have not considered in detail what acting within the scope of parental responsibility requires in the context of consenting to GnRH analogues of a child lacking Gillick competence. Cases where a child, parents and doctors disagree are decided in the courts.

The complexities regarding children and young people's ability and autonomy to consent to medical treatment are explained in more detail in POSTnote 685.[93]

In the 2020 Bell v Tavistock case[94] (Box 5) it was argued that GnRH analogues differed to other clinical treatments, resulting in a declaration that the court should be involved in authorising their use. This was overturned by the Court of Appeal in 2021, ruling that competent children can consent to treatment with GnRH analogues without the need for court involvement.[95]

Court involvement in the care and welfare of children with gender dysphoria varies internationally.[96,97] It is argued that a clear clinical decision-making framework on using treatments will minimise court involvement, which is

[6] For those over 16 years old, the Mental Capacity Act applies.[89]

costly, time-consuming and challenging for children and young people and their families.[97]

Box 5 Legal cases in England and Wales about hormone treatments used to treat gender dysphoria

December 2020 – Bell v Tavistock [2020] EWHC 3274 (Admin)[94] a judicial review in the High Court concerned children's ability to give informed consent to taking GnRH analogues, and GIDS' policy and practice on this. The court gave a declaration specifying what informed consent would require in relation to the treatment, and guidance about what a child under 16 years would need to understand to give informed consent. The court noted that clinicians may regard cases as requiring court authorisation before starting treatment.[98] This judgment was referred to the Court of Appeal.

March 2021 AB v CD and others[99] A case in the High Court determined whether parents have a right in law to consent on behalf of a child under 16 years old to the administration of GnRH analogues, and whether they fall into a special category of medical treatment requiring an application to the court before they can be prescribed, either as a rule, or as a matter of good practice. The Court ruled that GnRH analogues do not fall into this "special category" definition.

September 2021 - Bell & anr v The Tavistock and Portman NHS Trust[95] A hearing in the Court of Appeal overturned the 2020 judgement. It concluded that the High Court should not have made a declaration about the information that a child under 16 would need about GnRH analogues, or given guidance on Gillick competence to give consent, or on court involvement. This reaffirmed the principle established in the House of Lords ruling in Gillick[90] that doctors, not judges, should decide on the capacity of children aged under 16 to consent to medical treatment.

4 Stakeholder perspectives

There are differing opinions about the prescribing of hormones to children and young people with gender dysphoria. Stakeholders stress the importance of remembering that children and young people who may be vulnerable are at the centre of these conversations.

Some argue that there has been a narrative surrounding the prescribing of hormone treatments to children and young people, propagating the idea that hormones are prescribed easily to gender-questioning children and young people.[100–102] LGBT organisations refute this, citing, for example, the lengthy waiting and assessment process in GIDS.[103,104] Some stakeholders state that hormone treatments represent a relatively safe option, and that it is necessary to consider the potential risks to mental health and harm that may result from no treatment.[105] Some comment that using GnRH analogues might prevent worsening of dysphoria and distress and this is itself is a positive outcome.[65,106]

Others argue that hormone treatments used in this way are experimental, lack scientific evidence to support their use in this context, and that therefore a more cautious approach should be taken to interfering with children's development and gender exploration.[107–109] They also draw attention to the likelihood that children and young people who take GnRH treatment are more likely than those who do not to progress through a medical transition. Data from studies of children and young people treated in gender identity services indicates that those receiving GnRH analogues are very likely to go on to receive cross-sex hormones.[45,107] Data from several studies analysed in the rapid review commissioned by the Scottish Government indicates that between 3.4–7% of children and young people stopped hormone treatment.[59]

Some LGBT organisations emphasise that transgender identities should not be pathologised.[103] This is reflected in the World Health Organization (WHO) update to the international classification for recording health conditions: it changed gender incongruence from a mental health to a sexual health classification.[15] The human rights group Liberty argue that access to hormone treatments must not be restricted.[110]

The Cass Review is approaching the treatment of gender dysphoria from a clinical perspective to ensure that children and young people receive the same standard of care as they would in any other paediatric NHS service.

5 The Cass Review

The Independent Review of Gender Identity Services for Children and Young People, also known as the Cass Review, was commissioned by NHS England and NHS Improvement to explore how services could be improved, and to ensure that the NHS can commission safe and effective services.[12] This was in response to a range of issues including the rise in referrals, challenges to GIDS' operational capacity, and concern as to how the NHS should care for this group of children and young people.

The review is examining several issues including care pathways, clinical audit, management and treatments; workforce issues; and research priorities. It is also evaluating international evidence and approaches. The final report is expected in late 2023.

5.1 Research commissioned by the Cass Review

The Cass Review has commissioned several research reviews.[48] The University of York has been commissioned to analyse healthcare data on 9,000 individuals who have attended GIDS, including medical records from endocrine services.[111]

It is expected that this work will provide informative evidence on the pathways that individuals referred to GIDS have taken, what support and interventions were received, and the outcomes. This research can contribute to addressing the range of knowledge gaps on the impacts of hormone treatments.

It will also inform the development of a research infrastructure around these services to further build the evidence base, particularly for high quality longitudinal research on long-term health impacts.

NHS England has recently established the Children and Young People's Gender Dysphoria Research Oversight Board to guide research in this area and to inform clinical practice and national policy.[112]

Interim report of findings

Regarding GnRH analogues (puberty blockers), an interim report published in February 2022 stated that there is currently insufficient evidence to make any policy recommendation on their use in under 16s.[12]

Stakeholder response

The Cass Review and its interim report recommendations have had a mixed response from stakeholders.[113–115] Concerns have been raised by Stonewall

and Mermaids about children and young people's mandatory inclusion to a research protocol, as recommended by the Cass Review, for those wishing to access NHS hormone treatment.[116,117] Concerns reflect a range of perspectives from the view that treatment access should be based on clinical need, and that the proposal is unethical and coercive, and could result in families seeking care outside the NHS. The wider complexities of conducting this research have been discussed by academic ethicists.[118] The NHS interim service specification also outlines a care pathway for those children and young people who started hormone treatment outside the NHS; some stakeholders had raised this as a concern.[115,119]

5.2 Recent developments in NHS services

Informed by the Cass Review, NHS England has published several updated policies and structures that will guide the future development of NHS gender incongruence and dysphoria services.

NHS interim service specification

NHS England published its interim service specification for children and young people with gender incongruence in June 2023.[36] It outlines that puberty-suppressing hormone therapies will only be available as part of an approved research study; this means that a child must be enrolled into the formal research protocol.[36] The Cass Review team responded to the NHS interim specification[40] in December 2022,[120] and welcomed proposals to embed research on hormone treatments into clinical practice.

Other developments in NHS services and policy

In response to the Cass Review, and as part of the development of services, NHS England has published information about new governance structures, analysis and policy reviews, including:

- a new National Programme Board for Gender Services, responsible for configuring specialist services, and making recommendations to the NHS Specialised Commissioning National Commissioning Group.[35,121,122]
- establishment of the Children and Young People's Gender Dysphoria Research Oversight Board. Tasked with ensuring that research is embedded in services as they develop, it will also seek to influence the generation of research evidence to fill knowledge gaps relevant to treatments and national clinical policies.[112]
- commissioning a literature review to determine whether relevant research has been published that would materially change the conclusions of the systematic reviews published by NICE in 2020.[123]
- an NHS England consultation on an interim clinical policy on the proposition that GnRH analogues are not routinely commissioned for children and young people with gender incongruence or dysphoria; the consultation closed on 1 November 2023.[124]

References

1. Gender Identity Development Service, NHS.
2. Referrals to GIDS Financial Years 2010-11 to 2021-22. Gender Identity Development Service.
3. NHS England (2023). NHS commissioning » Implementing advice from the Cass Review.
4. Gender Identity Development Service - The Tavistock and Portman NHS Foundation Trust.
5. Telfer, M. M. *et al.* (2018). Australian standards of care and treatment guidelines for transgender and gender diverse children and adolescents. *Med J Aust*, Vol 209, 132–136.
6. (2020). Re: Imogen (No. 6) Family Court of Australia 761 2020-09-10.
7. (2020). Medical treatment methods for dysphoria associated with variations in gender identity in minors – recommendation. COHERE Finland.
8. Medicine and gender transidentity in children and adolescents – Académie nationale de médecine | Une institution dans son temps.
9. (2020). *Recommendation of the Council for Choices in Health Care in Finland (PALKO / COHERE Finland) Medical Treatment Methods for Dysphoria Related to Gender Variance In Minors Unofficial Translation*. The Council for Choices in Health Care (COHERE Finland).
10. (2022). Care of children and adolescents with gender dysphoria – Summary. The National Board of Health and Welfare.
11. Michelle Taylor-Sands (2022). Australia's courts and gender dysphoria. *Pursuit*.
12. (2022). The Cass Review. Independent review of gender identity services for children and young people: Interim report.
13. Heath, L. *et al.* (2023). Factors shaping gender incongruence and gender dysphoria, and impact on health services. Parliamentary Office of Science & Technology, UK Parliament.
14. Glossary. *Gender Identity Development Service*.
15. International Classification of Diseases 11th Edition, ICD-11 for Mortality and Morbidity Statistics. World Health Organization.
16. (2017). Gender dysphoria. *nhs.uk*.
17. American Psychiatric Association (2013). Diagnostic and Statistical Manual of Mental Disorders, 5th edn. American Psychiatric Publishing, Inc.
18. (2022). International Classification of Diseases Eleventh Revision (ICD-11). World Health Organization.
19. (2015). Frequently Asked Questions about Transgender People. *National Center for Transgender Equality*.
20. (2022). Think your child might be trans or non-binary? *nhs.uk*.

21. Bhargava, A. *et al.* (2021). Considering Sex as a Biological Variable in Basic and Clinical Studies: An Endocrine Society Scientific Statement. *Endocrine Reviews*, Vol 42, 219–258.
22. Office for National Statistics (2019). What is the difference between sex and gender?
23. Gender Recognition Act 2004.
24. Equality Act 2010.
25. World Health Organisation Gender and health.
26. (2018). Reform of the Gender Recognition Act - Government Consultation. Government Equalities Office.
27. Psychiatry.org - What is Gender Dysphoria?
28. NHS Digital (2021). Sex, gender and sexuality. *nhs.uk*.
29. Government Equalities Office (2018). Trans People in the UK.
30. (2018). Gender dysphoria - Treatment. *nhs.uk*.
31. (2017). Gender dysphoria. *nhs.uk*.
32. Gender Identity Service - Leeds and York Partnership NHS Foundation Trust. *Our Services*.
33. About us. *Gender Identity Development Service*.
34. (2022). Read the proposed interim specification for new gender services. *Gender Identity Development Service*.
35. NHS commissioning, Gender Services Clinical Programme.
36. NHS England (2023). Interim specialist service for children and young people with gender incongruence.
37. Interim Clinical Policy: Puberty suppressing hormones for children and adolescents who have gender incongruence/dysphoria - NHS England.
38. Make a referral. *Gender Identity Development Service*.
39. National Referral Support Service for The NHS Gender Incongruence Service for Children and Young People.
40. NHS England (2022). Interim service specification: Specialist service for children and young people with gender dysphoria (phase 1 providers).
41. (2019). Referrals to the Gender Identity Development Service (GIDS) level off in 2018-19.
42. Van Der Miesen, A. I. R. *et al.* (2016). Gender dysphoria and autism spectrum disorder: A narrative review. *International Review of Psychiatry*, Vol 28, 70–80. Taylor & Francis.
43. Kallitsounaki, A. *et al.* (2023). Autism Spectrum Disorder and Gender Dysphoria/Incongruence. A systematic Literature Review and Meta-Analysis. *J Autism Dev Disord*, Vol 53, 3103–3117.
44. Masic, U. *et al.* (2022). Trajectories of transgender adolescents referred for endocrine intervention in England. *Arch Dis Child*, archdischild-2022-324283.
45. Carmichael, P. *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*, Vol 16, e0243894. Public Library of Science.
46. Hembree, W. C. *et al.* (2017). Endocrine Treatment of Gender-Dysphoric/Gender-Incongruent Persons: An Endocrine Society* Clinical Practice Guideline. *The Journal of Clinical Endocrinology & Metabolism*, Vol 102, 3869–3903.
47. Coleman, E. *et al.* (2022). Standards of Care for the Health of Transgender and Gender Diverse People, Version 8. *International Journal of Transgender Health*, Vol 23, S1–S259.

48. Research Programme – Cass Review.
49. Child Growth Foundation Puberty and the Tanner Stages: Developed by Professor James M Tanner.
50. Handelsman, D. J. (2000). Androgen Physiology, Pharmacology, Use and Misuse. in *Endotext*. (eds. Feingold, K. R. et al.) MDText.com, Inc.
51. Nassar, G. N. *et al.* (2022). Physiology, Testosterone. in *StatPearls*. StatPearls Publishing.
52. Alonso, L. C. *et al.* (2002). Oestrogens and puberty. *Best Pract Res Clin Endocrinol Metab*, Vol 16, 13–30.
53. Puberty. *111.wales.nhs.uk*.
54. (2018). Starting your periods. *nhs.uk*.
55. Emmanuel, M. *et al.* (2022). Tanner Stages. in *StatPearls*. StatPearls Publishing.
56. (2020). *Evidence review: Gonadotrophin releasing hormone analogues for children and adolescents with gender dysphoria*. NICE.
57. National Institute for Health and Social Care Excellence (2020). *Evidence review: Gender-affirming hormones for children and adolescents with gender dysphoria*. NICE.
58. What is GRADE? | BMJ Best Practice.
59. (2023). Rapid Response - Evidence synthesis: puberty blockers for children and young people with gender dysphoria. Healthcare Improvement Scotland.
60. Ludvigsson, J. F. *et al.* A systematic review of hormone treatment for children with gender dysphoria and recommendations for research. *Acta Paediatrica*, Vol n/a,
61. Thompson, L. *et al.* (2023). A PRISMA systematic review of adolescent gender dysphoria literature: 3) treatment. *PLOS Global Public Health*, Vol 3, e0001478. Public Library of Science.
62. *A guide to hormone therapy for trans people (NHS)*. Gender Identity Research and Education Society (GIRES).
63. Waal, H. A. D. de *et al.* (2006). Clinical management of gender identity disorder in adolescents: a protocol on psychological and paediatric endocrinology aspects. *European Journal of Endocrinology*, Vol 155, S131–S137. European Society of Endocrinology.
64. Triptorelin | Drugs | BNF content published by NICE.
65. Puberty and physical intervention. *Gender Identity Development Service*.
66. Costa, R. *et al.* (2016). To treat or not to treat: puberty suppression in childhood-onset gender dysphoria. *Nat Rev Urol*, Vol 13, 456–462. Nature Publishing Group.
67. Cohen-Kettenis, P. T. *et al.* (2011). Treatment of adolescents with gender dysphoria in the Netherlands. *Child Adolesc Psychiatr Clin N Am*, Vol 20, 689–700.
68. Butler, G. *et al.* (2019). Puberty blocking in gender dysphoria: suitable for all? *Archives of Disease in Childhood*, Vol 104, 509–510. BMJ Publishing Group Ltd.
69. Coleman, E. *et al.* (2012). Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7. *International Journal of Transgenderism*, Vol 13, 165–232.
70. Precocious puberty - Symptoms, diagnosis and treatment | BMJ Best Practice.
71. (2018). Early or delayed puberty. *nhs.uk*.

72. Decapeptyl SR 11.25mg, powder and sovent for suspension for injection (triptorelin pamoate) UK Licence No: PL 34926/0019. Medicines and Healthcare products Regulatory Agency.
73. Information for the public on medicines - Making decisions about your care. *National Institute for Health and Care Excellence*.
74. Off-label or unlicensed use of medicines: prescribers' responsibilities. *GOV.UK*.
75. Staphorsius, A. S. *et al.* (2015). Puberty suppression and executive functioning: An fMRI-study in adolescents with gender dysphoria. *Psychoneuroendocrinology*, Vol 56, 190–199.
76. de Vries, A. L. C. *et al.* (2011). Puberty Suppression in Adolescents With Gender Identity Disorder: A Prospective Follow-Up Study. *The Journal of Sexual Medicine*, Vol 8, 2276–2283.
77. López de Lara, D. *et al.* (2020). Psychosocial assessment in transgender adolescents. *An Pediatr (English version) (Barc)*, Vol 93, 41–48. Elsevier.
78. Information for trans and non-binary people seeking fertility treatment | HFEA.
79. (2016). *Clinical Commissioning Policy: Prescribing of Cross-Sex Hormones as part of the Gender Identity Development Service for Children and Adolescents*. NHS England.
80. Giordano, S. *et al.* (2020). Is puberty delaying treatment 'experimental treatment'? *Int J Transgend Health*, Vol 21, 113–121.
81. Ashley, F. *et al.* (2023). Randomized-controlled trials are methodologically inappropriate in adolescent transgender healthcare. *International Journal of Transgender Health*, Vol 0, 1–12. Taylor & Francis.
82. Carmichael, P. *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*, Vol 16, e0243894. Public Library of Science.
83. Cohen-Kettenis, P. T. *et al.* (1998). Pubertal delay as an aid in diagnosis and treatment of a transsexual adolescent. *European Child & Adolescent Psychiatry*, Vol 7, 246–248.
84. The Tavistock and Portman NHS Foundation Trust (2021). Early Intervention Study shows puberty blockers are a well-received intervention in carefully selected patients —.
85. (2022). Hormone treatment for gender dysphoria - children and young people A systematic review and evaluation of medical aspects. Swedish Agency for Health Technology Assessment and Social Evaluation.
86. Wyckoff, A. S. *et al.* (2023). AAP reaffirms gender-affirming care policy, authorizes systematic review of evidence to guide update. American Academy of Paediatrics.
87. Cass, H. (2023). Entry 9 – Learning together – Cass Review.
88. (2017). Consent to treatment - Children and young people, NHS. *nhs.uk*.
89. Mental Capacity Act 2005. Statute Law Database.
90. (1985). Gillick v West Norfolk and Wisbech AHA [1985] UKHL 7.
91. GP mythbuster 8: Gillick competency and Fraser guidelines - Care Quality Commission.
92. Gillick competence and Fraser guidelines. *NSPCC Learning*.

93. (2022). Mental Health Act reform - children and young people POSTnote 685. *UK Parliament POST*,
94. (2020). R (on the application of) Quincy Bell and A v Tavistock and Portman NHS Trust and others [2020] EWHC 3274(Admin), Summary.
95. The Lord Burnett of Maldon, Sir Geoffrey Vos, Lady Justice King (2021). Bell & Anor v The Tavistock and Portman NHS Foundation Trust [2021] EWCA Civ 1363.
96. Giordano, S. (2023). *Children and Gender: Ethical issues in clinical management of transgender and gender diverse youth, from early years to late adolescence*. Oxford University Press.
97. Taylor-Sands, M. M. *et al.* (2022). Judicial Discomfort over 'Innovative' Treatment for Adolescents with Gender Dysphoria. *Medical Law Review*, Vol 30, 479–508.
98. (2020). R (on the application of) Quincy Bell and A v Tavistock and Portman NHS Trust and others [2020] EWHC 3274 (Admin) - Summary. Judiciary of England and Wales.
99. Mrs Justice Lieven (2021). AB v CD & Ors [2021] EWHC 741 (Fam).
100. Chain, B. (2022). Psychiatrist claims parents falsely said their 'toddlers were trans'. *Mail Online*.
101. Reid, S. (2022). When WILL Britain see the danger of giving children puberty blockers? *Mail Online*.
102. What went wrong at the Tavistock clinic for trans teenagers? *The Times*.
103. (2021). Gendered Intelligence Position statement – Puberty Delaying Treatment. Gendered Intelligence.
104. (2023). Gender Dysphoria Services - Waiting Times for Children and Young People - a Freedom of Information request to Arden and Greater East Midlands Commissioning Support Unit. *WhatDoTheyKnow*.
105. (2022). GIRES submisson for Interim Service Specification for Specialist Gender Dysphoria Services. *Gender Identity Research & Education Society*.
106. Butler, G. *et al.* (2018). Assessment and support of children and adolescents with gender dysphoria. *Archives of Disease in Childhood*, Vol 103, 631–636. BMJ Publishing Group Ltd.
107. Heneghan, C. (2019). Gender-affirming hormone in children and adolescents. *BMJ EBM Spotlight*.
108. (2022). NICE review echoes concerns raised by experts: poor evidence base for puberty blockers and cross-sex hormones – Bayswater Support.
109. Puberty blockers. *Transgender Trend*.
110. Liberty: trans children have the right to healthcare. *Liberty*.
111. Quantitative Research – Cass Review.
112. NHS commissioning, Children and Young People's Gender Dysphoria Research Oversight Board.
113. (2022). Cass Review Interim Report published. *Transgender Trend*.
114. (2022). The Cass Review Interim Report: Mermaids' Statement. *Mermaids*.
115. British Psychological Society BPS Response - Call for evidence.
116. (2023). Stonewall statement on NHS England's final Interim Service Specification for youth gender services. *Stonewall*.
117. (2023). New NHS England guidelines restricting future access to puberty blockers: Our analysis. Mermaids.

118. Wilkinson, D. (2019). Puberty-Blocking Drugs: The Difficulties of Conducting Ethical Research, Practical Ethics, University of Oxford. *Puberty-Blocking Drugs: The Difficulties of Conducting Ethical Research*.
119. (2022). Proposed changes for England's future youth gender services: An explainer. *Mermaids*.
120. Review Response to NHS England's Consultation on the Interim Service Specification for Specialist Gender Dysphoria Services for Children and Young People. The Cass Review.
121. NHS commissioning » Specialised services.
122. Harker, R. *et al.* (2023). The structure of the NHS in England. House of Commons Library, UK Parliament.
123. (2023). URN 1927 Literature Surveillance Report. NHS England.
124. (2023). Interim Clinical Policy: Puberty suppressing hormones for children and adolescents who have gender incongruence/dysphoria [1927]. NHS England.

Contributors

POST is grateful to Charlotte Constable Fernandez for researching this briefing, to the Medical Research Council for funding her parliamentary fellowship, and to all contributors and reviewers, including those listed below. For further information on this subject, please contact the co-author, Dr Sarah Bunn.

Members of the POST Board*

Dr Katie Alcock, Lancaster University

Professor Susan Bewley, King's College London*

British Psychological Society

Cass Review Team*

Professor Annelou de Vries, Amsterdam University Medical Centres

Gendered Intelligence

Professor Simona Giordano, University of Manchester*

LGBT Foundation*

Mermaids*

Alex Ruck-Keene KC, 39 Essex Chambers*

Transgender Trend*

Dr Claudia Zitz, Gender Plus*

*Denotes people and organisations who acted as external reviewers of the briefing.

The Parliamentary Office of Science and Technology (POST) is an office of both Houses of Parliament. It produces impartial briefings designed to make scientific information and research accessible to the UK Parliament. Stakeholders sometimes contribute to and review POSTbriefs. POST is grateful to these contributors.

POST's published material is available to everyone at post.parliament.uk. Get our latest research delivered straight to your inbox. Subscribe at post.parliament.uk/subscribe.

post.parliament.uk

@POST_UK