Technical Report for the *Advice on the use of puberty suppressants in the care of trans and gender diverse people aged under 18*

For public consultation

November 2026

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Use of artificial intelligence (AI)

This technical report was drafted without AI assistance. AI tools were used only to review the document for consistency with the Australian Government Style Manual.

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Background

On 31 January 2025 the Minister for Health and Ageing, the Hon Mark Butler, asked NHMRC to develop new national clinical practice guidelines for the care of trans and gender diverse people aged under 18 (Gender Guidelines). The Minister asked NHMRC to prioritise advice relevant to the use of puberty suppression medication in trans and gender diverse people under age 18. NHMRC developed the advice consistent with its statutory functions under the National Health and Medical Research Council Act 1992.

In October 2025, Cochrane Australia was contracted by the NHMRC to design a research protocol and undertake a systematic review on the effects of puberty suppression medications in young people aged under 18 (provided in separate reports: Research Protocol[1] and the Evidence Evaluation Report[2]).

There are multiple systematic reviews both nationally and internationally that have examined the effects of puberty suppression on young people experiencing gender incongruence or dysphoria. These reviews are published in the peer reviewed research literature and vary widely in terms of the questions addressed and review methodology adopted.

This technical report outlines the key decisions made regarding the evidence that has informed the development of the *Advice on the use of puberty suppressants in the care of trans and gender diverse people aged under 18* (Advice on Puberty Suppressants).

Information about the administrative processes for developing the guideline are provided in the Administrative Report for the Advice on Puberty Suppressants.

1. Refining the clinical question on puberty suppression

The Gender Guidelines Development Committee first met on the 31 October 2025 to discuss questions about puberty suppression and potential outcomes relevant to the questions. The Committee agreed that the core question should focus on whether puberty suppressants should be used for young people experiencing gender incongruence and/or dysphoria. The Committee noted the scope of the guidelines was limited to young people aged under 18 and that the evidence base should reflect this scope.

The final question addressed in the Evidence-to-Decision process for the recommendation was:

Should puberty suppressants vs. no puberty suppressants be used for young people experiencing gender incongruence with or without dysphoria?

The population, intervention and comparators are further defined in the Research Protocol.[1]

2. Search and selection of outcomes

Throughout 2025, potentially relevant outcomes were initially identified from existing guidelines, standards and evidence reviews that included the use of puberty suppressants for people under age 18 (listed in **Error! Reference source not found.**). Reported health outcomes were extracted from these documents. An initial list of potential outcomes based on these sources is provided in **Error! Reference source not found.**.

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Table 1. Existing guidelines and systematic reviews from which potentially relevant outcomes were initially identified

Country	Title	Sourced date
Australia	Telfer MM, Tollit MA, Pace CC, Pang KC. *Australian standards of care and treatment guidelines for transgender and gender diverse children and adolescents*. *Med J Aust*. 2018;209(3):132–6. doi: 10.5694/mja17.01044. **(Australian Standards, 2020)** Bragge N, Delafosse G, Temple-Smith S. *Evidence for effective interventions for children and young people with gender dysphoria—update.* An Evidence Check rapid review brokered by the Sax Institute (www.saxinstitute.org.au) for the NSW Ministry of Health. Published 1 February 2024. https://www.saxinstitute.org.au/resource/evidence-for-effective-interventions-for-children-and-young-people-with-gender-dysphoria-update/ **(Sax Review, 2024)**	February 2025
Finland	Board for Selection of Choices for Health Care in Finland (PALKO/COHERE Finland). *Recommendation by the Board for Selection of Choices for Health Care in Finland – Medical Treatment Methods for Dysphoria Related to Gender Variance in Minors.* Original publication published in 2020. Certified English translation published 18 May 2022. Lingua Franca Translations, Coconut Grove, Florida. https://archive.iftcc.org/finnish-2020-cohere-guidelines-minors-finland-certified-translation/ **(Finland, 2020)**	April 2025
France	Brezin et al. *Endocrine management of transgender adolescents: Expert consensus of the French society of pediatric endocrinology and diabetology working group.* Archives de Pédiatrie Published 17 November 2024. Endocrine management of transgender adolescents: Expert consensus of the french society of pediatric endocrinology and diabetology working group - ScienceDirect **(France, 2024)**	October 2025

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Country	Title	Sourced date
Germany	Association of Scientific Medical Societies in Germany (AWMF). *Gender Incongruence and Gender Dysphoria in Childhood and Adolescence: Diagnosis and Treatment.* Published 2025. https://register.awmf.org/de/leitlinien/detail/028-014 **(Germany, 2025)**	June 2025
New Zealand	New Zealand Ministry of Health. *Impact of Puberty Blockers in Gender-Dysphoric Adolescents: An evidence brief.* Wellington: Ministry of Health. Published 21 November 2024. https://www.health.govt.nz/publications/impact-of-puberty-blockers-in-gender-dysphoric-adolescents-an-evidence-brief **(New Zealand, 2024)**	April 2025
South Africa	Tomson A, McLachlan C, Wattrus C, et al. *Southern African HIV Clinicians Society Gender-affirming healthcare guideline for South Africa. South Afr J HIV Med.* 2021;22(1):, a1299. doi: 10.4102/sajhivmed.v22i1.1299. **(South Africa, 2021)**	April 2025
Sweden	Socialstyrelsen (Sweden National Board of Health and Welfare. *Care of children and adolescents with gender dysphoria – summary of national guidelines.* Published December 2022. https://www.socialstyrelsen.se/publikationer/care-of-children-and-adolescents-with-gender-dysphoria--summary-of-national-guidelines--december-2022-2023-1-8330/ **(Sweden, 2022)**	April 2025
UK	Taylor J, Mitchell A, Hall, R, et al. *Interventions to suppress puberty in adolescents experiencing gender dysphoria or incongruence: a systematic review. Archives of Disease in Childhood.* 2024;109:s33-s47. doi: 10.1136/archdischild-2023-326669. **(UK, 2024)**	April 2025
US	Hembree CW, Cohen-Kettenis PT, Gooren L, Hannema SE, Meyer WJ, Murad MH, et al. *Endocrine treatment of gender-dysphoric/gender-incongruent persons: an Endocrine Society Clinical Practice Guideline. J. Clin. Endocrinol. Metab.* 2018;102(11):3869-3903. doi: 10.1210/jc.2017-01658. **(Endocrine Society, US, 2017)**	April 2025

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Country	Title	Sourced date
	Utah Health and Human Services. *Systematic Medical Evidence Review of Hormonal Transgender Treatment Report.* Submitted August 2024. Accessed 2026. https://le.utah.gov/AgencyRP/reportingDetail.jsp?rid=636 **(Utah Review, US, 2024)**	2026
WPATH (Global)	Coleman E, et al. *Standards of care for the health of transgender and gender diverse people, version 8. International Journal of Transgender Health*. 2022;23(Sup1):. S1–S259. doi: 10.1080/26895269.2022.2100644. **(WPATH Standards of Care, 2022)**	April 2025

Table 2. **Outcomes extracted from existing guidelines and systematic reviews, grouped based on Cochrane Taxonomy[3]**

Core area	Outcome domain	Outcomes extracted from existing guidelines and systematic reviews
Adverse events (unintended consequences)	Not specifically named	**Safety / Adverse effects** – Endocrine Society, US, 2017; Finland, 2020; France, 2024; Germany, 2025; New Zealand, 2024; Sax Review, 2024; Sweden, 2022; UK, 2024; Utah Review, US, 2024
Death	Mortality/survival	**Death by suicide** – Sax Review, 2024; UK, 2024; Utah Review, US, 2024
Life impact	Cognitive functioning	**Cognitive/neurodevelopment** – Germany, 2025; Sweden, 2022; UK, 2024
	Delivery of care	**Family Satisfaction with Care and Treatment** – Australian Standards, 2020; Endocrine Society, US, 2017; Finland, 2020; South Africa, 2021; UK, 2024; Utah Review, US, 2024 **Satisfaction with care, treatment** – Australian Standards, 2020; Endocrine Society, US, 2017; Finland, 2020; UK, 2024; Utah Review, US, 2024
	Emotional functioning/wellbeing	**Body image** – Utah Review, US, 2024

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Core area	Outcome domain	Outcomes extracted from existing guidelines and systematic reviews
		Body-Related Psychological Wellbeing – Australian Standards, 2020; Finland, 2020; France, 2024; New Zealand, 2024; Sax Review, 2024; South Africa, 2021; Sweden, 2022; UK, 2024; Utah Review, US, 2024 **Body satisfaction** – Australian Standards, 2020; Endocrine Society, US, 2017; Finland, 2020; UK, 2024; Utah Review, US, 2024 **Global function** – UK, 2024 **Mental Health and Wellbeing** – Australian Standards, 2020; Finland, 2020; France, 2024; New Zealand, 2024; Sax Review, 2024; South Africa, 2021; Sweden, 2022; UK, 2024; Utah Review, US, 2024 **Self-esteem** – UK, 2024
	Global quality of life	**Quality of life** – Finland, 2020; New Zealand, 2024; Sax Review, 2024; South Africa, 2021; Sweden, 2022; UK, 2024; Utah Review, US, 2024
	Personal circumstances	**Detransition, Regret, Discontinuation, Re-identification** – Finland, 2020; Sweden, 2022; UK, 2024
	Role functioning	**School participation, performance** - South Africa, 2021; Sweden, 2022
	Social functioning	**Social functioning/family functioning/ relationships** – Finland, 2020; Germany, 2025; New Zealand, 2024; South Africa, 2021; Sweden, 2022; UK, 2024; Utah Review, US, 2024
Physical health	Cardiac outcomes	**Cardiovascular health** – UK, 2024; Endocrine Society, US, 2017; Utah Review, US, 2024
	Metabolism and nutrition outcomes	**Blood Lipids** – WPATH Standards of Care, 2022 **Blood pressure** – Utah Review, US, 2024 **Glucose metabolism** – WPATH Standards of Care, 2022

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Core area	Outcome domain	Outcomes extracted from existing guidelines and systematic reviews
Physiological/clinical		**Growth (height)** – France, 2024; Sweden, 2022; UK, 2024; Utah Review, US, 2024 **Metabolic function, insulin sensitivity, liver function, kidney function** – Utah Review, US, 2024 **Total body weight, Body Mass Index (BMI), Body composition** – Sax Review, 2024; UK, 2024; Utah Review, US, 2024
	Musculoskeletal and connective tissue outcomes	**Bone health / bone mineral density** – Endocrine Society, US, 2017; France, 2024; Finland, 2020; UK, 2024; Utah Review, US, 2024
	Physiological development and functioning	**Pubertal Development / Progression** – Sweden, 2022 **Secondary Sex Characteristic Development** – Sweden, 2022 **Sexual function** – France, 2024; Germany 2025
	Pregnancy, puerperium and perinatal outcomes	**Fertility** – Endocrine Society, US, 2017; Finland, 2020; France, 2024; Sweden, 2022; UK, 2024
	Psychiatric or clinical outcomes	**Anxiety** – UK, 2024; Sax Review, 2024; Utah Review, US, 2024; WPATH Standards of Care, 2022 **Depression** – UK, 2024; Sax Review, 2024; Utah Review, US, 2024; WPATH Standards of Care, 2022 **Gender dysphoria/Incongruence** – Australian Standards, 2020; Endocrine Society, US, 2017; Finland, 2020; New Zealand, 2024; South Africa, 2021; Sweden, 2022; UK, 2024; Utah Review, US, 2024 **Psychological Distress** - Australian Standards, 2020; France, 2024; Finland, 2020; New Zealand, 2024; Sax Review, 2024; South Africa, 2021; Sweden, 2022; UK, 2024; Utah Review, US, 2024 **Self-harm** - Australian Standards, 2020; Finland, 2020; UK, 2024 **Suicidality** - Australian Standards, 2020; Finland, 2020; South Africa, 2021; Sax Review, 2024; UK,

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Core area	Outcome domain	Outcomes extracted from existing guidelines and systematic reviews
		2024; Utah Review, US, 2024; WPATH Standards of Care, 2022

As the guidelines and reviews often use different terms or definitions to describe similar concepts, similar or overlapping outcomes were grouped together to provide a starting point for discussion by the Gender Guidelines Development Committee. For example, depression, anxiety, and psychological distress were combined under *Mental Health*.

Outcomes were presented to the Gender Guidelines Development Committee for discussion at the 31 October 2025 meeting.

The draft list was iteratively refined by NHMRC based on discussions with the evidence reviewers and feedback from the Gender Guidelines Development Committee.

3. Outcome prioritisation

The refined list of outcomes was then presented to the Gender Guidelines Development Committee and the Gender Guidelines Reference Panel for feedback through a survey. The survey was issued out-of-session via email on 21 November 2025 to 42 individuals (members of the Gender Guidelines Development Committee and the Gender Guidelines Reference Panel) via Citizen Space. There were 29 respondents; a majority of members from both Committees.

Participants were asked to rate 18 outcomes on a 9-point scale (using the GRADE rating scale: 1 is not important - 9 is critical to decision making) and to provide comment on these decisions.

When rating outcomes, participants were asked to consider how meaningful each outcome is to patients, families and healthcare providers (regardless of whether evidence currently exists).

After the survey closed, NHMRC combined the results using median scores and presented them to the Committee at their meeting on 5 December 2025. To identify the outcomes that were most important for decision-making, those outcomes that scored 7 or above and weighted towards priorities identified by people with lived experience were progressed to the next stage of prioritisation. The GRADE process advises guideline developers to keep the number of selected outcomes manageable, ideally fewer than 7.[4]

The evidence reviewer used this feedback to develop a draft logic model explaining the relationship between the outcomes and the primary and secondary goals of treatment. As outlined in Chapter 17: Intervention complexity | Cochrane the use of a logic model is useful to understanding complex relationships between outcomes and treatment goals.

At the 6 February 2026 meeting the Gender Guidelines Development Committee:

- Discussed feedback from the Gender Guidelines Development Committee and Gender Guidelines Reference Panel, and the ratings of the outcomes.
- Considered a refined set of outcomes and domains based on this feedback and consultation with individuals with lived experience and clinicians.

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- Accepted the draft logic model as an appropriate representation of the relationship between the outcomes and the intervention.

The Gender Guidelines Development Committee confirmed the set of critical and important outcomes based on:

- Those that were of most importance to young people seeking care and their families or caregivers.
- Those directly relevant to the main treatment goals of puberty suppression (i.e. direct effects on the outcomes were anticipated).

Other highly valued outcomes were included as important, rather than critical, because puberty suppression is not expected to affect them directly. For example, while reducing depression, anxiety and suicidality is a key goal of care, puberty suppressants are not mental health treatments and are not intended to treat these conditions directly. Any effects on these outcomes are likely to occur indirectly and in combination with mental health care.

The critical and important outcomes are listed below. The underpinning logic for how these outcomes relate to the primary and secondary goals of treatment are depicted in the Logic Model at Figure 1 in the Evidence Evaluation Report.[2]

The final list of outcomes was confirmed through a GRADEpro PanelVoice survey.

Outcomes prioritised for the review

Supplemental table at Appendix 1a in the Evidence Evaluation Report describes each outcome domain, lists example measures and provides a detailed rationale for inclusion (and any exclusions) and timeframe for follow up.[2]

Critical outcomes for decision-making:

1. Pubertal development (during treatment; after discontinuation of puberty suppressants).
2. Gender dysphoria (during treatment; end of treatment period).
3. Body image (during treatment; end of treatment period).
4. Serious adverse events (any serious untoward outcome that occurs during, or after, the use of puberty suppressants, but not necessarily caused by the puberty; short- and longer-term follow-up after treatment if effects can be isolated from subsequent medical care).

Important outcomes for decision-making but not critical:

5. Quality of life and wellbeing (end of treatment period).
6. Functioning: social, family; any context (end of treatment period).
7. Satisfaction with care (end of treatment period).
8. Mental health: depression symptoms, anxiety symptoms, suicidal thoughts and behaviours (end of treatment period).
9. Mental health: death by suicide (end of treatment period).
10. Adverse events of special interest: bone health - fractures (during treatment; after cessation of treatment if effects can be isolated from other exposures, including subsequent treatment).
11. Adverse events of special interest: fertility - reproductive potential (end of treatment period).

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Outcomes not prioritised for review

Outcomes that were considered but not prioritised for the review are reported in Appendix 1b of the systematic review.[2] Other outcomes/concepts will be considered as part of the contextual information used to develop the full guideline (reversibility, discontinuation, reidentification and regret).

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4. Development of research protocol

The research protocol for puberty suppression was developed by the evidence reviewers in accordance with PRISMA-P (Preferred Reporting Items for Systematic Reviews and Meta-Analyses Protocols – Extension for Protocols), Cochrane Handbook for Systematic Reviews and the MECIR (Methodological Expectations of Cochrane Interventions Reviews) manual, including the use of GRADE methodology.

An independent reviewer contracted by NHMRC conducted a methodological review of the draft protocol dated 12 February 2026. The Gender Guidelines Development Committee, the Gender Guidelines Reference Panel and the NHMRC project team also reviewed the draft protocol.

The evidence reviewers made primarily editorial revisions in response to the methodological review comments. These revisions clarified the approach but did not change the methods.

Before the evidence reviewers screened studies for inclusion or extracted any data, they considered the feedback from the methodological review of the protocol. No material changes to the protocol were made after commencing the review. The published research protocol is available here.

5. Development of thresholds

Following the GRADE approach for interpreting findings, all interpretations were based on where the combined estimate of effect (point estimate) lies in relation to a pre-specified threshold for an important effect (i.e. whether an important effect is observed or not) and the direction of effect (beneficial or harmful).[5] Thresholds for interpreting the size of effect were set in absolute terms (e.g. for continuous outcomes a standardised mean difference [SMD] or mean difference [MD], and for dichotomous outcomes the absolute risk difference).

The evidence reviewer proposed thresholds based on well-established standards, regulatory thresholds and clinically meaningful interpretations developed in consultation with clinicians. For example, where SMD are used to measure the effect, a standard threshold of 0.2 is set. Before reviewing the study results, the Gender Guidelines Development Committee discussed and agreed on the threshold for each outcome (at meetings 3 and 4).

Thresholds may differ between outcomes to ensure they are relevant, reflect the importance of the outcome and are consistent with the measurement used for that outcome.[5] For example, a lower threshold was set for death by suicide, and the measurement was number of people.

Each threshold represents the minimum effect size likely to make a meaningful difference to someone who receives the treatment and is used to define when effects are trivial, small, moderate, or large. Thresholds are also used in assessing the certainty of each outcome.[5] The direction of effect relative to thresholds also influences whether the effect is considered desirable or undesirable in the Evidence-to-Decision process.[5]

Thresholds agreed for interpretation

The following thresholds were used for interpreting point estimates and assessing certainty of the evidence for:

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- Pubertal development – penile length: 10% difference in length (in centimetres). Shorter penile length indicates pubertal suppression.
- Pubertal development – menstruating: 10 fewer [or more] people menstruating per 100. Fewer people menstruating indicates pubertal suppression.
- Pubertal development – breast cup size B or above: 10 fewer [or more] people with a breast cup size of B or above per 100 people. Fewer people with a breast cup size of B or above indicates pubertal suppression.
- Gender dysphoria, body image and satisfaction, quality of life and wellbeing, functioning, mental health symptoms – psychological functioning: SMD of 0.2. A lower score (i.e. SMD of -0.2 or below) is better for all outcomes (i.e. less dysphoria, less body dissatisfaction, fewer problems with psychosocial functioning, fewer problems with psychological functioning) except quality of life (SMD of 0.2 or above is better).
- Serious adverse events – idiopathic intracranial hypertension (IIH): 20 more with incident IIH per 100000 person years. Fewer people with IIH is better. The threshold is set low because, while this is a rare event, left undetected it can have serious consequences.
- Serious adverse events – QTc interval: change from baseline of ≥30 ms. Based on ICH E14 / FDA guidance where an increase of ≥30 ms signals a potential concern (>500 ms or of >60 ms over baseline are commonly used as thresholds for potential discontinuation).
- Serious adverse events – breast resection volume for those undergoing future gender-affirming surgeries: 10% difference in volume resected. A reduction in the amount of breast tissue removed or resected indicates less invasive surgery.
- Mental health symptoms – suicidality: 1 fewer [or more] person with a diagnosis of suicidality per 100 people over 12 months.

Thresholds were not developed for outcomes where no eligible studies were found.

6. Development of the GRADE Evidence-to-Decision table

The evidence reviewer and the NHMRC project team prefilled the Evidence-to-Decision table in the GRADEpro. They drew on the following sources:

- **Problem:** Generic information included about the problem as a priority as evidenced by NHMRC being tasked with the review and recent reviews being commissioned by Australian states and other countries.
- **Desirable and undesirable effects and the certainty of evidence**: Results of the evidence review.
- **Values:** Information retrieved from responses of Gender Guidelines Reference Panel participants to a survey on the Evidence-to-Decision criteria; included and excluded studies that discussed issues relevant to patient and carer values; Gender Guidelines Development Committee discussion throughout the meetings, studies referred to in other guidelines/reviews that discussed patient values.

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- **Balance of effects:** Discussion with the Gender Guidelines Development Committee (at meeting 6B) based on the preceding criteria.
- **Resources required:** Information in other Australian reports, information about costs in the media, information on costs provided in other guidelines such as the 2026 Endocrine Society Central Precocious Puberty clinical practice guidelines.
- **Equity:** Information retrieved from responses of Gender Guidelines Reference Panel participants to the survey; included and excluded studies that discussed issues relevant to equity; Gender Guidelines Development Committee discussion throughout the meetings; studies referred to in other guidelines/reviews that discussed equity considerations.
- **Acceptability:** Information retrieved from responses of Gender Guidelines Reference Panel participants to the survey; included and excluded studies that discussed acceptability issues; Gender Guidelines Development Committee discussion throughout the meetings, other guidelines such as the 2026 Endocrine Society Central Precocious Puberty clinical practice guidelines. Studies referred to in other guidelines/reviews that discussed the acceptability of the use of puberty suppressants in this population but also for other clinical conditions, particularly associated with long term follow up.
- **Feasibility:** Information retrieved from responses of Gender Guidelines Reference Panel participants to the survey; Gender Guidelines Development Committee discussion throughout the meetings, studies referred to in other guidelines/reviews particularly the 2026 Endocrine Society Central Precocious Puberty clinical practice guidelines.

Responses to the survey also provided information on implementation and monitoring considerations which were also incorporated into the Evidence-to-Decision in GRADEpro for discussion during the formulation of the recommendation.

Gender Guidelines Development Committee members were asked to comment on the Evidence-to-Decision information prior to meeting 6A.

Information was further refined following discussion at meeting 6A. The Gender Guidelines Development Committee made the judgements for the Evidence-to-Decision over meeting 6A and meeting 6B using Slido Polls. Voting was recorded against the criteria as a means of documenting consensus. The group then discussed these results which was recorded in GRADEpro.

Appendix A outlines the discussion of the Gender Guidelines Development Committee under each Evidence-to-Decision domain.

7. Interpretation of ratings into MAGICapp Evidence-to-Decision

While the Gender Guidelines Development Committee used GRADEpro and the GRADE Evidence-to-Decision framework to record their judgements, the Advice on Puberty Suppressants is published in MAGICapp. MAGICapp uses slightly different terminology in their ratings compared to GRADE terminology. A summary of how the GRADE ratings have been interpreted for MAGICapp is in Table 3.

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A summarised Evidence-to-Decision is provided in the tab in the Evidence-to-Decision tab in MAGICapp (outlined in Table 4), but the full record of the GRADE Evidence-to-Decision framework (Appendix A) is provided in the Rationale tab on MAGICapp.

Another key difference in MAGICapp is the order of outcomes is different to how it is depicted in other evidence reports. MAGICapp orders outcomes by type (dichotomous, continuous and non-poolable), so the order of outcomes in the PICO in MAGICapp is not the same as the Summary of Findings table in GRADEpro.

Table 3. Comparison of GRADEpro ratings to MAGICapp ratings

MAGICapp criteria	MAGICapp rating	GRADEpro Evidence-to-Decision ratings
Benefits and harms	Substantial net benefits of the recommended alternative.	Probably favours the intervention This domain in MAGICapp assesses the balance between desirable effects and undesirable effects. The net benefit was a moderate rating for desirable effects and trivial rating for undesirable effects. The alternative phrasing of '*Small net benefit, or little difference between alternatives*' was not suitable terminology because of the substantive uncertainty in the language which did not reflect the net benefit adequately (moderate rating for desirable effects and trivial rating for undesirable effects).
Certainty of the evidence	Low	Low The Gender Guidelines Development Committee agreed on a judgement of **Low** certainty of evidence to reflect the balance of effects across all outcomes, with a specific focus on critical outcomes.
Values and preferences	Substantial variability is expected or uncertain	Possibly important uncertainty or variability This reflects the possibility of different young people (and their parents or carers) making different decisions based on the evidence.
Resources	Factor not considered	The Gender Guidelines Development Committee did not vote on a judgement. Members noted that out of pocket costs for puberty suppressing medications can be considerable and should be considered under the Equity criterion
Equity	No important issues with the recommended alternative	Probably increased Members agreed on a judgement of **Probably increased** when considering the impact on Equity. Members noted that the guidelines will be important in increasing access to quality health information, which is also likely to impact equity.
Acceptability	No important issues with the recommended alternative	Probably yes, the intervention is acceptable to key interest holders.

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MAGICapp criteria	MAGICapp rating	GRADEpro Evidence-to-Decision ratings
		Members agreed on a judgement of **Probably yes** for the Acceptability criterion, noting there is some variability.
Feasibility	No important issues with the recommended alternative	Yes, the intervention is feasible to implement. Members agreed on a judgement of **Yes** for the Feasibility criterion.

Table 4. MAGICapp Evidence-to-Decision table

Criteria	MAGICapp Evidence-to-Decision
Benefits and harms	The primary clinical goal of using GnRH agonists is to pause pubertal development. GnRH agonists are effective for suppressing puberty, with large effects on menstruation (high certainty), penile length (moderate certainty), and breast size (low certainty). The majority of members of the Gender Guidelines Development Committee agreed on a GRADE judgement of **Probably favours the intervention,** indicating that the benefits (desirable effects) outweigh the harms (undesirable effects). Members discussed that the decision of exactly when to start and how long to continue on GnRH agonists should be based on shared decision-making between the young person, carer and clinicians and relate to individual factors such as patient goals and maturity in decision making, and clinical factors such as endocrine parameters and bone health. The Gender Guidelines Development Committee noted that the current evidence supports little to no effect on serious adverse events; however, there is still some uncertainty about long term impacts and that monitoring should still be undertaken.
Certainty of the evidence	The Gender Guidelines Development Committee agreed on a GRADE judgement of **Low** certainty of evidence to reflect the balance of effects across all outcomes, with a specific focus on critical outcomes. Members discussed that the certainty was high or moderate for two factors relating to supressing puberty (menstruation and penile length, respectively) and moderate for the reduced need for future top surgery, but was low or very low for other factors, including serious adverse events.
Values and preferences	The Gender Guidelines Development Committee agreed on a GRADE judgement of **Possibly important uncertainty or variability**, to reflect the possibility of different young people (and their parents or carers) making different decisions based on the evidence. Members noted that very few medications would be chosen by everyone, so it is very common for the judgement for this criterion to be that there is uncertainty or variability in what people would choose. It was noted that unpublished service data from a major Australian clinic also shows that not all young people choose puberty suppression as an option, for a range of reasons.
Resources	The Gender Guidelines Development Committee did not make a judgement on this criterion but noted that out-of-pocket costs for puberty suppressing

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Criteria	MAGICapp Evidence-to-Decision
	medications can be considerable and this is an important consideration under the Equity criterion. The Gender Guidelines Development Committee noted that GnRH agonists are currently prescribed off-label and are not listed on the Pharmaceutical Benefits Scheme (PBS) for this indication. When accessed privately, recent out-of-pocket cost estimates for GnRH agonists have ranged from AUD$3000 to over AUD$5,000 per year, based on publicly available information in the media. The Gender Guidelines Development Committee noted there may be additional costs related to appointments for clinical monitoring and tests, potential travel, time away from work, and accommodation for those living in regional or remote areas. The Gender Guidelines Development Committee noted that inequitable access to treatment (including cost-related inequity), should not be used as a reason to recommend against a treatment.
Equity	The Gender Guidelines Development Committee agreed on a judgement of **Probably increased** when considering the impact on Equity. In particular, whether puberty suppression should be available as an option to those people who might benefit from it. Members noted that the guidelines will be important in increasing access to quality health information, which is also likely to impact equity. The Gender Guidelines Development Committee made the following comments regarding equity of access: • that inadequate access to treatment in the current context (e.g. long wait lists) should not be used as a reason to recommend against a treatment. • that long waitlists may affect timeliness of care and that current regional differences in availability are an equity concern. • that families vary in what they can afford and that limiting access disadvantages those with less money. • that the use of unregulated/online access to medications or use of nutritional restriction to achieve body image goals is concerning if access to medications were restricted. • that it would be important to be clear, in discussion with the young person and their parents or carers, that accepting treatment is voluntary. The Gender Guidelines Development Committee noted people who live in rural or remote areas, and those from culturally and linguistically diverse communities, including Aboriginal and Torres Strait Islander people, are important groups to consider. Members also noted possible inequities where parents disagree on care. The Gender Guidelines Development Committee noted some studies from other parts of the world which have argued that withholding puberty suppression would have a substantial negative impact on wellbeing and social functioning,[6] especially given high levels of satisfaction in adolescents receiving gender-affirming care.[7]
Acceptability	The Gender Guidelines Development Committee agreed on a judgement of **Probably yes**, noting that almost no medication is universally agreed upon and

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Criteria	MAGICapp Evidence-to-Decision
	that the judgement here is about whether it should be available to people, not whether everyone would want the intervention. The Gender Guidelines Development Committee also noted that going through incongruent puberty is unacceptable to many trans and gender diverse people and while there are parents or carers who support the intervention, there are also those who do not. The Gender Guidelines Development Committee noted research findings that parents have reported being reassured by the long-term use of puberty suppression for other conditions[8,9] and that these medications remain freely available for other paediatric health needs including precocious puberty.[10]
Feasibility	The Gender Guidelines Development Committee agreed on a judgement of **Yes** for the Feasibility criterion, given puberty suppressants are already available, but that there are problems with access depending on where people live. The Gender Guidelines Development Committee noted that at the time of discussion all prescribing of GnRH agonists for gender incongruence/dysphoria in Australia is off-label, meaning they are used in a way that is not included in the approved Therapeutic Goods Administration (TGA) product information. At the time of discussions GnRH agonists for gender dysphoria were not subsidised under the Pharmaceutical Benefits Scheme (PBS).

8. Development of Recommendations

Members of the Gender Guidelines Development Committee made a judgement on the strength and direction of a single recommendation at meeting 6B using the GRADEpro software and a Slido Poll.

Members of the Gender Guidelines Development Committee discussed what information should be included within the recommendation and what information should sit adjacent to the recommendation. Discussion focussed on the justification/rationale, subgroup considerations, implementation remarks, monitoring and evaluation components and research priorities. Further work to refine these comments was conducted and incorporated into the Evidence-to-Decision table and the draft guideline.

The draft recommendation (on page 46) was presented again at Meeting 7 for ratification.

The recommendation is presented in the Advice on Puberty Suppressants in Section 5.3.

NHMRC Council considered the draft recommendation at a session on 19 October 2026. They provided further suggestions to be considered by the Gender Guidelines Development Committee around the implementation of multidisciplinary care. The recommendation and Good Practice Statements in the Advice on Puberty Suppressants reflect the Gender Guidelines Development Committee's consideration of NHMRC Council's suggestions and amendments made to the Advice on Puberty Suppressants released for public consultation.

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9. Development of Good Practice Statements

The Gender Guidelines Development Committee and clinicians from the GGRP advised on topics to consider for Good Practice Statements (GPS), using GRADE Guidance on developing GPS. The working groups (WGs) determined that 9 'principles of providing care' and 5 'clinical considerations when using GnRH agonists' met the criteria for developing GPS.

Topics were discussed, refined and in some cases combined into GPS by working group members. The process of developing the GPS is summarised in Table 5.

Table 6 and Table 7 list the topics considered for GPS by the working groups and explain the placement of these topics as part of the Advice on Puberty Suppressants. Further, Appendix B contains the GPS tables based on GRADE.

Drafting considerations have included:

- placement of information in the guideline;
- aspects of topics that may be contextual/background information;
- interconnectedness of topics;
- aspects of topics that may need to be part of information supporting the recommendation (e.g. the Evidence-to-Decision table, the recommendation, implementation notes, etc.)
- need to avoid duplication; and
- developing clear, actionable GPS for the Advice on Puberty Suppressants.

Table 5. Timeline of development

Time	Activity	Action
February 2026	NHMRC outlined a proposed scope to the Gender Guidelines Development Committee based on the agreed scope of the full guidelines and the structure of other recent guidelines.	Gender Guidelines Development Committee supported the use of other relevant guidelines and ethical frameworks to draft content from and signalled what supporting information should be provided alongside the Advice on Puberty Suppressants.
February 2026	NHMRC drafted content based on Gender Guidelines Development Committee advice. NHMRC sought further advice from clinicians to clarify context of supporting information.	Gender Guidelines Development Committee provided further feedback on general principles and agreed that working groups should continue to shape content.
March 2026	NHMRC established working groups of Gender Guidelines Development Committee	Working groups proposed new principles and confirmed which

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Time	Activity	Action
	members to review principles against GRADE criteria. Working groups met to discuss principles and the process to develop Good Practice Statements for the principles.	principles to develop GPS from.
April 2026	Working groups (principles of providing care and clinical considerations when using GnRH agonists) reviewed principles and the GRADE criteria for each topic to draft.	Working groups met to discuss content and proposed GPS and agreed that some of the content could be combined and/or included as part of the Evidence-to-Decision.
May 2026	Working groups (principles of providing care and clinical considerations when using GnRH agonists) reviewed principles and the GRADE criteria for each topic to draft.	Working groups met to discuss content and proposed GPS and agreed that some of the content could be combined and/or included as part of the Evidence-to-Decision.
June – September 2026	NHMRC drafted statements based on the discussion of the working groups and the recommendation determined by the Gender Guidelines Development Committee and provided revised content to members as part of the Advice on Puberty Suppressants.	Gender Guidelines Development Committee provided feedback on the proposed GPS.

Table 6. **Principles of providing care - Topics suitable for GPS (as determined by working groups) and proposed placement in the Advice on Puberty Suppressants**

Topics	Suggested placement	Notes
Best interests and wellbeing of the young person	**GPS** – interests of the young person	Prioritising the best interests and wellbeing of the young person is a paramount consideration and is the first GPS to be listed.
Person-centred, inclusive care	**GPS** – interests of the young person	Providing person-centred, individualised care is part of providing care that prioritises the interests and wellbeing of the young person).

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Topics	Suggested placement	Notes
The young person's evolving autonomy	**GPS** – interests of the young person	Respecting the young person's evolving autonomy overlaps with identifying and respecting the goals of the young person, providing person-centred care, and is part of providing care that prioritises the interests and wellbeing of the young person.
Privacy and confidentiality	**GPS** – privacy and confidentiality	Expectations of privacy and confidentiality extend to all staff and include taking steps not to 'out' the young person and using their preferred name and pronouns when making appointments and calling for the person in waiting rooms.
Parental decision-making	**GPS** – interests of the young person **GPS** – providing information as part of shared decision-making **GPS** – informed consent	The role of parents and carers is embedded in multiple GPS. The GPS on the interests of the child includes a statement that trans and gender diverse young people and their families are capable of making decisions in the interests of the child. The GPS on providing information as part of shared decision-making highlights the role of parents in shared decision-making, alongside the young person and their clinicians. Parental responsibility for decision-making/providing informed consent, and the requirement to provide information for them to do this, is included in the GPS on informed consent.
Informed consent	**GPS** – informed consent	Includes a summary of general legal principles, noting that the legal requirements for valid informed consent for care of trans and gender diverse young people aged under 18 may differ between states and territories. The GPS also includes advice on assessing whether a person aged under 18 has the capacity to make decisions as a mature minor.
Trans and gender diverse identities (re pathologisation, discrimination)	**GPS** – interests of the young person	Respecting the trans and gender diverse young person and their unique experiences and identity is reflected in the GPS on the interests of the young person.

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Topics	Suggested placement	Notes
	GPS – human rights and anti-discrimination **GPS** – privacy and confidentiality	Respect for preferred names and pronouns is explored in the GPS on privacy and confidentiality. The validity of trans and gender diverse people and their experiences, and the need to comply with laws protecting young people from discrimination is detailed on the GPS relevant to human rights and anti-discrimination.
Cultural safety	**GPS** – culturally safe, accessible, and inclusive care	Proposed to include a broad, overarching GPS for the Advice on Puberty Suppressants that covers cultural safety, accessibility and inclusive care.
Equity of access to care	**EVIDENCE-TO-DECISION** – equity **GPS** – human rights and anti-discrimination **GPS** – providing information as part of shared decision-making	Equity was discussed as part of the Evidence-to-Decision criteria. The need to provide care consistent with human rights principles (i.e. the right to attain the highest possible standard of health) is included in the GPS on human rights and anti-discrimination, and the need to provide information and support to young people and their families while on waiting lists (a barrier to accessing care) is incorporated into the GPS on what it means to support the young person and their parents.

Table 7. **Clinical considerations when using GnRH agonists - Topics suitable for GPS (as determined by working groups) and proposed placement in the Advice on Puberty Suppressants**

Topics	Suggested placement	Notes
Gender incongruence or gender dysphoria	**Background**/contextual information; and **GPS** – health assessment prior to commencing GnRH agonists **Recommendation** - additional information	This will include explanations of terms, links to the relevant clinical definitions/criteria, and any requirement for diagnosis attached to recommendations.

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Topics	Suggested placement	Notes
Goals of the young person	**GPS** – interests of the young person **GPS** – health assessment prior to commencing GnRH agonists **Recommendation** – additional information	Identifying and respecting the goals of the young person overlaps with respect for their evolving autonomy, providing person-centred care that prioritises the best interests of the young person, and is part of a comprehensive assessment process prior to commencing on GnRH agonists. Shared decision-making is also an important aspect of the recommendation.
Supporting the family	**GPS** – providing information as part of shared decision-making	This includes supporting families on waiting lists, discussed in working group meeting 2. Shared decision-making is an important aspect of the recommendation. Engaging with, informing, accommodating, and supporting the family (the young person and their parents or carers) is a principle that is embedded in multiple GPS supporting the recommendation; namely, the GPS on providing information as part of shared decision-making.
Health assessment	**GPS** – health assessment prior to commencing GnRH agonists **GPS** – regular and appropriate monitoring of GnRH agonists treatment **Recommendation** – additional information	A description of the high-level/baseline requirements for conducting both a comprehensive health assessment prior to commencing treatment, with a focus also on ongoing monitoring of key indicators of health and wellbeing. Has been split into two GPS. Aspects of this process to be discussed with the patient and family as part of shared decision-making is also an important aspect of the recommendation.
Consensus among multidisciplinary treatment team	**GPS** – multidisciplinary input as needed **GPS** – providing information as part of shared decision-making **Recommendation** – additional information **Background** – how care is provided	Involvement of multidisciplinary input when needed as part of both the health assessment and ongoing monitoring is outlined in its own GPS, in addition to being part of the recommendation. The GPS on providing information as part of shared decision-making also clarifies that the provision of this information to young people and families can be undertaken/shared by multidisciplinary colleagues. Multidisciplinary input can also be described as part of how young people access

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Topics	Suggested placement	Notes
		care in relation to gender in Australia, as it is a component of state/territory gender services.

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Appendix A: Evidence-to-Decision table

This appendix contains the judgements of the Gender Guidelines Development Committee against the GRADE Evidence-to-Decision criteria relevant to the use of puberty suppressants in young people. These judgements informed the recommendations in the Advice on Puberty Suppressants.

Evidence-to-Decision framework for the use of puberty suppressants in the care of trans and gender diverse people aged under 18

Question: Should puberty suppressants vs. no puberty suppressants be used for young people experiencing gender incongruence with or without dysphoria?	
POPULATION:	Young people experiencing gender incongruence with or without dysphoria
INTERVENTION:	puberty suppressants (gonadotrophin-releasing hormone agonists = GnRH agonists)
COMPARISON:	no puberty suppressants (no GnRH agonists)

MAIN OUTCOMES:	See Section 5 of the Technical Report for methods used to derive the thresholds.
	
	Critical outcomes (and thresholds for each)
	
	1. Pubertal development
	  ○ penile length: 10% difference in length (in centimetres). Shorter penile length indicates pubertal suppression.
	  ○ menstruating: 10 fewer [or more] people menstruating per 100. Fewer people menstruating indicates pubertal suppression.
	  ○ breast cup size B or above: 10 fewer [or more] people with a breast cup size of B of above per 100 people. Fewer people with a breast cup size of B or above indicates pubertal suppression.
	2. Gender dysphoria: Standardised Mean Difference (SMD) of 0.2. A lower score (i.e. SMD of -0.2 or below) is better (i.e. less dysphoria).
	3. Body image and satisfaction: SMD of 0.2. A lower score (i.e. SMD of -0.2 or below) is better (i.e. less body dissatisfaction.
	4. Serious adverse events (SAE)
	  ○ idiopathic intracranial hypertension (IIH): 20 more with incident IIH per 100000 person years. Fewer people with IIH is better. The threshold is set low because, while this is a rare event, left undetected it can have serious consequences.
	  ○ QTc interval: change of ≥30 ms from baseline. Based on European and USA guidance (ICH E14 / FDA guidance) where an increase of ≥30 ms signals a potential concern (>500 ms or of >60 ms over baseline are commonly used as thresholds for potential discontinuation)
	  ○ amount of breast tissue resected (grams) in future gender-affirming surgery: 10% difference in volume resected. A reduction in the amount of breast tissue removed or resected indicates less invasive surgery.
	
	Important outcomes (and thresholds where applicable)
	
	5. Satisfaction with care: no studies
	6. Quality of life and wellbeing: SMD of 0.2. A higher score is better (SMD of 0.2 or above is better).
	7. Social functioning: SMD of 0.2. A lower score (i.e. SMD of -0.2 or below) is better (i.e. fewer problems with psychosocial functioning).

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	8. Mental health symptoms ○ psychological functioning: SMD of 0.2. A lower score (i.e. SMD of -0.2 or below) is better (i.e. fewer problems with psychological functioning). ○ suicidality (rate of): 1 fewer [or more] person with a diagnosis of suicidality per 100 over 12 months 9. Adverse outcomes of special interest: bone fracture; fertility (no studies)
SETTING:	A. Any care settings were eligible (i.e. setting was not an inclusion criteria). In the included studies, care was provided in specialist gender clinics in 11 of 14 studies, paediatric hospitals (ED or inpatient admissions) in one study, and not reported in 2 studies (population level studies). Countries covered by the studies were: 5 Netherlands, 3 USA, 3 UK, 1 Sweden, 1 Italy, 1 Germany
PERSPECTIVE:	B. INDIVIDUAL – CLINICAL PERSPECTIVE
BACKGROUND:	Puberty suppression involves the temporary use of medication to delay the physical changes that occur during puberty, such as the development of secondary sex characteristics. Reasons for its use in gender medicine in people under the age of 18 include: 1. To reduce or avoid further distress associated with gender dysphoria by preventing the development of physical and functional changes that occur as puberty progresses. 2. To provide time for individuals experiencing gender dysphoria to explore their gender identity and consider whether they wish to pursue further medical treatment, such as gender-affirming hormones (GAH). 3. To improve future physical outcomes for individuals who later choose to commence GAH, which may increase congruence between gender identity and physical appearance, reduce the likelihood of future stigma or discrimination, and potentially decrease the need for certain medical or surgical interventions (such as chest or voice-related procedures). There are three gonadotropin-releasing hormone (GnRH) agonist medications that are primarily used for puberty suppression in Australia: triptorelin, leuprorelin and goserelin.
CONFLICT OF INTERESTS:	Actual and perceived conflicts of interest were declared and managed in accordance with the NHMRC *Policy on the Disclosure of Interests requirements for prospective and appointed NHMRC Gender Guidelines Development Committee members.* Current disclosures are listed on the NHMRC website.

Assessment

Problem

Is the problem a priority?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ No ○ Probably no ○ Probably yes	Puberty suppression is a potential management option for trans and gender diverse children aged under 18	• The problem is a high priority for the target audience – trans and gender diverse children and young people, their parents and carers and relevant health professionals.

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● Yes ○ Varies ○ Don't know	who are seeking support for gender dysphoria and/or gender incongruence.	• The use of puberty suppression to address gender dysphoria or incongruence is a topic that has attracted significant community interest. • NHMRC has been tasked with developing guidelines on the care of trans and gender diverse people aged under 18, which includes guidance on the use of puberty suppression based on the available evidence. • The Gender Guidelines Development Committee judged that an up-to-date assessment of the evidence for puberty suppression that evaluates benefits and harms is needed, given the significant community interest and impact on access to these medications for the target audience.

Desirable Effects

How substantial are the desirable anticipated effects?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ Trivial ○ Small ● Moderate ○ Large ○ Varies ○ Don't know	RESEARCH EVIDENCE presented under desirable effects, undesirable effects and certainty of evidence comes from the systematic review. Details about methods can be found in the systematic review report. Compared to usual care, puberty suppressants: • suppress **pubertal development** (large effects on menstruation, penile length, breast size) [CRITICAL outcome] • probably reduce **serious adverse effects from future gender-affirming surgery** for those who undergo these surgeries (a large reduction in the volume of breast tissue removed) [CRITICAL outcome] • may improve **mental health** (small but important improvements in psychological functioning) [IMPORTANT outcome] • may improve **functioning** (small but important improvements in overall psychosocial, social) [IMPORTANT outcome] There is also very low certainty evidence that: • **gender dysphoria** may not change for those on puberty suppressants, but the evidence is very uncertain [CRITICAL outcome] • **body image and satisfaction** may not change for those on puberty suppressants, but the evidence is very uncertain [CRITICAL outcome]	**Decision:** The Gender Guidelines Development Committee agreed to a judgement of **moderate** for the size of Desirable effects. In a pre-discussion vote a small majority voted for a judgement of **moderate** sized effects (50%), with one vote for **small** (7%) and the rest for **large** (43%). Following discussion, a second vote was taken in which the person who had voted small, changed their vote to moderate, leading to a majority of votes for **moderate** (57%), and the rest for **large** (43%). **Discussion points** • Members noted that the primary purpose of puberty suppression is to supress puberty and those effects are large. • However, there are small effects on some important outcomes like mental health and no effects on critical outcomes of gender dysphoria and body image.

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- there may be fewer **suicidality diagnoses** with puberty suppressants (small but important reduction in diagnoses in ED and inpatient settings), but the evidence is very uncertain. [IMPORTANT outcome]

Outcomes for which we cannot interpret the effect:

- The evidence on **quality of life** is too uncertain to interpret, meaning we can't tell if puberty suppressants have a desirable, undesirable or no effect on quality of life [IMPORTANT outcome]

No eligible studies reported on:

- **satisfaction with gender-affirming care** (i.e. puberty suppression), meaning we don't have evidence on whether puberty suppressants have a desirable, undesirable or no effect on this outcome [IMPORTANT outcome]
- **mental health – death by suicide** meaning we don't have evidence on whether puberty suppressants have a desirable, undesirable or no effect on this outcome [IMPORTANT outcome]

FOLLOW UP TIME FRAME:

- Outcomes were measured during treatment or at the end of treatment in most studies.
- Exceptions were **penile length, breast size and breast tissue removed in future surgeries** effects on which were measured in adulthood (>18 years) as part of routine assessment for Gender-Affirming Surgery, approximately 4 to 5 years after starting on puberty suppressants.

Outcomes	With no puberty suppressants	With puberty suppressants	Difference	Relative effect (95% CI)
Pubertal development (AMAB): penile length (cm) follow-up: range 4 to 5 years	The mean pubertal development (AMAB): penile length (cm) was **12.8** cm	The mean pubertal development (AMAB): penile length (cm) in the intervention group was 3.26 cm lower (3.44 lower to 3.09 lower)	MD **3.26 cm lower** (3.44 lower to 3.09 lower)	-

- Some members reported that without puberty suppression gender dysphoria may continue to worsen which means that no effect is a favourable outcome.
- Members noted again that gonadotrophin-releasing hormone agonists (GnRH agonists) are not mental health treatments. The primary treatment goal was to stabilise gender dysphoria, body image and satisfaction (see logic model in the Research Protocol).
- Members also noted that included studies that reported on gender dysphoria and body image are before-after designs which are problematic to interpret because of the impact of confounding variables unrelated to the intervention (puberty suppression).

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Pubertal development (AFAB): menstruating follow-up: range 3 to 12 months	In all four studies, none of the youth who were at menarche before puberty suppressants (baseline: 15/19, 20/22, 49/65, 35/37) had menses after puberty suppressants (follow-up: 12, 3, 12 and 12 months respectively). Proportion menstruating at follow-up: 0.00 (95% CI: 0.00 to 0.01)				
Pubertal development (AFAB): breast cup size B or larger follow-up: range 4 to 5 years	RD 47 fewer per 100 had a breast cup size of B or larger (95% CI: 32 fewer to 62 fewer)				
Gender dysphoria assessed with: Utrecht gender dysphoria scale (lower is better) follow-up: range 12 to 24 months		The mean gender dysphoria in the intervention group was 0.06 standard deviations SD lower (0.25 lower to 0.13 higher)	SMD **0.06 SD lower** (0.25 lower to 0.13 higher)	-	
Body image and satisfaction assessed with: Body image scale (overall or secondary sex characteristics, lower is better) follow-up: range 12 to 24 months		The mean body image and satisfaction in the intervention group was 0.15 standard deviations SD higher (0.03 lower to 0.33 higher)	SMD **0.15 SD higher** (0.03 lower to 0.33 higher)	-	
Amount of breast tissue resected (grams) in future surgeries (SAE: invasive mastectomy) follow-up: range 4 to 5 years	The mean amount of breast tissue resected (grams) in future surgeries (SAE: invasive mastectomy) was **684** grams	The mean amount of breast tissue resected (grams) in future surgeries (SAE: invasive mastectomy) in the intervention group was 248 grams lower (270 lower to 226 lower)	MD **248 grams lower** (270 lower to 226 lower)	-	
Quality of life and wellbeing assessed with: Kidscreen-27 or SF-8 (higher is better)		The mean quality of life and wellbeing in the intervention group was 0.77 standard	SMD **0.77 SD higher** (0.03 higher	-	

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	follow-up: range 18 to 24 months		deviations SD higher (0.03 higher to 1.5 higher)	to 1.5 higher)	
	Functioning (socially; family) assessed with: Youth self-report (YSR - social problems scale); Child Global Assessment Scale (CGAS) (lower is better) follow-up: range 18 to 24 months		The mean functioning (socially; family) in the intervention group was 0.3 standard deviations SD lower (0.45 lower to 0.15 lower)	SMD **0.3 SD lower** (0.45 lower to 0.15 lower)	-
	Mental health - symptoms (psychological functioning) assessed with: Youth self-report (overall, internalising) (lower is better) follow-up: range 18 to 24 months	The mean mental health - symptoms (psychological functioning) was **0** SD	The mean mental health - symptoms (psychological functioning) in the intervention group was 0.39 standard deviations SD lower (0.68 lower to 0.11 lower)	SMD **0.39 SD lower** (0.68 lower to 0.11 lower)	-
	Mental health - suicidality (attempts or thoughts, as diagnosed at ED or inpatient visit). assessed with: Review of electronic health records from 5 paediatric hospitals follow-up: mean 2 years	16 per 100	**13 per 100** (8 to 20)	**3 fewer per 100** (8 fewer to 4 more)	**HR 0.79** (0.47 to 1.31) [Mental health - suicidality (attempts or thoughts, as diagnosed at ED or inpatient visit).]

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Undesirable Effects

How substantial are the undesirable anticipated effects?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ Large ○ Moderate ○ Small ● Trivial ○ Varies ○ Don't know	RESEARCH EVIDENCE presented under desirable effects, undesirable effects and certainty of evidence comes from the systematic review. Details about methods can be found in the systematic review report. The outcomes reported here include any serious adverse event (SAE) and the adverse events (AE)s of special interest (effects on bone health, fertility). In addition, any outcome where an effect favouring 'no puberty suppression' would be 'undesirable' would have been reported here (e.g. if gender dysphoria worsened, the result would have appeared here). However, no such effects were found. Compared to usual care, puberty suppressants: • may have little to no effect on the risk of **idiopathic intracranial hypertension** (a serious adverse event) [CRITICAL outcome] • may have little to no effect on **QTc interval** (which, if prolonged, is a risk factor for serious heart rhythm abnormalities), but the evidence is very uncertain [CRITICAL outcome]. • **No other SAEs were reported** in the included studies (Note. To identify SAEs, reviewers screened all records retrieved from the search for mention of an adverse event (145 full text reports). Evidence related to any potentially serious adverse event was included in the review. No studies reported on: • **adverse events: bone fractures or other functional outcomes** [IMPORTANT outcome] • **adverse events: fertility potential** [IMPORTANT outcome]	In addition to the information from the systematic review listed in Research Evidence, the Gender Guidelines Development Committee considered information found during the review search by the evidence reviewer relating to bone health, mild to moderate adverse events and mental health/body image. This information is presented below under the heading "*Additional information provided by the evidence reviewer and considered by the Gender Guidelines Development Committee* ". **Decision:** The Gender Guidelines Development Committee agreed on a judgement of **trivial** noting there were still potential unknown undesirable effects, which would require ongoing monitoring that should be noted in the Advice on Puberty Suppressants. In a pre-discussion vote the majority supported a judgement of "**trivial**" (meaning no serious undesirable effects in the current evidence base, 86%) noting that monitoring, including for serious adverse events such as those examined and other adverse events such as abscesses, should still be undertaken. The remaining votes were for **small** undesirable effects (14%) given there is still uncertainty about long term impacts. **Discussion points** • Members noted that the evidence supports little to no effect on two serious adverse events (idiopathic intracranial hypertension and QTc interval as a risk factor for serious heart rhythm abnormalities), but that it is still important to

Outcomes	With no puberty suppressants	With puberty suppressants	Difference	Relative effect (95% CI)
SAEs: idiopathic intracranial hypertension (IIH) assessed with: ICD10 code	Incidence rate difference: 15.7 fewer IIH events per 100,000 person-years among those receiving PS (95% CI: 37.4 fewer to 6.1 more per 100,000 person-years) [a]			

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during inpatient visit or specialist outpatient care		
SAEs: QTc interval assessed with: ECG follow-up: range 2 to 3 months	Trans women: MD 20.5 ms longer (95% CI: 4.3 shorter to 36.7 longer) Trans men: MD 12.5 ms longer (95% CI: 8 shorter to 33 longer)	

a. No cases of IIH were identified among individuals receiving GnRH agonists (410 people, median follow-up 1.4 years). The threshold for this outcome has been corrected to report the effect measure as an incidence rate difference (not a risk ratio / risk difference). The threshold is set low because while this is a rare event, left undetected it can have serious consequences.

monitor for these and other adverse events.

- Members noted the use of GnRH agonists to suppress puberty is very well established, however, there is still uncertainty about potential impact on fertility. No studies were found that addressed future fertility.
- Members noted extensive searching was undertaken to look for information about fractures, however no studies reported fractures.
- Several members noted that long term fertility and risk of fracture will both depend on what (if any) later treatment is undertaken. For example, whether gender-affirming hormones are taken after puberty suppression (addressed in a later evidence review for the full guidelines).
- Clinicians on the panel noted that bone mineral density is highly monitored in anyone taking GnRH agonists.
- Members agreed that continued monitoring is essential both for the medical treatment of the individual and to contribute to growing the evidence base.

Additional information provided by the evidence reviewer and considered by the GGDC:

<u>Bone health</u>

- A recent systematic review examined the effects of puberty suppressants on bone accrual (10 studies, 751 participants).[11]
- They found that "… no cohort reported fracture outcomes".
- This concords with findings by the evidence reviewer. Of the 150 full text studies screened, 29 reported on bone related

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		outcomes, and of these only two mentioned fractures. Both were ineligible study designs, and both reported that no participants had a bone fracture during the study period. Adverse events (AEs) While mild-to-moderate AEs were not prioritised outcomes in the systematic review, two included studies asked participants to report any adverse event they experienced while on puberty suppression.[12,13] Most commonly, hot flushes and then headaches were reported. A smaller proportion reported mild fatigue and minor mood changes (This was also reported by another study in the acceptability criterion).[14] Mental health outcomes, body image: The treatment goal was to stabilise (prevent deterioration). There was no evidence of undesirable effects on any of these outcomes.

Certainty of evidence

What is the overall certainty of the evidence of effects?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ Very low ● Low ○ Moderate ○ High ○ No included studies	RESEARCH EVIDENCE presented under desirable effects, undesirable effects and certainty of evidence comes from the systematic review. Details about methods can be found in the systematic review report. Critical outcomes **Pubertal development**: moderate certainty evidence (penile length), high certainty evidence (menstruation) and low certainty evidence (breast size) of large desirable effects **Gender dysphoria**: very low certainty evidence of no change **Body image and satisfaction**: very low certainty evidence of no change	**Decision:** The Gender Guidelines Development Committee agreed on a judgement of **Low** certainty of evidence to reflect the balance of effects across all outcomes, with a specific focus on critical outcomes. In a pre-discussion vote a majority voted for **Low** certainty of evidence (64%) with the remaining votes for **Moderate** (29%) or **Very low** (7%). **Discussion points** • The GRADE process for Certainty of evidence relies on an algorithm that pre-determines the judgement based on the certainty for included effects, meaning that in this case it can only be low or very

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	Serious adverse events • Idiopathic intracranial hypertension: low certainty evidence of little to no adverse effect • QTc interval: very low certainty evidence of little to no adverse effect • No other SAEs reported in the included studies Future gender-affirming surgery implications (breast tissue resected): moderate certainty evidence of large desirable effects *See Attachment 1 (Summary of Findings Table)*	low. It is also important for the Gender Guidelines Development Committee to undertake a final vote and discussion as Certainty, Desirable effects and Undesirable effects and Values are the key factors in forming a recommendation. • Members discussed that the certainty was high or moderate for two factors relating to supressing puberty (menstruation and penile length respectively) and moderate relating to reduced need for future top surgery, but was low or very low for other factors, including serious adverse events. • Members noted that serious adverse events are often rated low to very low certainty because they are rare events. • Members also noted that no studies were found on the long-term effects of puberty suppression on the important outcomes of fertility and bone fractures (despite systematic searching).

Values

Is there important uncertainty about or variability in how much people value the main outcomes?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ Important uncertainty or variability ● Possibly important uncertainty or variability ○ Probably no important uncertainty or variability ○ No important uncertainty or variability	No studies were found in the systematic search that were directly relevant to this criterion.	**Decision:** The Gender Guidelines Development Committee agreed on a judgement of **Possibly important uncertainty or variability**, to reflect the possibility of different young people (and their parents or carers) making different decisions based on the evidence. In a pre-discussion, vote a small majority voted for **Possibly important uncertainty or variability** (43%) slightly ahead of **Important uncertainty or variability** (36%) or **Probably no important uncertainty or variability** (21%). **Discussion points** • Members discussed that the values of both the young people seeking treatment and their caregivers are relevant. • Members noted that very few medications would be chosen by everyone, so it is very common for the judgement for this criterion to be that there is uncertainty or variability in what people would choose. It

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		was noted that service data from a major Australian clinic also shows that not all young people choose puberty suppression as an option, for a range of reasons. • Members noted that in prioritising outcomes for the evidence review, the focus was on outcomes that are most important to young people receiving gender-affirming care and their parents or carers. The resulting outcomes reflected the consensus view from surveys and discussion with the Gender Guidelines Development Committee and the Gender Guidelines Reference Panel. There was some variation in the importance of different outcomes, which was consistent with the views expressed in Reference Panel feedback on this Evidence-to-Decision criterion. • Members also considered feedback from the Reference Panel which noted there was likely to be important variability amongst young people, parents or carers but confirmed that young people would value the primary outcomes surrounding pubertal progression and body image - that is that puberty suppression pauses physical changes induced by endogenous sex hormones. • Members noted findings from a 2022 UK study on parental decision making indicated that parents' views were that mental health protection and distress avoidance were valued more highly than long-term biomedical uncertainty or potential adverse events.[6]

Balance of effects

Does the balance between desirable and undesirable effects favour the intervention or the comparison?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
o Favours the comparison o Probably favours the comparison o Does not	Summary from the certainty of evidence criterion, noting direction of effects: **Pubertal development**: • moderate certainty evidence of large desirable effects on penile length	**Decision**: The majority of members agreed on a judgement of **Probably favours the intervention,** noting the importance of shared decision-making about if and when to start and stop GnRH agonists.

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favour either the intervention or the comparison ● Probably favours the intervention ○ Favours the intervention ○ Varies ○ Don't know	• high certainty evidence of large desirable effects on menstruation • low certainty evidence of large desirable effects on breast size **Gender dysphoria**: very low certainty evidence of no change **Body image and satisfaction**: very low certainty evidence of no change **Serious adverse events:** • low certainty evidence of little to no effect on the risk of idiopathic intracranial hypertension IIH • very low certainty evidence of little to no effect on QTc interval (which, if prolonged, is a risk factor for serious heart rhythm abnormalities) • No other SAEs reported in the included studies Future gender-affirming surgery implications (breast tissue resected): moderate certainty evidence of large desirable effects. **IMPORTANT OUTCOMES** **Quality of life:** The evidence on quality of life is too uncertain to interpret, meaning we can't tell if puberty suppressants have a desirable effect, an undesirable effect, or no effect on quality of life. **Satisfaction on gender-affirming care:** no eligible studies reported meaning we don't have evidence on whether puberty suppressants have a desirable, undesirable or no effect on this outcome. **Functioning (social, family):** low certainty of small but important improvements in functioning (overall psychosocial, social). **Mental health:** • low certainty of small but important improvements in overall psychosocial functioning • very low certainty that there may be fewer suicidality diagnoses with puberty suppressants (small but important reduction in diagnoses in emergency department and inpatient settings), but the evidence is very uncertain	In a pre-discussion vote a small majority voted for **Favours the intervention** (50%) slightly ahead of **Probably favours the intervention** (42%). There was 8% who voted for the option of **Does not favour either the intervention or the comparison**, however GRADE does not allow this option for this question, because the question did not compare two active interventions in a head-to-head comparison **Discussion points** • Members noted the previous judgements on Desirable effects (**moderate),** Undesirable effects (**trivial),** Certainty of evidence (**low**) and Values (**possibly important uncertainty or variability)** • Members noted that based on current clinical practice and other relevant guidelines, GnRH agonists are used at/after Tanner stage 2. • Members discussed that the decision of exactly when to start and how long to continue on GnRH agonists should be based on shared decision-making between the young person, carer and clinicians and relate to individual factors such as patient goals and maturity in decision-making, and clinical factors such as endocrine parameters and bone health.

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	• No eligible studies reported on death by suicide meaning we don't have evidence on whether puberty suppressants have a desirable, undesirable or no effect on this outcome. **Adverse events:** • No eligible studies reported on bone fractures or other functional outcomes • No eligible studies reported on fertility potential	

Resources required

JUDGEMENT	RESEARCH EVIDENCE	ADDITIONAL CONSIDERATIONS
○ Large costs ○ Moderate costs ○ Negligible costs and savings ○ Moderate savings ○ Large savings ○ Varies ○ Don't know	No studies were found in the systematic search that were directly relevant to this criterion.	**Decision**: Members did not vote on a judgement. Members noted that out of pocket costs for puberty suppressing medications can be considerable and this is important to consider this as part of the Equity criterion. **Discussion points** • Members discussed what the appropriate comparison would be in considering cost, given that not everyone chooses to access puberty suppression but may continue receiving treatment from a multidisciplinary team. • Members were reminded that this criterion considers costs related to out-of-pocket expenses from an individual perspective. From a GRADE methodological point of view a vote on Resources is not required from an individual clinical perspective. • Members were reminded that inequitable access to treatment (including cost-related inequity), should not be used as a reason to recommend against a treatment. Instead, access to treatment can inform implementation considerations (e.g. how to ensure more equitable or timely access). • Members considered the following indirect evidence about costs: Medications used for puberty suppression (GnRH agonists) are currently prescribed off-label and are not listed on the Pharmaceutical Benefits

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		Scheme (PBS) for this indication. When accessed privately, recent out-of-pocket cost estimates for GnRH agonists have ranged from $3000 to over $5,000 per year in Australia, based on publicly available information in the media. • Members noted other indirect costs are related to appointments for clinical monitoring and tests, potential travel, time away from work, and accommodation for those living in regional or remote areas. • Members noted that the use of GnRH agonists is expected to be time limited. Both the German guideline and Central Precocious Puberty guideline have recommendations on this, although a length of time is not specified.[14,15] There are some retrospective studies that discuss the duration of puberty suppression (discussed in the systematic review). • Members noted that use of puberty suppression may reduce later costs of gender-affirming surgical interventions by preventing the development of certain unwanted sex characteristics).[2,10] • Members noted that the cost of fertility preservation has been raised with NHMRC as a notable expense by those with lived experience.

Equity

What would be the impact on health equity?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ Reduced ○ Probably reduced ○ Probably no impact ● Probably increased ○ Increased ○ Varies ○ Don't know	No studies were found in the systematic search that were directly relevant to this criterion.	**Decision**: Members agreed on a judgement of **Probably increased** when considering the impact on Equity. Members noted that the guidelines will be important in increasing access to quality health information, which is also likely to impact equity. In a pre-discussion vote a majority voted for **Probably increased** (67%) with the rest voting for **Increased** (25%) or **don't know** (8%). **Discussion points**

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		• Members noted that inadequate access to treatment in the current context (e.g. long wait lists) should not be used as a reason to recommend against a treatment. Instead, this criterion asks what action will make things fairer (e.g. how to ensure more equitable or timely access). • Members however noted that long waitlists may affect timeliness of care and that current regional differences in availability are an equity concern. • Members noted that families vary in what they can afford and that limiting access disadvantages those with less money. Additional concerns were noted for the use of unregulated/online access to medications or nutritional restriction to achieve goals if access to medications were restricted. • Members noted that people who live in rural or remote areas, and those from culturally and linguistically diverse communities including Aboriginal and Torres Strait Islander people are important groups to consider. • Members also noted possible inequities where parents disagree on care. • Members noted some studies from other parts of the world which have argued that withholding puberty suppression would have a substantial negative impact on wellbeing and social functioning,[6] especially given high levels of satisfaction in adolescents for gender-affirming care.[7] • Members agreed that this criterion asks whether puberty suppression should be available as an option to those people who might benefit from it. Members noted that it would be important to be clear in discussion with the young person and their parents or carers that accepting treatment is voluntary. • Members discussed equity in relation to care, but also in relation to access to quality information.

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Acceptability

Is the intervention acceptable to key interest-holders?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ No ○ Probably no ● Probably yes ○ Yes ○ Varies ○ Don't know	No studies were found in the systematic search that were directly relevant to this criterion.	**Decision**: Members agreed on a judgement of **Probably yes** for the Acceptability criterion, noting there is some variability. In a pre-discussion vote a small majority voted for **Yes** (50%), with the rest voting for **Probably yes** (33%) or **varies** (17%). Given the closeness of the vote for similar options the GGDC agreed on the more conservative Probably Yes. **Discussion points** • Members discussed that the Acceptability criterion explores whether interest holders including young people, their parents or carers and healthcare providers are likely to support, accept, or participate in the action. • Members discussed that almost no medication is universally agreed upon and that the judgement here is about whether it should be available to people, not whether everyone would want the intervention (which is considered as part of the Values criterion). • Members noted there are parents or carers who support the intervention, but also those who do not. • Members noted that going through incongruent puberty is unacceptable to many trans and gender diverse people. • Members noted research findings that parents have reported being reassured by the long-term use of puberty suppression for other conditions,[8,9] and that these medications remain freely available for other paediatric health needs including precocious puberty.[10] • Members also noted results of a decade-long survey in North America (220 youths) which reported that adolescents receiving gender-affirming medical care, including puberty suppression, were satisfied with their care on average 4.86 years after commencing puberty suppression.[7] Of this sample, dissatisfaction with puberty supressing medication was reported by 5 of

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		160 youths [3%] and 3 of 55 parents [5%]; regret with puberty suppressing medication was reported by 9 of 159 youths [6%] and 3 of 55 parents [5%]. The paper also notes that nearly half of the people who expressed regret had continued care at the time of the survey, suggesting that regret is complex and needs further investigation. • Members also considered the feedback from the Gender Guidelines Reference Panel in which most clinicians said that young people and parents or carers would find puberty suppression acceptable based on the information in the summary of findings table, although noted that there may be some people in the community who find puberty suppression unacceptable; whereas Lived experience members varied in whether they thought puberty suppression was acceptable, or would be to young people and parents or/caregivers. Members further noted that some Reference Panel clinician members mentioned that there may be concern about the lack of long-term outcomes and that more information is needed about the care process; concerns about the lack of long-term outcomes was also expressed by some of the Reference Panel parent members.

Feasibility

Is the intervention feasible to implement?		
JUDGEMENT	**RESEARCH EVIDENCE**	**ADDITIONAL CONSIDERATIONS**
○ No ○ Probably no ○ Probably yes ● Yes ○ Varies ○ Don't know	No studies were found in the systematic search for puberty suppression that were directly relevant to this criterion.	**Decision**: Members agreed on a judgement of **Yes** for the Feasibility criterion. In a pre-discussion vote a majority voted for **Yes** (73%) with the rest voting **Probably yes** (18%) or **don't know** (9%). **Discussion points** • Members discussed that puberty suppression is already available, but that there are problems with access depending on where people live. Time on waitlists may also mean that by the time the young

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		person is assessed, puberty has progressed to a stage where puberty suppression is no longer optimal. • Members noted that at the time of discussion all prescribing of GnRH agonists for gender dysphoria in Australia is off-label, meaning they are used in a way that is not included in the approved Therapeutic Goods Administration (TGA) product information. At the time of discussions GnRH agonistsfor gender dysphoria were not subsidised under the Pharmaceutical Benefits Scheme (PBS). • Members noted the results of a recent Australian study looking at parents' experience of seeking gender-affirming care for their trans children suggested that there are long wait times, complex care paths and sparsity of gender specific services).[16] This study also found that the most accessed service was primary care (accessed by >90% of the 194 parents on behalf of their trans or gender diverse child), but there was high variability in whether primary care providers were able to provide gender-affirming care. Gender-affirming medical services were only accessed by 54% of the full sample, and of these 63% attended a children's hospital, and 34% saw private endocrinologists. The paper does not report directly on puberty suppression as distinct from hormones. • Members noted that some aspects of puberty suppression require a specialist (such as initial endocrinologist assessment) but that others may be provided by a trained GP (e.g. providing some of the injections once medication is approved). Some aspects of care such as mental health may be provided in other services.

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Summary of Judgements

	JUDGEMENT						
PROBLEM	No	Probably no	Probably yes	**Yes**		Varies	Don't know
DESIRABLE EFFECTS	Trivial	Small	**Moderate**	Large		Varies	Don't know
UNDESIRABLE EFFECTS	Large	Moderate	Small	**Trivial**		Varies	Don't know
CERTAINTY OF EVIDENCE	Very low	**Low**	Moderate	High			No included studies
VALUES	Important uncertainty or variability	**Possibly important uncertainty or variability**	Probably no important uncertainty or variability	No important uncertainty or variability			
BALANCE OF EFFECTS	Favours the comparison	Probably favours the comparison	Does not favour either the intervention or the comparison	**Probably favours the intervention**	Favours the intervention	Varies	Don't know
RESOURCES REQUIRED	Large costs	Moderate costs	Negligible costs and savings	Moderate savings	Large savings	Varies	Don't know
EQUITY	Reduced	Probably reduced	Probably no impact	**Probably increased**	Increased	Varies	Don't know
ACCEPTABILITY	No	Probably no	**Probably yes**	Yes		Varies	Don't know
FEASIBILITY	No	Probably no	Probably yes	**Yes**		Varies	Don't know

Type of recommendation

Strong recommendation against the intervention	Conditional recommendation against the intervention	Conditional recommendation for either the intervention or the comparison	**Conditional recommendation for the intervention**	Strong recommendation for the intervention
○	○	○	●	○

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Recommendation

Conditional Recommendation for the intervention (drafted prior to Council consideration)

The Gender Guidelines Development Committee suggests that, based on a shared decision between the young person, parents or carers and clinicians, gonadotrophin-releasing hormone (GnRH) agonists can be considered for a young person who wants puberty suppression and who meets the following criteria:

- Tanner stage 2 or later
- Gender incongruence with or without distress (assessed according to ICD-11 gender incongruence in childhood – HA61, or gender incongruence in adolescence or adulthood – HA60)
- Assessed as suitable for treatment with GnRH agonists in collaboration with appropriate clinicians including multidisciplinary input as needed.

In a pre-discussion vote a majority voted for **Conditional recommendation for the intervention** (i.e. puberty suppression; 82%) with small votes for Conditional recommendation against the intervention (9%) and Strong recommendation for the intervention (9%).

Additional information

- The wording of the recommendation, particularly the word "suggests", reflects the GRADE language for a conditional recommendation. A conditional recommendation is made in cases where shared decision-making is essential because people have different values and might make different choices and/or where the certainty of evidence is low. Both are the case here. GRADE advises that groups making recommendations should make every effort to provide guidance even when the certainty of evidence is low, and that the greater the uncertainty, the more impactful a thoughtful and well-justified guideline recommendation can be for end-users (GRADE Book, section 1 'Practical Advice'.) Conditional recommendations are the norm in clinical practice guidelines, and evidence suggests they are valued by clinicians and decision-makers (see Neumann, I., Akl, E., Meerpohl, J., et. al. (2026). *GRADE Recommendations*. In GRADE Book, section 3.2 'Conditional recommendations'.)
- An important feature of this process has been the input of people with lived experience of accessing care for gender incongruence. The GGDC includes people who accessed care as a young person or as a parent or carer supporting a young person. The GGDC sought additional input from the Gender Guidelines Reference Panel which included feedback from people with lived experience and clinicians and researchers who work with trans and gender diverse young people and their carers. A range of views were expressed and considered.
- The GGDC considered that it would be problematic if the recommendation applied only to young people with gender distress, because some well-supported gender incongruent young people may not be distressed when they present for assessment and making them wait until they are distressed would be unethical.
- The Guideline Development GGDC noted that GnRH agonists should not be used indefinitely without the introduction or return of hormones.
- The recommendation should be read in conjunction with the Good Practice Statements, which provide additional information on a range of topics relevant to clinical practice.

Justification

The majority of GGDC members judged that the benefits of gonadotrophin-releasing hormone agonists (GnRH agonists) for puberty suppression in trans and gender diverse people aged under 18 outweigh the risks. All members noted that the certainty of evidence is high to moderate on the effects relating to supressing puberty but low or very low for other outcomes, particularly for long-term outcomes. The GGDC also noted that it is difficult to consider puberty suppression in isolation, rather than as part of a package of gender-affirming care. However, there are some young people for whom this may be appropriate as the aim of puberty suppression is often to "pause" puberty to consider options. That is, not all people accessing puberty suppression go on to access hormones. The GGDC further noted that not all trans and gender diverse young people wish to use puberty suppression, for a variety of reasons. Overall, the GGDC emphasised the

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importance of shared decision-making between the young person, carers and clinicians on if and when to start or stop GnRH agonists.

Summary of Findings Table

Puberty suppressants compared to no puberty suppressants for young people experiencing gender incongruence or dysphoria

Patient or population: young people experiencing gender incongruence or dysphoria who commenced puberty suppression at <18 years of age

Setting: Any care setting was eligible. Care was provided in specialist gender clinics in 12 of 15 studies, paediatric hospitals (Emergency Department (ED) or inpatient admissions) in one study, and not reported in 2 studies (studies using national population data). Countries: 5 Netherlands, 3 UK, 3 USA, 1 Germany, 1 Israel, 1 Italy, 1 Sweden.

Intervention: puberty suppressants (gonadotropin-releasing hormone agonists, GnRH agonists). We included studies in which some participants had received gender-affirming hormones (GAH) if effects of puberty suppressants could be isolated. We included results from one study where participants had also received GAH and gender-affirming surgery because the study examined potentially serious AEs for those who underwent future gender-affirming surgery and compared outcomes for people who had received puberty suppressants with those who had not.

Comparison: no puberty suppressants. Gender-affirming care (GAC) was provided to both groups in 12 of the 15 studies with results in this table. Three of the 15 studies did not report whether GAC was provided. In two of these studies, data were from a national population sample (one study from the USA that contributed data on mental health; one study from Sweden on idiopathic intracranial hypertension). The third was a multi-centre study using data from paediatric hospitals (a study in the USA on suicidality diagnoses).

Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty	What happens
		no puberty suppressants	**puberty suppressants**	**Difference**		
CRITICAL OUTCOMES						
Pubertal development (AMAB): penile length (cm) follow-up: range 4 to 5 years № of participants: 103 (1 non-randomised study)	-	The mean penile length without puberty suppressants was **12.8** cm	-	MD **3.26 cm shorter** (3.44 shorter to 3.09 shorter)	⨁⨁⨁◯ Moderate[a,b]	Puberty suppressants (GnRH agonists) likely suppress pubertal development importantly (shorter penile length) compared to no puberty suppression. Effects were larger among those who received puberty suppressants at Tanner stage 2/3 (MD 4.90 cm shorter, 95% CI: 4.63 to 5.17 cm shorter). [c]

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty	What happens
		no puberty suppressants	**puberty suppressants**	**Difference**		
Pubertal development (AFAB): menstruating follow-up: range 3 to 12 months № of participants: 143 (4 non-randomised studies)	In all four studies, none of the young people who were at menarche before puberty suppressants (baseline: 15/19, 20/22, 49/65, 35/37) had menses after puberty suppressants (follow-up: 12, 3, 12 and 12 months respectively). Proportion menstruating at follow-up: 0.00 (95% CI: 0.00 to 0.01)				⨁⨁⨁⨁ High[d]	Puberty suppressants (GnRH agonists) suppress pubertal development (menstruation) importantly compared to no puberty suppression. The effects were very large in all four studies.
Pubertal development (AFAB): breast cup size B or larger follow-up: range 4 to 5 years № of participants: 126 (1 non-randomised study)	RD 47 fewer per 100 had a breast cup size of B or larger (95% CI: 32 fewer to 62 fewer)				⨁⨁◯◯ Low[a,e]	Puberty suppressants (GnRH agonists) may suppress breast growth importantly compared to no puberty suppression. Effects were larger among those who received puberty suppression at Tanner stage 2/3.
Gender dysphoria assessed with: Utrecht gender dysphoria scale (lower is better) follow-up: range 12 to 24 months № of participants: 100 (3 non-randomised studies)	-	-	-	SMD **0.06 SD lower** (0.25 lower to 0.13 higher)	⨁◯◯◯ Very low[f,g]	The evidence suggests that there may be little to no change in gender dysphoria between commencing puberty suppressants and follow-up, but the evidence is very uncertain. [h]

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty	What happens
		no puberty suppressants	**puberty suppressants**	**Difference**		
Body image and satisfaction assessed with: Body image scale (overall or secondary sex characteristics, lower is better) follow-up: range 12 to 24 months № of participants: 118 (3 non-randomised studies)	-	-	-	SMD **0.15 SD higher** (0.03 lower to 0.33 higher)	⨁◯◯◯ Very low[f,i]	The evidence suggests that there may be little to no change in body image and satisfaction between commencing puberty suppressants and follow-up, but the evidence is very uncertain.[h]
SAE: idiopathic intracranial hypertension (IIH) assessed with: ICD10 code during inpatient visit or specialist outpatient care № of participants: 4230 (1 non-randomised study)	Incidence rate difference: 15.7 fewer IIH events per 100,000 person-years among those receiving PS (95% CI: 37.4 fewer to 6.1 more per 100,000 person-years) [j] No cases of IIH were identified among individuals receiving GnRH agonists (410 people, median follow-up 1.4 years)				⨁⨁◯◯ Low[k,l]	Puberty suppressants may have little to no effect on the incidence of idiopathic intracranial hypertension (a serious but rare adverse outcome) compared to no puberty suppressants.
SAE: QTc interval assessed with: ECG follow-up: range 2 to 3 months № of participants: 16 (1 non-randomised study)	Trans women: MD 20.5 ms longer (95% CI: 4.3 shorter to 36.7 longer) Trans men: MD 12.5 ms longer (95% CI: 8 shorter to 33 longer)				⨁◯◯◯ Very low[m,n]	Puberty suppressants may have little to no effect on QTc interval (which, if prolonged, is a risk factor for serious heart rhythm abnormalities) but the evidence is very uncertain.

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty	What happens
		no puberty suppressants	**puberty suppressants**	**Difference**		
Amount of breast tissue resected (grams) in future surgeries (SAE: invasive mastectomy) follow-up: range 4 to 5 years № of participants: 174 (1 non-randomised study)	-	The mean amount of breast tissue resected in future surgeries (SAE: invasive mastectomy) without puberty suppressants was **684** grams	-	MD **248 grams lower** (270 lower to 226 lower)	⨁⨁⨁◯ Moderate[a]	For those undergoing future gender-affirming surgery, puberty suppressants probably result in less invasive mastectomy (i.e. a large reduction in the amount of breast tissue removed or resected). Effects were larger among those who received puberty suppressants at Tanner stage 2/3 (MD 540 grams less tissue resected, 95% CI: 605 lower to 475 lower).
IMPORTANT OUTCOMES						
Satisfaction with care (gender-affirming prior to receipt of GAH) - not reported	-	-	-	-	-	
Quality of life and wellbeing assessed with: Kidscreen-27 or SF-8 (higher is better) follow-up: range 18 to 24 months № of participants: 32 (1 non-randomised study)	-	-	-	SMD **0.77 SD higher** (0.03 higher to 1.5 higher)	⨁◯◯◯ Very low[o,p]	The evidence is very uncertain about the effect of puberty suppressants on quality of life and wellbeing (due to the extremely wide confidence interval).

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty	What happens
		no puberty suppressants	puberty suppressants	Difference		
Functioning (socially; family) assessed with: Youth self-report (YSR - social problems scale); Child Global Assessment Scale (CGAS) (lower is better) follow-up: range 18 to 24 months № of participants: 991 (4 non-randomised studies)	-	-	-	SMD **0.3 SD lower** (0.45 lower to 0.15 lower)	⨁⨁◯◯ Low[q,r]	Puberty suppressants may improve functioning (overall psychosocial, social) importantly.
Mental health - symptoms (psychological functioning) assessed with: Youth self-report (overall, internalising) (lower is better) follow-up: range 18 to 24 months № of participants: 4414 (4 non-randomised studies)	-	-	-	SMD **0.39 SD lower** (0.68 lower to 0.11 lower)	⨁⨁◯◯ Low[s,t]	Puberty suppressants may improve psychological functioning importantly.
Mental health - suicidality (attempts or thoughts, as diagnosed at ED or inpatient visit) assessed from electronic health records at 5 paediatric hospitals follow-up: mean 2 years № of participants: 3321 (1 non-randomised study)	**HR 0.79** (0.47 to 1.31)	**Moderate risk**			⨁◯◯◯ Very low[u,v]	Puberty suppressants may reduce suicidality diagnoses but the evidence is very uncertain. Using the baseline risk for suicide attempts reported in Trans Pathways (an Australian national survey of young TGD people), puberty suppressants may lead to 3 fewer diagnoses of suicidality in an ED/inpatient setting per 100 people over 12 months.
		16.0%	**13.0%** (8 to 20)	**3.0% fewer** (8.0% fewer to 4.0% more)		

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Outcome № of participants (studies)	Relative effect (95% CI)	Anticipated absolute effects (95% CI)			Certainty	What happens
		no puberty suppressants	puberty suppressants	Difference		
Mental health - death by suicide - not reported	-	-	-	-	-	
AE: bone fracture - not reported	-	-	-	-	-	
AE: fertility - not reported	-	-	-	-	-	

The risk in the intervention group (and its 95% confidence interval) is based on the assumed risk in the comparison group and the **relative effect** of the intervention (and its 95% CI).

CI: confidence interval; **HR:** hazard ratio; **MD:** mean difference; **SMD:** standardised mean difference; **RD:** risk difference; **AMAB**: assigned male at birth; **AFAB**: assigned female at birth; **PS** = puberty suppression; **GnRH agonists** = gonadotropin-releasing hormone agonists, **GAC** = gender-affirming care, **GAH** = gender-affirming hormones, **GAS** = gender-affirming surgery, **ED** = emergency department, **AE** = adverse event, **SAE** = serious adverse event, **cm** = centimetres, **ms** = milliseconds

Thresholds. The thresholds for an important effect (benefit or harm) were agreed prior to the GDC seeing results. These thresholds were used for interpreting point estimates and assessing certainty of the evidence and were as follows.

- Pubertal development – penile length: 10% difference in length (in centimetres). Shorter penile length indicates pubertal suppression.
- Pubertal development – menstruating: 10 fewer [or more] people menstruating per 100. Fewer people menstruating indicates pubertal suppression.
- Pubertal development – breast cup size B or above: 10 fewer [or more] people with a breast cup size of B or above per 100 people. Fewer people with a breast cup size of B or above indicates pubertal suppression.
- Gender dysphoria, body image and satisfaction, quality of life and wellbeing, functioning, mental health symptoms – psychological functioning: SMD of 0.2. A lower score (i.e. SMD of -0.2 or below) is better for all outcomes (i.e. less dysphoria, less body dissatisfaction, fewer problems with psychosocial functioning, fewer problems with psychological functioning) except quality of life (SMD of 0.2 or above is better).
- Serious adverse events – idiopathic intracranial hypertension (IIH): 20 more with incident IIH per 100,000 person years. Fewer people with IIH is better. The threshold is set low because this is a rare adverse event (not an outcome that is a goal of treatment). Left undetected, IIH can have serious undesirable consequences.
- Serious adverse events – QTc interval: change from baseline of ≥30 ms. Based on ICH E14 / FDA guidance where an increase of ≥30 ms signals a potential concern (>500 ms or of >60 ms over baseline are commonly used as thresholds for potential discontinuation)
- Serious adverse events – breast resection volume for those undergoing future gender-affirming surgeries: 10% difference in volume resected. A reduction in the amount of breast tissue removed or resected indicates less invasive surgery.
- Mental health symptoms – suicidality: 1 fewer [or more] person with a diagnosis of suicidality per 100 people over 12 months.

No eligible studies reported on satisfaction with care, mental health – death by suicide, adverse events – bone fracture or other functional measures of bone health, adverse events – fertility potential

Control group risk. The baseline risks for 'attempted suicide in the last 12 months' was from Trans-pathways 2017, a large Australian survey of trans and gender diverse young people. https://www.thekids.org.au/projects/past/trans-pathways/

GRADE Working Group grades of evidence
High certainty: we are very confident that the true effect lies close to that of the estimate of the effect.
Moderate certainty: we are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
Low certainty: our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
Very low certainty: we have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of effect.

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Explanations

a. Serious risk of bias (-1)/large effect (+1): study with 100% of weight in the analysis rated at moderate risk of bias. This effect is large (both the point estimate and either end of the 95% CI indicate large effects relative to the threshold, with the direction of effect reversed from usual pubertal development), offsetting concerns about risk of bias and justifying an upgrade for a large effect (+1).
b. Serious indirectness (-1): Tanner stage provides a more direct measure of pubertal development than penile length.
c. Compared to no puberty suppression, for those who commenced puberty suppression at Tanner stage 4/5 penile length was MD 2.10 cm shorter (95% CI: 1.87 to 2.33 cm shorter).
d. Very serious risk of bias (-2)/very large effect (+2): all four studies used an uncontrolled before-after design, but the effect is unlikely to be explained by bias alone. The effect is very large (the point estimate and both ends of the 95% CI indicate very large effects relative to the threshold, with the direction of effect reversed from usual pubertal development), so the evidence was upgraded for a very large effect (+2).
e. Very serious indirectness (-2): breast cup size is an indirect measure of pubertal development.
f. Extremely serious risk of bias (-3): all three studies use an uncontrolled before-after design and were rated at critical risk of bias for this outcome.
g. Serious imprecision (-1): the 95% CI crosses a threshold for an important effect (SMD=0.2) such that the result is compatible with important benefit (SMD= -0.25) and little to no change (SMD=0.13).
h. This finding is consistent with the hypothesis pre-specified in the protocol that puberty suppressants may prevent deterioration in gender dysphoria and body image and satisfaction, rather than improve these outcomes. See Figure 1 in the pre-specified protocol for this systematic review, which shows the underpinning logic for how these outcomes relate to the primary and secondary goals of treatment and the predicted effects.
i. Serious imprecision (-1): the 95% CI crosses a threshold for an important effect (SMD=0.2) such that the result is compatible with little to no change (SMD= -0.03) and slight, but important worsening (SMD=0.33).
j. The threshold for this outcome is set low because while this is a rare event, left undetected it can have serious consequences.
k. Serious risk of bias (-1): the single study is at moderate risk of bias due to confounding.
l. Serious imprecision (-1): the 95% CI crosses a threshold for an important effect (20 events per 100,000 person years), so the result is compatible with important benefit (37 fewer cases of incident IIH) and little to no difference (6 more cases). Although the result is imprecise, there is no indication of important harm (i.e. no indication of an increase in the incidence of IIH above the threshold).
m. Extremely serious risk of bias (-3): single study that uses an uncontrolled before-after design.
n. Serious imprecision (-1): Using a threshold for change of 30ms, the 95% confidence interval slightly crosses the threshold such that the result is compatible with little or no difference and important harm. This is most likely due to the small sample size.
o. Extremely serious risk of bias (-3): single cohort study rated at critical risk of bias due to missing outcome data (follow-up data available for 75/204, intervention status ascertained at follow-up, so missingness may be due to intervention and outcome).
p. Extremely serious imprecision (-3): the 95% CI crosses a threshold for an important effect (SMD=0.2), but the result is compatible with very large benefit (SMD=1.5) and little to no difference (SMD=0.03), which is extremely imprecise.
q. Very serious risk of bias (-2): two studies at serious risk of bias, and one at moderate risk of bias. One study at critical risk of bias due to missing outcome data (showing a large effect) but this study has negligible influence on the analysis (weight 4%).
r. No serious imprecision: although the CI crosses the threshold for a small benefit, the effects favour puberty suppression and the upper bound of the CI (SMD=-0.15) is close to the threshold (SMD=-0.2).
s. Very serious risk of bias (-2): Most of the included studies are at serious risk of bias, including the study with 43% of the weight in the analysis.
t. No serious imprecision: although the CI crosses the threshold for a small benefit, the effect favours puberty suppression and the upper bound of the CI (SMD=-0.11) is close to the threshold (SMD=-0.2).
u. Very serious risk of bias (-2): study with 100% of weight in the analysis rated at serious risk of bias.
v. Very serious imprecision (-2): Using a 1% threshold for an important effect, the 95% CI crosses both thresholds such that the result is compatible with important benefit and important harm.

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Appendix B: Good Practice Statement tables

Interests of the young person

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. The interests of the child is a paramount consideration in law and the Australian healthcare context, and what is in each child's best interest will vary depending on a range of factors.[17,18] Person-centred care that recognises and responds to each person's autonomy and their unique goals, preferences, needs and experiences, and which tailors care in their interests, is also an established element of healthcare practice. It is appropriate to recognise the extent to which a young person can be involved and supported in decisions relating to their own bodies and healthcare, alongside parents or guardians. In *Re Imogen*, the Court acknowledged the Royal Australian College of Physicians supported, "the emphasis on the multidisciplinary approach to providing person-centred care which priorities the best interests, preferences and goals of the child or adolescent. [19] The College recommends that treatment should be holistic, developmentally informed, child centred and individualised".
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Probably/Yes. This statement targets any suboptimal understanding among healthcare professionals and the wider community regarding the diversity of trans and gender diverse experiences, the diversity of young people's goals, the role of the young person in decisions about their care, including the need to prioritise the young person's interests, and to respect their evolving autonomy as part of shared decision-making.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. The statement is consistent with the law, ethics, and professional practice in the Australian healthcare context.
What is the potential GPS grounded in?	Ethics and human rights
Is a pragmatic scoping search required to identify supporting	No. The statement is consistent with the law, ethics, and professional practice in the Australian healthcare context.

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? (desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)	Importance: Important Equity: Equity increases (This option is likely to make things more fair, reducing disadvantage for some people or groups) Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

Human rights and anti-discrimination

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. Trans and gender diverse young people have the same human rights and legal rights as other young people in Australia. Trans and gender diverse identities are valid, and gender diversity is not inherently pathological or negative. Like all people, trans and gender diverse young people have the right to freedom of expression and the right to enjoy the highest possible standard of health and wellbeing (also known as the right to health). This includes care that recognises their inherent dignity and worth, draws on their strengths, and avoids undermining or pathologising their identity and experiences. All medical care should be free from discrimination, consistent with professional expectations. Practices to suppress or change a young person's gender identity are illegal in most Australian states and territories.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Yes. This statement is needed to help highlight key human rights principles.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to	Yes. This statement is consistent with the established universal rights to health and freedom of expression, and with rights-based principles and legislative requirements to provide care without discrimination.

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
be implemented as a strong recommendation)	
What is the potential GPS grounded in?	Ethics and human rights
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. This statement would be consistent with the expectations of human rights principles, law, ethics, and professional practice in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? (desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)	Importance: Important Equity: Equity increases (This option is likely to make things more fair, reducing disadvantage for some people or groups) Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

Informed consent

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. It is appropriate to support the young person and their parents in making informed decisions and providing informed consent. Generally, parents or guardians are legally responsible for providing valid informed consent to health care for their child, but a young person who understands fully what is proposed can typically provide informed consent to their own health care as a mature minor (an established legal principle known as 'Gillick competence').[18] Legal obligations for consent to puberty suppression may differ between states and territories. Even where parents are required to consent, the young person should provide informed assent to treatment and should be involved in the decision to the greatest extent possible.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal	Yes. It is appropriate to include a statement on the importance of assessing the young person's capacity to provide informed consent and supporting them to do so, where permitted.

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
understanding or insufficient emphasis in current practice)	
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. A statement on informed consent would be consistent with the law, ethics, and professional practice in the Australian healthcare context. The statement would recognise the significance of Gillick competency while allowing for the varying requirements to (also) obtain parental consent.[19]
What is the potential GPS grounded in?	Ethics and human rights
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. This statement would be consistent with law, ethics, and professional practice in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? (desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)	Importance: Important Equity: Equity increases (This option is likely to make things more fair, reducing disadvantage for some people or groups) Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

Privacy and confidentiality

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. Health services and healthcare professionals have established legal duties of confidentiality and privacy and must comply with relevant legislation and professional expectations. This extends to all staff within health services. Every person's gender identity is personal and deserving of privacy. Trans and gender diverse people have the right to protect their privacy, and to expect their privacy will be respected and confidentiality maintained to the greatest extent possible when seeking care. It is also appropriate to involve the young person in decisions

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
	about if and how private information (including preferred names and pronouns) is documented and shared with others.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Yes. This statement targets any suboptimal understanding among healthcare professionals and the wider community regarding the young person's right to privacy and confidentiality with respect to their gender. It is appropriate to include a statement drawing attention to the importance of respecting the privacy and confidentiality of trans and gender diverse young people, given the risk of 'outing' (non-consensual public disclosure of the person's gender) and the impact of this.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. A statement on respecting a young person's privacy and confidentiality is consistent with law, ethics, and professional practice in the Australian healthcare context.
What is the potential GPS grounded in?	Ethics and human rights
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. This statement would be consistent with law, ethics, and professional practice in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? **(desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)**	Importance: Important Equity: Equity increases (This option is likely to make things more fair, reducing disadvantage for some people or groups) Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

Culturally safe, accessible, and inclusive care

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered	Yes. Australia is a culturally and linguistically diverse population and culturally safe care is an established component of professional practice

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	in the Australian healthcare context, and as such, should be a component of care for all trans and gender diverse young people, including Aboriginal and Torres Strait Islander people. Care should also be accessible and inclusive, respecting the needs of the young person and their families (e.g. with respect to disability, remoteness, neurodivergence).
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Probably/Yes. This statement targets any suboptimal understanding among healthcare professionals and the wider community regarding culturally safe, accessible and inclusive care, including the importance of ongoing reflective practice, and community involvement, as well as highlighting the range of reasons accommodations for accessibility may be needed (e.g. remoteness, health literacy, neurodivergence, disability, and cultural and language diversity), with some practical strategies listed as examples of how to action this.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. The statement is consistent with the expectations of professional practice in the Australian healthcare context.
What is the potential GPS grounded in?	Essential principles, practices and protocols
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. The statement is consistent with the expectations of professional practice in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? (desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)	Importance: Important Equity: Equity increases (This option is likely to make things more fair, reducing disadvantage for some people or groups) Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

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Providing information as part of shared decision-making

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. Shared decision-making involves providing a wide range of information to the young person and their parents or carers so they can make an informed decision about treatment alongside healthcare professionals. This is the case for many/all healthcare decisions made between clinicians and patients and is not unique to puberty suppression; providing information about the risks and benefits of treatment is an essential/expected part of the doctor's established legal duty of care/standard of care and consistent with professional expectations. Providing young people and their families with accessible information at a pace that suits them and supports them to make decisions is also related to equity and positively impacts health. This need for information and support begins/continues while the family is on waiting lists to access care.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Yes. This statement clarifies the type of information and support that should be provided to the young person and their parents or carers to assist them in making informed decisions regarding puberty suppression.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. The statement is consistent with the expectations of professional practice in the Australian healthcare context.
What is the potential GPS grounded in?	Essential principles, practices and protocols
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. The statement is consistent with the expectations of professional practice in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in	Importance: Important Equity: Equity increases (This option is likely to make things more fair, reducing disadvantage for some people or groups)

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
supporting net desirable consequences? **(desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)**	Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

Health assessment prior to commencing GnRH agonists

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? **(i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)**	Yes. Undertaking comprehensive health assessments that include establishing baseline figures to inform decision making and monitoring requirements is standard professional practice in the Australian healthcare context. This is the case for many/all decisions about medications and medical treatments and is not unique to puberty suppression; undertaking the investigations necessary before prescribing treatment is an essential/expected part of the doctor's established legal duty of care/standard of care. To prescribe medication without completing a health assessment would contradict established practices.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Yes. This statement is needed to outline the essential elements of the health assessment with respect to puberty suppressants.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. This statement is consistent with established professional practices in the Australian healthcare context.
What is the potential GPS grounded in?	Essential principles, practices and protocols
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established	No. This statement is consistent with established professional practices in the Australian healthcare context.

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
scientific evidence; for other GPS may be needed for context)	
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? (desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)	Importance: Important Equity: Probably no impact Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

Multidisciplinary input when needed

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. This statement asks healthcare professionals to obtain multidisciplinary input when needed, to assist with assessment and monitoring, which is consistent with established practice in the care of young people with gender incongruence who are taking GnRH agonists to suppress puberty (the health assessment and monitoring typically involves multiple specialists, e.g. paediatricians, endocrinologist, mental health professionals). It would be unacceptable for a healthcare professional not to involve multidisciplinary input in a coordinated approach to care when needed.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Yes. This statement is needed to explain the specialties that should be involved in the initial health assessment and those other specialties that can be involved in the process as needed. It is important that the young person and their family is aware of the multidisciplinary involvement in care and that arrangements are in place to ensure coordination/continuity of care.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. This statement is consistent with established professional practices in the Australian healthcare context.

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DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
What is the potential GPS grounded in?	Essential principles, practices and protocols
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. This statement is consistent with established professional practices in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? **(desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)**	Importance: Important Equity: Probably no impact Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

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Regular monitoring of a young person on GnRH agonists

DISCUSSION POINT	SUMMARY OF DISCUSSION / RATIONALE
Is the alternative course of action stated in the question considered inappropriate? (i.e. contradicts ethics, human rights, essential principles, practices and protocols, or established scientific evidence)	Yes. Undertaking regular and appropriate monitoring of a person's health and wellbeing while receiving medical treatment (including puberty suppression) and discussing any changes with the patient to determine whether changes to/additional care is needed, is standard practice in the Australian healthcare context, and to not undertake this monitoring would contradict established practices.
Would the user be unsure what to do without the potential GPS? (fills a knowledge, awareness, implementation gap e.g. targeting audience's suboptimal understanding or insufficient emphasis in current practice)	Yes. This statement is needed to outline an essential clinical consideration in relation to receiving puberty suppressants.
Is the potential GPS likely to withstand the test of time? (unlikely to be revised in light of new evidence or experience; would likely always be needed in health practice and expected to be implemented as a strong recommendation)	Yes. This statement is consistent with established professional practices in the Australian healthcare context.
What is the potential GPS grounded in?	Essential principles, practices and protocols
Is a pragmatic scoping search required to identify supporting indirect evidence? (required for GPS grounded in established scientific evidence; for other GPS may be needed for context)	No. This statement is consistent with established professional practices in the Australian healthcare context.
In addition to benefits outweighing harms, which Evidence-to-Decision criteria did the GDG consider in supporting net desirable consequences? **(desirable consequences of implementing the statement must substantially outweigh the undesirable consequences)**	Importance: Important Equity: Probably no impact Acceptability: Acceptable (Yes) Feasibility: Feasible (Yes) The desirable consequences of implementing this statement substantially outweigh any undesirable consequences.

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