Natural Histories Assessment Report - Executive Summary

Application No. 1754 – Surgical Procedures for Gender Affirmation in Adults with Gender Incongruence

Applicant: **Australian Society of Plastic Surgeons Inc**

Date of MSAC consideration: **26-27 November 2026**

1. Purpose of assessment

A scoping review was conducted to assess the natural history and epidemiology of gender incongruence (GI) and gender dysphoria (GD) across the life-course. Literature from 2010 to the present was reviewed to create a contemporary overview.

The assessment of the natural history of GI and GD aims to inform MSAC advice for Application 1754, which focuses on surgical procedures for gender affirmation in adults. However, the scope of this scoping review is not restricted solely to adults, as GI can develop during childhood. It is important to note that this assessment does not broaden the scope of MSAC 1754 to include children, but rather recognises that understanding the natural history across all ages provides relevant context for adult-focused recommendations.

In particular, it aimed to synthesise evidence on:

- How GI and GD are defined and diagnosed, and how diagnostic frameworks/terminology have changed since 2010 (e.g., Diagnostic and Statistical Manual of Mental Disorders (DSM) and International Statistical Classification of Diseases and Related Health Problems (ICD) updates).
- Life-course trajectories, including how GI may develop over time, its relationship to the development of GD, and the proportion of people seeking gender-affirming care.
- Patterns of engagement with gender-affirming care, including changes over time in care-seeking, preferences/utilisation of interventions, and continuation vs discontinuation of care (and reasons).

A formal risk-of-bias (methodological quality) assessment was not conducted, as this scoping review aimed to map and describe the available evidence rather than appraise individual study validity or synthesise effect estimates.

2. Background

MSAC is considering Application 1754 (Surgical Procedures for Gender Affirmation in Adults with Gender Incongruence) in two stages. The first stage is to investigate the comparative clinical evidence for effectiveness and safety, and the second stage will consider the economic evaluation and financial analysis. At its April 2025 meeting, MSAC considered the clinical evidence presented by the applicant for MSAC Application 1754. MSAC considered that the Applicant developed Assessment Report (ADAR) lacked a sufficiently robust literature review and

did not adequately assess all relevant clinical evidence in accordance with the MSAC guidelines. MSAC requested that a more comprehensive assessment of the clinical evidence for gender affirming surgery (for adults with GI) was required prior to progressing to the second stage. This report addresses MSAC's request to assess the natural history for GI and GD.

Consistent with the ADAR that was presented to MSAC in April 2025 (see MSAC 1754 Public Summary Document[1]), the additional assessments requested by MSAC (including this report on the natural history of GI and GD) are restricted to more recent literature from 2010 onwards.

GI refers to a marked and persistent incongruence between an individual's experienced gender and the sex assigned at birth, and may be associated with a desire to live and be recognised as a different gender. A proportion of transgender and gender diverse (TGD) people experience GI in a way that leads them to seek gender-affirming medical and/or surgical care. The services sought vary according to individual needs and preferences and may include one or more surgical procedures, with or without prior or ongoing hormone therapy.

GD is the distress and/or impairment that can occur when there is an incongruence between a person's experienced or expressed gender and the sex assigned at birth. People with GI/GD may experience psychosocial challenges linked to stigma and discrimination and have higher reported risks of mental health concerns (e.g., depression/anxiety and suicidality). Management may include psychological support and, for some individuals, gender-affirming medical interventions.

In Australian clinical and policy contexts, the terms "detransition", "desistance", and "non-binary" are used inconsistently, complicating interpretation of the evidence base[2,3]. Detransition is variously used to describe stopping gender-affirming treatment, reversing prior interventions, or changing gender identity, despite these being distinct phenomena; some individuals cease treatment while continuing to identify as trans, while others re-identify with their birth-registered sex without regret[2].

Desistance, largely used in older paediatric literature, refers to children who do not go on to identify as trans later in life; however, the underpinning evidence is methodologically limited and has frequently misclassified individuals lost to follow-up and those who later identify as non-binary[2].

Non-binary describes gender identities that are not exclusively male or female and represents a distinct gender identity rather than a transitional state[4].

For clarity, this report defines detransition as re-identification with birth-registered sex regardless of treatment history[2]. The term "desistance" is used only to describe pre-medical changes in gender identification in children, and this is accompanied by explicit acknowledgment of the

[1] https://www.msac.gov.au/applications/1754

[2] Transcend Australia; Australian Professional Association for Trans Health (AusPATH). *Evidence brief: detransition.* Sydney: Transcend Australia; 2024. Available from: https://transcend.org.au/wp-content/uploads/2024/11/Transcend_AusPATH_Detransition-evidence-brief_2024.pdf (accessed 14/04/2026).

[3] Transcend Australia. *Detransition: fact sheet.* Sydney: Transcend Australia; 2024. Available from: https://transcend.org.au/wp-content/uploads/2024/11/Transcend_AusPATH_Detransition-fact-sheet_2024-1.pdf (accessed 14/04/2026).

[4] Coleman E, Radix AE, Bouman WP, Brown GR, de Vries ALC, Deutsch MB, et al. *Standards of care for the health of transgender and gender diverse people, version 8.* International Journal of Transgender Health. 2022;23(Suppl 1):S1–S259.

limits of the available evidence[2,5]. Non-binary identities are treated as a separate category that should not be misclassified as either desistance or detransition[4,6].

The term 'model of care' is sometimes used to refer to an over-arching approach to care, rather than to a specific care pathway. With respect to models of care for people with GI, there are two notable instances:

1. The 'gender affirmation' model of care is where a health care practitioner supports and affirms a person's gender identity as experienced and expressed by that person, where that gender identity differs from the gender identity assigned to the person at birth.
2. The 'informed consent' model of care is where a person gains access to gender-affirming treatment (especially hormone therapy from a general practitioner (GP)) solely on the basis of the person's informed consent, without need for formal psychological assessment.

These models of care can overlap. For example, an informed consent model of care can be part of a broader gender affirmation model of care.

3. Findings

Changes in diagnostic frameworks

Diagnostic frameworks concerning gender identity have changed since 2010.

The earlier versions of DSM and ICD (e.g. DSM-IV and ICD-10) framed gender as *binary*. Furthermore, incongruence between the person's assigned gender and the person's experienced gender was framed as a disorder characterised by prolonged and persistent cross-gender identification.

Now, by contrast, the DSM-V-TR and ICD-11 no longer frame gender as binary. Furthermore, gender identity is distinguished from psychopathology. The DSM-V-TR and ICD-11 emphasise the clinical relevance, not of a person's gender identity itself, but of the distress or functional impairment that may be associated with an experienced incongruence.

Editions prior to DSM-V contained the diagnosis of gender identity disorder. This carried a binary framing of gender in requiring *cross*-gender identification. However, the current version of the DSM-V/V-TR has replaced gender identity disorder with gender dysphoria (GD). A diagnosis of GD requires, not cross-gender identification, but distress resulting from incongruence between the person's assigned gender and the person's experienced or expressed gender. A person's experienced or expressed gender can be non-binary. A study[7] indicated that DSM-V/V-TR revisions aim to reduce the pathologisation and stigma of diverse gender identities while preserving access to clinical support for individuals experiencing related distress.

The ICD-11, meanwhile, has moved gender incongruence out of the chapter on mental disorders and into a chapter on sexual health. It has replaced previous diagnoses, such as Transsexualism

[5] Cass H. *Independent review of gender identity services for children and young people: final report.* London: NHS England; 2024. Available from: https://archive.org/details/cass-review-final

[6] Australian Professional Association for Trans Health (AusPATH). *Position statements and endorsements.* Sydney: AusPATH; 2024. Available from: https://auspath.org.au/

[7] Skordis, N, Kyriakou, A, Dror, S, Mushailov, A & Nicolaides, NC 2020, 'Gender dysphoria in children and adolescents: an overview', Hormones, vol. 19, 2020-9-1, pp. 267-276. doi:https://dx.doi.org/10.1007/s42000-020-00174-1

and Gender Identity Disorder of Childhood, with GI – in childhood, adolescence or adulthood. A diagnosis of GI cannot be made before the onset of puberty, nor solely because a person has behaviours or preferences that do not align with typical gender norms. The incongruence must be "marked and persistent", and what qualifies as this can vary with age. For adults, GI is characterised by a marked and persistent incongruence between an individual's experienced gender and the assigned gender, which often leads to a desire to 'transition', to live and be accepted as a person of the experienced gender, whereas GI of childhood must have persisted for about 2 years. Distress is not required for an ICD-11 diagnosis of gender incongruence, whereas distress *is* required for a DSM diagnosis of gender dysphoria.

The DSM-V's focus on psychological distress has been met with some criticism. One editorial on GD claimed that distress is not pathognomonic (i.e., specifically indicative) for any particular mental or physical disorder, therefore distress is conceptually imprecise[8]. The criticism is that this allows for wide interpretive variability, including in what qualifies as "marked" or "clinically significant" distress.

In most of the included studies, gender identity data were captured within a binary framework, thereby excluding individuals whose gender identities fall outside of this. This limitation is particularly relevant for non-binary people, as it helps explain the relative lack of data on health care preferences and utilisation for this group. It is also important to note that changes in diagnostic frameworks, such as the transition to ICD-11, have a delayed impact on research and clinical coding. Although ICD-11 was adopted in 2019, there is typically a lag before implementation—in Australia, for example, ICD-11 came into practical use from January 2022. Most literature referenced that uses ICD classification relies on coding from either ICD-9 (used until January 1993) or ICD-10 (used until January 2022). In research concerning non-binary populations, this often means using substitution categories, and the observed increase in recognition and surgery rates may partly reflect improved coding of the population.

The World Professional Association for Transgender Health (WPATH) standards of care (SoC) get updated each time the DSM or ICD classifications change. They outline recommended prerequisites for gender affirming surgery, and are becoming less stringent over time. For example, prior to 2022, those seeking a gonadectomy were required to undergo at least 12 months of gender affirming hormone therapy or gonadal suppression and to have lived in the gender role that is identified with[9], whereas from 2022 onwards (WPATH SoC version 8), the requirement has been only 6 months of hormones or gonadal suppression, and no requirement to live as the identified gender role.

[8] Bouman, WP & Richards, C 2013, 'Diagnostic and treatment issues for people with gender dysphoria in the United Kingdom', *Sexual and Relationship Therapy*, vol. 28, no. 3, pp. 165-171.

[9] Amengual, T, Kunstman, K, Lloyd, RB, Janssen, A & Wescott, AB 2022, 'Readiness assessments for gender-affirming surgical treatments: A systematic scoping review of historical practices and changing ethical considerations', Front Psychiatry, vol. 13, p. 1006024.

Predictors of gender dysphoria onset

Only one longitudinal study has assessed factors that influence the development of GD in people with GI[10]. Two more longitudinal studies are underway (in the UK and Denmark[11]). Given this limited evidence, nine studies were also included, expanded to other study types (such as cross-sectional surveys and qualitative evidence), or on slightly different populations (i.e. not limited to those with gender incongruence).

Wagner et al. (2021) used an electronic-health-record-based cohort study to examine what proportion of children with gender-expansive[12] behaviour develop GD[10]. The average follow-up duration was 3 years, with the maximum being 9 years. Among 958 children who had notes in their health records such as "transgender" or "gender identity", a total of 281 (29%) were diagnosed with GD during the follow-up period. Compared to those assigned male at birth, those assigned female at birth were more likely to receive a diagnosis of gender dysphoria (33% vs 24%) and had a higher rate of receiving gender-affirming hormone therapy (33% vs 14%). Those in the oldest age group were more likely to receive a diagnosis of GD than the other age groups.

Gender dysphoria may be considered a symptom or emotion as well as a diagnosis. One survey asked respondents about the key antecedents to their experiences of gender dysphoria[13]. 108 people answered the survey, and their responses were thematically analysed. In response to the question "what event or thoughts were happening right before the experience of gender dysphoria", eight themes emerged: (1) body; (2) interpersonal interactions; (3) environment; (4) intrapersonal cognitions; (5) always present; (6) societal transphobia; and (7) randomly occurring. The body theme was raised by 50.5% of participants. Participants reported that simply viewing their body (e.g., "going to shower") could trigger GD. Interpersonal interactions were raised by 34.9% of participants. Here, the most frequent trigger was being misgendered by others, e.g., "dysphoria comes up when I'm being misgendered" (called 'she') (Latinx non-binary) or "being treated like a woman" (Black male).

Prevalence of care-seeking

The proportion of individuals seeking healthcare for gender incongruence or gender dysphoria has increased substantially since 2010. This is reflected in more diagnoses, more referrals to gender identity services, and increasing use of gender-affirming treatments (medical and surgical). For example, in Australia, the number of adults initiating gender-affirming hormone therapy (GAHT) increased from 1,118 in 2013 to 5,135 in 2024[14]. Similarly, European data show substantial increases in referrals and recorded prevalence, including marked rises in primary care diagnoses and specialist service use, with a 10-fold increase over approximately 7 years in

[10] Wagner, S, Panagiotakopoulous, L, Nash, R, Bradlyn, A, Getahun, D, Lash, TL, Roblin, D, Silverberg, MJ, Tangpricha, V, Vupputuri, S & Goodman, M 2021, 'Progression of gender dysphoria in children and adolescents: a longitudinal study', *Pediatrics*, vol. 148, no. 1.

[11] Ravnborg, N, Aslam, M, Norup, PB, Tingsgard, JV, Pagsberg, AK, Haahr, ME, Main, KM & Giraldi, A 2024, 'Gender Incongruence in Danish Youth (GenDa): A Protocol for a Retrospective Cohort Study of Danish Children and Adolescents Referred to a National Gender Identity Service', *J Clin Med*, vol. 13, no. 22, Nov 6.

[12] Gender-expansive behaviour refers to actions, expressions, and behaviours that expand beyond traditional, binary societal expectations of masculinity and femininity.

[13] Lindley, L, Pulice-Farrow, L & Budge, S 2022, 'The antecedents of gender dysphoria and the associated thoughts, emotions, and ways of coping: a qualitative analysis and clinical implications', *Counselling Psychology Quarterly*, vol. 36, no. 4, pp. 592-614.

[14] Saxby, K & Nolan, BJ 2025, 'Temporal trends in gender-affirming hormone therapy initiation: evidence from whole-of-population Australian administrative data', *Intern Med J*, vol. 55, no. 12, 2025-12, pp. 2092-2094.

healthcare contacts for gender identity-related conditions in Denmark[15], a ~52-fold increase over 10 years in primary care prevalence in England[16], and ~6- to 19-fold increases over 6 years in referrals across Finland, Norway, Sweden, and England[17].

In contrast, a Norwegian cohort study reported decreases in treatment proportions within a referred clinical population[18]. However, these findings are not directly comparable to population-level trends and are likely influenced by study design and follow-up limitations rather than true reductions in healthcare utilisation.

Rates of gender affirming surgery have also increased since 2010 (although data were only available from the US). Hassan et al (2023) reported that the number of gender affirming surgical procedures performed in adolescents rose from 4 in 2018 to 59 in 2021, representing a 15-fold increase over this period.[19] It is important to note that these patients are adolescents and are not in scope for MSAC 1754 as this item would be limited to adults.

Data from the National Surgical Quality Improvement Program (NSQIP) showed there was a 27-fold increase in the use of breast reduction surgeries between 2015 and 2021 in transgender patients. The NSQIP only began collecting data on non-binary patients in 2019 (prior to this they could only identify as binary female or male), but in 2021, 60 people identifying as non-binary received breast reduction surgeries.[20]

There is evidence that youth who identify as non-binary find the decision of whether to seek gender-affirming care difficult and that they feel that being non-binary presents a barrier to accessing care, predicting that being non-binary would not be accepted by the service.[21,22]

[15] Hilden, M., Glintborg, D., Andersen, M. S., Kyster, N., Rasmussen, S. C., Tolstrup, A. & Lidegaard, Ø. (2021) Gender incongruence in Denmark, a quantitative assessment. Acta Obstet Gynecol Scand, 100(10), 1800-1805.

[16] Jarvis, S. W., Fraser, L. K., Langton, T., Hewitt, C. E. & Doran, T. (2025) Epidemiology of gender dysphoria and gender incongruence in children and young people attending primary care practices in England: retrospective cohort study. Arch Dis Child, 110(8), 612-621.

[17] Kaltiala, R., Bergman, H., Carmichael, P., de Graaf, N. M., Egebjerg Rischel, K., Frisén, L., Schorkopf, M., Suomalainen, L. & Waehre, A. (2020) Time trends in referrals to child and adolescent gender identity services: a study in four Nordic countries and in the UK. Nord J Psychiatry, 74(1), 40-44.

[18] Nyquist, C. B., Torgersen, L., David, L. W., Diseth, T. H., Gulbrandsen, K. & Waehre, A. (2025) Treatment trajectories among children and adolescents referred to the Norwegian National Center for Gender Incongruence. Acta Paediatr, 114(5), 1006-1014.

[19] Hassan, B, Zeitouni, F, Ascha, M, Sanders, R & Liang, F 2023, 'Temporal Trends in Gender Affirmation Surgery Among Transgender and Non-Binary Minors', *Cureus*, vol. 15, no. 9, 2023-9, p. e45948.

[20] Miller, AS, Escobar-Domingo, MJ, Lee, BT, Ganor, O, Lin, SJ, Hu, S, Pusic, AL & Kaur, MN 2024, 'Breast Reduction Epidemiology and Complications in Nonbinary, Transgender, and Cisgender Adults', *J Surg Res*, vol. 302, 2024-10, pp. 437-445.

[21] Kearns, S, O'Shea, D & Neff, K 2024, 'Factors that help and hinder transgender and nonbinary youth accessing gender care in Ireland: A multistakeholder exploration', *J Nurs Scholarsh*, vol. 56, no. 1, 2024-1, pp. 60-75.

[22] Thibeault, CA, Katz-Wise, SL, Schmitt, PA & Pullen Sansfaçon, A 2026, '"I have been thinking about this for a long time": Navigating gender affirming medical care decisions for trans and nonbinary youth and their families in six countries', *Int J Transgend Health*, vol. 27, no. 1, 2026, pp. 408-422.

Stability of gender identity over time

A total of 10 studies were included that examined gender identity stability or change over time. Three of these studies[23,24,25] used the same underlying cohort (Trans Youth Project).

Measures of gender identity stability varied substantially. They included self-reported gender identity, pronoun use, clinic-defined detransition, and legal gender change or reversal. Some studies mentioned "retransitioning", which described individuals who had socially transitioned but later wished to change their gender again, either to their sex assigned at birth or to non-binary[24]. In adult studies, measures of gender identity stability typically included detransition, discontinuation of care, or legal gender reversal, rather than self-reported identity measures.

In community-based prospective cohorts of socially transitioned children (aged 3-12 years) from the Trans Youth Project, most participants retained a transgender identity at follow up (with a median follow up of 5 years). Approximately 90–93% showed no retransition, while 7–8% experienced at least one retransition over follow-up periods extending into early adolescence. Community-based studies of adolescents and young people recruited outside of specialist clinics demonstrated greater variability, with 18.3% experiencing one or more changes in gender identity in follow-up waves. In adult gender-identity-clinic cohorts, detransition was less common - in an Israeli clinic-based retrospective cohort, 13/694 adults (1.9%) detransitioned over a median follow-up of approximately 5 years (3 of whom had undergone gender affirming surgery)[26], whereasin a UK adult gender-identity-clinic cohort, 12/175 (6.9%) detransitioned over a minimum follow-up of 16 months, with all cases having previously accessed gender-affirming hormone therapy and a minority (1/12; 8.3%) having undergone surgery[27].

Gülgöz et al. (2022) addressed stability in terms of test-retest reliability of a continuous measure of gender identity in children, finding moderate consistency over two years. The study concluded that most cisgender and transgender children identify strongly (but not exclusively) with a binary gender, and that this pattern is moderately stable over time when measured continuously. In contrast, gender nonconforming children; children who choose to withdraw from gender norms for their sex at birth, but either continue to use their original pronouns or have less-binary identities (e.g., use "they" or similar non-binary pronouns); show substantially greater variability and less binary identification, highlighting the limitations of categorical models and the need for more nuanced measurement of non-binary identities[28].

As noted, there was substantial heterogeneity in how gender identity stability was defined and measured. Several adult studies relied on clinic-based sample populations and defined

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[23] deMayo, BE, Gallagher, NM, Leshin, RA & Olson, KR 2025, 'Stability and Change in Gender Identity and Sexual Orientation Across Childhood and Adolescence', *Monographs of the Society for Research in Child Development*, vol. 90, no. 1-3, pp. 7-172.

[24] Durwood, L, Kuvalanka, KA, Kahn-Samuelson, S, Jordan, AE, Rubin, JD, Schnelzer, P, Devor, AH & Olson, KR 2022, 'Retransitioning: The experiences of youth who socially transition genders more than once', *International Journal of Transgender Health*, vol. 23, no. 4, 2022/10/14, pp. 409-427.

[25] Olson, KR, Durwood, L, Horton, R, Gallagher, NM & Devor, A 2022, 'Gender Identity 5 Years After Social Transition', *Pediatrics*, vol. 150, no. 2, 2022-8-1.

[26] Yaish, I, Goldblat, G, Greenman, Y & Tordjman, K 2025, 'Low detransition rates among 709 adult gender-affirming therapy recipients, motives and risk factors: Results from a systematic follow-up study', *International Journal of Transgender Health*, 2025-6, p. No Pagination Specified.

[27] Hall, R, Mitchell, L & Sachdeva, J 2021, 'Access to care and frequency of detransition among a cohort discharged by a UK national adult gender identity clinic: retrospective case-note review', *BJPsych Open*, vol. 7, no. 6, 2021-10-1, p. e184.

[28] Gülgöz, S, Edwards, DL & Olson, KR 2022, 'Between a boy and a girl: Measuring gender identity on a continuum', *Social Development*, vol. 31, no. 3, pp. 916-929.

outcomes in relation to service use or legal status. This may underestimate identity change occurring outside of clinical settings. Follow-up duration varied widely, limiting the ability to assess longer-term identity trajectories. These gaps introduce uncertainty regarding generalisability and highlight the need for more standardised measures and longer-term follow up.

Changes in the proportion of people identifying as transgender or non-binary

Since 2010, the proportion of individuals identifying as transgender or non-binary has increased, though patterns vary across populations and settings. Four studies reported increases in the proportion of individuals identifying as transgender or non-binary within broader populations. The increases range from 2-fold to more than 4-fold.

The number of people identifying as non-binary, in particular, has increased significantly since 2010. However, the number of articles reporting specific data for this population was limited. A US surgical trend study reported gender-affirming breast reduction procedures for non-binary patients increasing from 0 in 2015 to 60 in 2021[20]. A US study of patients undergoing gender-affirming chest surgery reported a substantial increase in the proportion of individuals identifying as non-binary within this surgical cohort, rising from 4.55% in 2013–2014 to 34.26% in 2021–2022[29].

Changes in care preferences and utilisation

The evidence showed marked increases in the numbers of transgender and gender-diverse persons receiving hormone therapy and surgery from the early 2000s to the early 2020s. Notably, there were larger proportions of children and adolescents who received medical interventions for gender incongruence and gender dysphoria from the early 2010s to the early 2020s. There were also substantially higher increases in individuals assigned female at birth seeking gender-affirming medical treatments, compared to individuals assigned male at birth seeking gender-affirming medical treatments.

In most of the included studies, gender identity data were captured within a binary framework, thereby excluding individuals whose gender identities fall outside of this. This may help to explain why there was relatively little data on the health care preferences and utilisation of people who identify as non-binary[30].

Rates of care continuation and discontinuation

Evidence on the continuation and discontinuation of gender-affirming care comprised 13 observational studies. These were predominantly retrospective cohort studies or case-note reviews, with a small number of prospective cohort studies. The studies were conducted across multiple jurisdictions (USA, UK/England, Australia, the Netherlands, Finland and Israel) and settings (specialist gender clinics – both paediatric/adolescent and adult, primary care, and cohorts based on a registry or survey). It should be noted that “discontinuation” was defined

[29] Park, JB, Adebagbo, OD, Escobar-Domingo, MJ, Rahmani, B, Tobin, M, Yamin, M, Lee, D, Fanning, JE, Prospero, M & Cauley, RP 2024, 'Trends in Top Surgery Patient Characteristics, Wound Complications, and CPT Code Use by Plastic Surgeons: A Decade-Long Analysis', *Ann Plast Surg*, vol. 93, no. 4, Oct 1, pp. 530-535.
[30] Nolan, IT, Kuhner, CJ & Dy, GW 2019, 'Demographic and temporal trends in transgender identities and gender confirming surgery', *Transl Androl Urol*, vol. 8, no. 3, 2019-6, pp. 184-190.

differently across studies and often reflected disengaging from a particular service rather than stopping gender-affirming care altogether. It included stopping hormones or puberty blockers, stopping all gender-affirming care, clinic non-attendance, non-completion of a planned pathway, or self-reported detransition. Follow-up duration and outcome measures also varied.

Seven of the nine studies that included child/adolescents reported a high proportion (>90%) of participants continuing gender-affirming care during the available follow-up. However, estimates were not directly comparable due to differences in population, intervention stage (gonadotropin-releasing hormone agonists, GnRHa initiation, progression from GnRHa to gender-affirming hormones [GAH], or ongoing GAH), and how discontinuation was defined. One study had a higher reported discontinuation rate (22.1%), although this was only reported to be 9.1% in the children/adolescents who had received an official GD diagnosis. Another study only reported shifts in treatment requests (not a direct estimate of discontinuation).

In a large US adolescent cohort (n=1,050) with a median follow-up of 2.7 years, 93% of those prescribed gender-affirming hormones continued hormone use throughout follow-up[31]. Another large cohort (n=1,089) in the UK reported that 5.3% stopped taking GnRHa or GAH treatment (and reverted to identifying with their birth gender), with discontinuation rates being higher in those under 16 years of age[32]. Discontinuation of GnRHa (4.5%) occurred more commonly than discontinuation of GAH (0.83%).

Studies focused on GnRHa generally reported that most adolescents progressed from puberty blockers to gender-affirming hormones. No studies were identified on the proportion of children/adolescents who received GAHT who proceeded to undergo surgery as an adult.

Across the four included adult studies , “detransitioning” ranged from about 2% to 13% (although the 13% was the number of people who identified as transgender or gender diverse at the time of a survey, who had [temporarily] detransitioned at some point in their life), while clinic non-attendance/disengagement and temporary hormone discontinuation were more common, with many people continuing treatment elsewhere. Only three instances were clearly documented of people having undergone gender affirming surgery, and later detransitioning (all from an Israeli cohort). Rates of people seeking surgery, and not proceeding were much higher, with a UK-based clinic reporting that 43% of those seeking feminising gender affirming surgery, and 74% of those seeking masculinising gender affirming surgery did not proceed (for a variety of reasons, including poor mental health, physical health, and social constraints)[27].

Reasons for care discontinuation

Reasons for discontinuation were often derived from routine clinical documentation, which may be incomplete, inconsistently recorded, or influenced by clinician interpretation.

Across five child/adolescent studies, reasons for discontinuing or interrupting gender-affirming care commonly reflected goal attainment, evolving goals or identity, adverse or undesired effects, access/logistical barriers, and psychological factors (including uncertainty). Note that the

[31] Boskey, ER, Scheffey, KL, Pilcher, S, Barerra, EP, McGregor, K, Carswell, JM, Kant, JD & Kremen, J 2025, 'A Retrospective Cohort Study of Transgender Adolescents' Gender-Affirming Hormone Discontinuation', *J Adolesc Health*, vol. 76, no. 4, 2025-4, pp. 584-591.

[32] Butler, G, Adu-Gyamfi, K, Clarkson, K, El Khairi, R, Kleczewski, S, Roberts, A, Segal, TY, Yogamanoharan, K, Alvi, S, Amin, N, Carruthers, P, Dover, S, Eastman, J, Mushtaq, T, Masic, U & Carmichael, P 2022, 'Discharge outcome analysis of 1089 transgender young people referred to paediatric endocrine clinics in England 2008–2021', *Archives of Disease in Childhood*, vol. 107, no. 11, pp. 1018-1022.

reasons were inconsistently recorded and often based on small numbers of discontinuations. In the largest adolescent cohort[31], permanent discontinuation of gender-affirming hormones most often related to achieving embodiment goals, detransition, or adverse or undesired effects, while temporary discontinuation was more often driven by difficulty accessing or taking medication.

Across three adult studies, reasons for discontinuing or interrupting gender-affirming care included detransition, ambivalence, reinterpretation of dysphoria related to trauma or mental health issues, regret following surgery, medical complication, poor mental health or psychiatric comorbidity, death by suicide, concerns about insufficient prior psychological assessment, social or health constraints, family and social pressure (especially in religious contexts), lack of family support, financial or structural barriers, and the person's own moral or belief-based objections.

Findings summary

This scoping review examined the natural history and epidemiology of gender incongruence (GI) and gender dysphoria (GD) across the life course, supplementing work for MSAC Application 1754. Interpretation is influenced by major diagnostic shifts since 2010, including ICD-11 reclassification of GI outside mental disorders, and ongoing challenges with inconsistent definitions and limited data on non-binary identities.

Australian-specific evidence was limited, and international findings may not fully translate to the Australian context.

Across Australia and international jurisdictions, indicators of GI-related healthcare use have increased substantially over the past 15 years, with 2- to more than 4-fold rises reported in population surveys and healthcare datasets. Treatment initiation is occurring at younger ages, particularly among people assigned female at birth. These trends likely reflect increased awareness, acceptance, and access to care rather than true prevalence alone.

Gender identity was largely stable across the life course, especially in adults. Detransition was uncommon, and most individuals who commenced gender-affirming medical treatment continued treatment over observed follow-up periods.