Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand

Jeannie Oliphant, Jaimie Veale, Joe Macdonald, Richard Carroll, Rachel Johnson, Mo Harte, Cathy Stephenson, Jemima Bullock, David Cole, Patrick Manning

ABSTRACT

Internationally and within Aotearoa, New Zealand, there has been a substantial increase in the demand for gender affirming healthcare over the past decade. It is likely that this level of referrals to health services will continue in the foreseeable future. The Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand were developed following the recognition that the previous good practice guide required updating to be in step with current practice and international standards. This article presents a summary of the guideline focusing on puberty blockers, hormonal therapies, access to surgery and other gender affirming healthcare. We hope these guidelines will support the development and provision of services providing gender affirming healthcare around the country and provide helpful guidance to all health professionals involved in the care of trans people.

Internationally and within Aotearoa, New Zealand, there has been a substantial increase in the demand for gender affirming healthcare over the past decade. The Youth'12 survey estimated that approximately 1.2% of adolescents in Aotearoa, New Zealand identify as transgender.[1] As societal acceptance for trans people grows, it is likely that this level of referrals to health services will continue in the foreseeable future.[1,2]

Transgender healthcare is rapidly evolving. Table 1 includes some of the terminology healthcare professionals may encounter. The World Professional Association of Transgender Health (WPATH) is the international body responsible for producing standards of care (SOC) for transgender health based on international clinical consensus.[3] These are currently being revised and version 8 will inform practice internationally and in Aotearoa, New Zealand.

The Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand[4] were developed following the recognition that the previous good practice guide required updating to be in step with current practice and international standards. This guideline is not intended to replace the WPATH SOC but to present additional guidance for the provision of gender affirming healthcare in Aotearoa, New Zealand. This article presents a summary of gender affirming healthcare discussed in the larger document.

Methods

This guideline was produced in collaboration with trans community members and after consultation with many services and health professionals throughout Aotearoa, New Zealand, who work professionally

Table 1: Terminology.

Gender identity
A person's concept of their self as male, female, a blend of both or neither. Gender identity can be the same as, or different to, the sex assigned at birth.
Gender expression
The external presentation of one's gender. This can be expressed through one's name, clothing, behaviour, hairstyle, voice or any other way. A person's gender expression may or may not conform to socially defined behaviours and characteristics typically associated with being either solely masculine or feminine.
Gender diverse
A term to describe people who do not conform to their society or culture's expectations for males and females. Being transgender can be one way of being gender diverse, but not all gender diverse people identify as being transgender and vice versa. Gender creative or gender expansive are other similar terms that are used when referring to children.
Assigned male at birth
A person who was thought to be male when born and initially raised as a boy.
Assigned female at birth
A person who was thought to be female when born and initially raised as a girl.
Trans or transgender
A term for someone whose gender identity does not align with their sex assigned at birth. This term is often used as an umbrella term, recognising that people may describe themselves in many ways including the use of indigenous terms such as; whakawāhine, tangata ira tāne, tāhine (Māori), mahu (Hawai'i and Tahiti), vakasalewalewa (Fiji), palo- pa (Papua New Guinea), fa'afafine (Samoa), akava'ine (Rarotonga), fakaleiti or leiti (Tonga), fakafifine (Niue).
Cis or cisgender
A term for someone whose gender identity aligns with their sex assigned at birth.
Trans boy/male/man
A term to describe someone, assigned female at birth, who identifies as a boy/male/man.
Trans girl/female/woman
A term to describe someone, assigned male at birth, who identifies as a girl/female/woman.
Non-binary
A term to describe someone who doesn't identify exclusively as a man or a woman. There are many different ways that people may be non-binary male or female.
Gender dysphoria
A term that describes the distress experienced by a person due to the incongruence between their gender identity and their sex assigned at birth.
Social transition
The process by which a person changes their gender expression in social situations to better align with their gender identity.
Gender affirming healthcare
Healthcare that is respectful and affirming of a person's unique sense of gender and provides support to identify and facilitate gender healthcare goals. These goals may include supporting exploration of gender expression, support around social transition, hormone and/or surgical interventions. This may also involve providing support to whānau, caregivers or other significant supporting people.
Pronoun
A word used in place of a noun (or name). Pronouns include: he/him, she/her or they/them. Other gender neutral pronouns in use include ze and hir.

to advance healthcare for trans people. While regional differences in practice exist, the document describes principles and approaches that encompass this diversity. The gender affirming hormonal therapy guidelines in this document draw significantly on those published by the Endocrine Society.[5]

Principles of gender affirming healthcare

These guidelines are based on the principle of Te Mana Whakahaere; trans people's autonomy of their own bodies, represented by healthcare provision based on informed consent.[6] The informed consent process involves several conversations between the trans person and clinician(s) before starting treatments that have an irreversible component to increase certainty that they are adequately prepared and are making a fully informed decision.[7]

The use of Sir Mason Durie's Te Whare Tapa Whā as a framework highlights the equal importance of spiritual, family, mental and physical health.[8] Health providers have a duty to approach care holistically and in partnership.[4] Involving practitioners with expertise in mental health is important for two reasons. Firstly, mental health professionals with the appropriate skills can assist with the informed consent process. Secondly, it is increasingly recognised that discrimination and marginalisation experienced by trans people contributes to high rates of anxiety and depression.[9–11] The Youth'12 survey highlighted the mental health disparities experienced by trans young people compared to their cisgender peers with 41% vs 12% experiencing significant depressive symptoms and 20% vs 4% reporting an attempted suicide, respectively, in the past 12 months.[1] While there is no New Zealand data for older trans people it is likely that they also experience elevated rates of anxiety and depression as overseas studies have found.[9] Because of this, health services that have good links with peer support groups and mental health professionals will be more responsive to the needs of trans people accessing gender affirming healthcare.

Each person presenting to a health service has their own unique clinical presentation and needs. While many trans people will benefit from hormone therapies and surgical interventions, some may require only one or neither of these options.[12] Clinicians should not assume that everyone wants to conform to binary (male or female) gender norms and be open to gender affirming healthcare that aligns with non-binary identities.[3] When outer gender expression is congruent with an inner sense of self, most trans people will find increased comfort, confidence and improved function in everyday life.[13] Avoiding harm is a fundamental ethical consideration for health professionals when considering healthcare. Withholding or delaying gender affirming treatment is not considered a neutral option, as this may cause harm by exacerbating any gender dysphoria or mental health problems. This is no different from harm that can be caused by withholding or delaying other medically necessary care.

Gender affirming healthcare

Gender affirming healthcare may include provision of puberty blockers in children and adolescents, and hormone therapy in older adolescents and adults. The criteria for access to gender affirming hormones are persistent well-documented gender dysphoria, the capacity to make a fully informed decision and to consent for treatment, 16 years of age or older, and significant medical or mental health concerns must be reasonably well controlled. However, it is increasingly recognised that there may be compelling reasons, such as final predicted height, to initiate hormones prior to the age of 16 years for some individuals, although there is as yet little published evidence to support this.[5] There is no upper age limit to starting gender affirming hormone therapy. These criteria reflect the WPATH SOC which emphasise that having medical or mental health concerns does not mean gender affirming care cannot be commenced, rather that these need to be managed as part of an informed consent process.[3] This readiness can be assessed by a prescribing provider or mental health professional who is experienced and competent at working with trans people.

The informed consent process for readiness for puberty blockers, gender affirming hormones or surgery are detailed in the WPATH SOC.[3] The main components include assessing gender dysphoria, discussing social transition, gender expression and physical transition options, and providing a space to consider the implications of these options, with regard to safety, expectations

and impact on social, emotional, academic/occupational functioning. For all trans, particularly children and young people, consideration of psychosocial supports, especially family/whānau support is essential. Provide support to families and additional guidance if this support is absent. If this aspect of the assessment is not completed by a medical professional, then communication between the mental health professional and the prescriber/surgeon should occur to ensure a holistic approach to assessment.

Fertility preservation should be discussed prior to starting puberty blockers, gender affirming hormone therapy or gonadectomy.[5] Refer to local fertility services for access to funded cryopreservation of gametes. For those starting feminising hormones, who have reached at least Tanner stage 3, it is recommended that cyropreservation of sperm be considered.[5] For those in early adolescence (Tanner stage 2–3), collection of mature sperm will not usually be possible as mature sperm are produced from mid puberty (Tanner stage 3–4).[7] For those starting masculinising hormones, the option of egg or ovarian tissue storage should be discussed, recognising however, that this involves invasive procedures that are not currently funded where reproductive organs remain. There is no current evidence to suggest that testosterone exposure affects the likelihood of future healthy egg harvesting, and there are many reports of trans men who have ceased testosterone, for the purposes of achieving conception, having successful pregnancy outcomes.[14] However, it is unknown what effect the duration of testosterone therapy has on ovarian function.

Testosterone therapy does not provide a guarantee of adequate contraception and is contraindicated in pregnancy because of potential harm to the fetus from the androgenising effects of treatment.[15] Provide contraceptive advice prior to starting testosterone. Progesterone based Long Acting Reversible Contraception (LARCs) such as (Depo provera®, Jadelle®) or Intrauterine Devices (IUDs) such as Mirena®/ IUCDs are suitable options. Note that IUD insertion may be technically more challenging in those with a degree of cervical atrophy from testosterone therapy.

Puberty suppression using gonadotropin releasing hormone (GnRH) agonists

Puberty blockers can be prescribed from Tanner stage 2 to suppress the development of secondary sex characteristics and may be still beneficial when prescribed later in puberty to prevent ongoing masculinisation/feminisation.[5] Puberty blockers are considered to be fully reversible and allow the adolescent time prior to making a decision on starting hormonal therapies. Monitoring of height is recommended as adult height may potentially be increased if prolonged puberty suppression delays epiphyseal fusing.[5] A bone age may be helpful to assess whether epiphyseal closure has occurred when considering what rate of hormonal induction to use. Concern has been raised regarding the long-term impact of puberty suppression on bone mineral density.[5] It is therefore advisable to encourage young people on puberty blockers to have an adequate calcium intake, provide vitamin D supplementation where needed and encourage weight bearing exercise.[7] Bone density measurements (DEXA) can be considered in those requiring a prolonged period on puberty blockers or have significant additional risks for reduced bone density.

Puberty blockers halt the continuing development of secondary sexual characteristics, such as breast growth or voice deepening, and relieve distress associated with these bodily changes for trans young people.[16,17] For trans men and others assigned female at birth, the puberty blockers will induce amenorrhoea, reducing distress associated with menstruation.

Currently goserelin (Zoladex®) implants have sole subsidy status, although leuprorelin (Lucrin®) injections are fully funded for children and adolescents who are unable to tolerate administration of goserelin.[18] Table 2 presents clinical recommendations for puberty blockers, and standard dosing schedules. Puberty blockers should be continued until further treatments such as initiating other anti-androgens, accessing orchiectomy or other surgical interventions are decided on.

Table 2: Clinical recommendations and dosing schedules for puberty blockade.

Medical examination and investigations during suppression of puberty	
Examination	Every 3–6 months: height, weight, consider sitting height, BP, Tanner stage to ensure complete suppression
Blood tests	Every 6–12 months: LH, oestradiol or testosterone. LH should be suppressed <2.0 units/L along with clinical features of puberty arrest.
X-rays	Bone age on left hand if clinically indicated
If major risk factors for osteoporotic # or prolonged time on puberty blockers	Consider DEXA imaging and Vitamin D treatment.
Leuprorelin (Lucrin®)	11.25mg IM every 12 weeks*
Goserelin (Zoladex®)	10.8mg SC implant insertion into lower abdomen every 12 weeks*

*Frequency can be reduced to 10 weeks if incomplete LH suppression, puberty progression, or ongoing menses.

Gender affirming hormonal therapy

Adults should undergo a medical examination and investigations prior to starting hormones (Table 3). It is important to evaluate and address any medical conditions that could be exacerbated by treatment.[5] As with the use of oestrogen or testosterone in any context, clinicians should consider whether patients are; smokers, have a history of heart failure, cerebrovascular disease, coronary artery disease, atrial fibrillation, or personal risk factors for cardiovascular disease, history or family history of venous thromboembolism (VTE), migraine, history of sleep apnoea or hormone-sensitive cancers (eg, breast, prostate, uterine or testicular). Prescribers are advised to not consider any of the above conditions as absolute contraindications, but to consider and discuss any risks presented as part of the informed consent process.

Feminising hormonal therapy (Table 4)

Oestradiol valerate can be started in conjunction with an anti-androgen agent or added to a GnRH agonist (leuprorelin/goserelin). Goserelin (Zoladex®) is an option where oral anti-androgen agents are not tolerated. Anti-androgens are no longer required following orchiectomy or genital gender reassignment surgery. Start a low dose of oestradiol valerate (Progynova®/Estradot®) and increase the dose every 6–12 months depending on the clinical effect.

Table 3: Medical examination and investigations prior to commencing gender affirming hormonal therapy.

Physical examination	**Investigations**
Blood pressure	Electrolytes if starting spironolactone
Height	HbA1c if risk factors suggest indicated
Weight	Lipids if risk factors suggest indicated
BMI	Prolactin if starting oestrogen
Tanner stage (in adolescents)	LH
	Testosterone level
	Oestradiol level
	Urine/serum HCG if commencing testosterone

Table 4: Feminising gender affirming hormonal therapy dosing regimen and expected effects.[5]

Medication	**Dose (adults and older adolescents)**		
Anti-androgen agent options (not required post gonadectomy)			
Cyproterone	Starting dose: 25–50mg po daily Usual maintenance dose: 25–50mg po daily, although smaller doses (12.5mg) may be effective		
Spironolactone	Starting dose: 50–100mg po daily Usual maintenance dose: 100–200mg po daily		
Oestrogen options			
Oestradiol valerate (Progynova®)	Starting dose: 1mg po daily* Usual maintenance dose: 2–4mg, maximum 6mg po daily		
Oestradiol patch (Estradot®)	Starting dose: 25mcg patch twice weekly Usual maintenance dose: 100–200mcg patch twice weekly		
Effect of oestrogen	**Expected onset**	**Expected maximum effect**	**Reversibility**
Redistribution of body fat	3–6 months	2–3 years	Likely
Decrease in muscle mass and strength	3–6 months	1–2 years	Likely
Softening of skin/decreased oiliness	3–6 months	unknown	Likely
Decreased sexual desire	1–3 months	3–6 months	Likely
Decreased spontaneous erections	1–3 months	3–6 months	Likely
Breast growth	3–6 months	2–3 years	Not possible
Decreased testicular volume	3–6 months	2–3 years	Unknown
Decreased sperm production	unknown	>3 years	Unknown
Thinning and slowed growth of body and facial hair[a]	6–12 months	>3 years	Possible
Male pattern baldness	Variable	b	
Voice changes	None	c	

a - Complete removal of hair requires laser treatment;
b - Familial scalp hair loss may occur if estrogens are stopped;
c - Treatment by speech-language therapists for voice training is most effective.

Potential complications for feminising oestrogen therapy include VTE particularly if aged >40 years and within the first two years of treatment.[5] Transdermal oestrogen has lower risks for thromboembolism than oral oestrogen and should be considered particularly if increased risks are present. It is unclear whether oestrogen therapy may adversely affect the lipid profile and blood pressure, but any effect is likely to be modest.[19,20] Liver dysfunction and gallstones are occasionally seen, although a clinically significant rise in the prolactin level is an uncommon occurrence.[21] There may be alterations in mood and libido.

Table 5: Masculinising gender affirming hormonal therapy dosing regimen and expected effects.[5]

Medication	**Dose (adults and older adolescents)**		
Androderm® patches	7.5mg daily (local irritation common)		
Sustanon® (testosterone esters)	250mg/ml IM every 3 weeks[a]		
Depo T (testosterone cypionate)	100–200mg IM every two weeks or, 100mg SC weekly–200 mg SC every 2 weeks		
Reandron® (testosterone undecylate)	1,000mg IM every 10–12 weeks (second dose at six weeks to achieve steady state)		
Effect of testosterone	**Expected onset**	**Expected maximum effect**	**Reversibility**
Skin oiliness/acne	1–6 months	1–2 years	Likely
Facial body/hair growth	6–12 months	4–5 years	Unlikely
Scalp hair loss	6–12 months[b]	variable	Unlikely
Increased muscle mass/strength	6–12 months	2–5 years	Likely
Redistribution of body fat	1–6 months	2–5 years	Likely
Cessation of periods	1–6 months		Likely
Clitoral enlargement	1–6 months	1–2 years	Unlikely
Vaginal atrophy	1–6 months	1–2 years	Unlikely
Deepening of voice	6–12 months	1–2 years	Not possible
Increased sexual desire	variable	variable	Likely

a - Sustanon contains peanut oil (arachis oil) and should be potentially avoided in those with peanut allergies.
b - Highly dependent on age and inheritance; may be minimal.

Masculinising hormonal therapy (Table 5)

Testosterone can be added to a GnRH agonist or started on its own. Start a low dose of testosterone and increase gradually. Potential complications include polycythemia, which if severe, increases the risk of a thrombotic event. Periods will usually cease within the first 3–6 months of therapy. For those moving from GnRH agonists to testosterone, continue the blocker until the person is on the full testosterone dose and well virilised to avoid any undesired bleeding. For those not started on a GnRH agonist and not ready to start testosterone other interventions to achieve bleeding cessation include:

- Primolut® (norethisterone) po 5mg bd to 10mg tds. Note: Norethisterone is partially metabolised to ethinylestradiol, which at these high doses is equivalent to levels in the combined oral contraceptive.
- Provera® (medroxyprogesterone) po 10mg tds or 20mg nocte
- Combined Oral Contraception—continuous active pill taking to avoid menstruation
- Depo-provera® (medroxyprogesterone acetate) 150mg IM every 12 weeks
- Mirena® (levonorgestrel)—intrauterine device

The additional consideration of need for adequate contraception may affect the choice made.

Trans people receiving maintenance hormonal therapy should have ongoing medical assessments and investigations as illustrated in Table 6.

Table 6: Maintenance surveillance for gender affirming hormone therapy.[5]

	Investigation	Frequency
All persons	HbA1c—if risk factors suggest indicated	Annual
	Lipids—if risk factors suggest indicated	Annual
	Consider DEXA imaging if major risk factors for osteoporosis	
Feminising gender affirming hormone therapy	Electrolytes if on spironolactone and after a change in dose	Annual
	Liver function tests	Annual
	Testosterone—aim for <2nmol/L	3 monthly during first year, then annually
	Oestradiol – avoid supraphysiological levels (target <500pmol/L)	3 monthly during first year, then annually
	Prolactin	2 yearly
Masculinising gender affirming hormonal therapy	Testosterone – aim for male reference range[a]	3 monthly during first year, then annually
	Full blood count[b]	Every 3 months for first year, then 1–2 yearly
	Liver function tests	3 monthly during first year, then annually

a – testosterone should be measured midway between Depo T and Sustanon injections, immediately prior to a Reandron injection, and at least two hours after application of a testosterone patch.
b-consider testosterone dose reduction if Hct >0.54.

Gender affirming surgery

While many trans people are comfortable without, for others surgery is essential to alleviate their body dysphoria and live fully and authentically in their gender. Availability and funding are significant issues within Aotearoa, New Zealand. District health boards (DHBs) have expertise around provision of chest surgery (chest reconstruction to masculinise/breast augmentation to feminise where there has been no response to oestrogen), hysterectomy, oophorectomy and orchiectomy. Some DHBs have expertise in plastic surgical techniques such as laryngeal shaves and facial feminisation. Clinicians should be aware of local services and referral pathways. Currently access to genital reconstruction surgery (metoidioplasty or phalloplasty (masculinising) and vaginoplasty (feminising)) is via the Ministry of Health high-cost treatment pool (see website[23]).

Table 7 presents the surgical criteria recommended in the Aotearoa, New Zealand guidelines. These are the same as the current WPATH SOC.[3]

Other gender affirming care

Laser hair removal is important, particularly as feminising therapies will not completely halt facial hair growth that is already established. Be aware of local providers and support access where possible. Wearing a chest binder to achieve a more masculine chest appearance may be important; discuss safe use to prevent health risks associated with prolonged use.[24] Speech and communication are fundamental to people's genders. The goal of speech-language therapy is to help trans people develop voice and communication that reflects their gender.

General healthcare

All New Zealanders have the right to healthcare that is respectful and non-discriminatory. Ensuring healthcare services

Table 7: Aotearoa, New Zealand Guidelines and WPATH SOC v7 criteria for access to gender affirming surgery.[3]

- Criteria for access to chest reconstruction surgery:
  - Persistent, well-documented gender dysphoria.
  - Capacity to make a fully informed decision and to consent for treatment.
  - Age of majority.
  - If significant medical or mental health concerns are present, they must be reasonably well controlled.

Hormonal therapy is not a prerequisite for masculinising chest surgery but is recommended for a minimum of 12 months prior to consideration of feminising chest surgery.

- Criteria for access to hysterectomy, salpingo-oophorectomy and orchidectomy:
  - Persistent, well documented gender dysphoria.
  - Capacity to make a fully informed decision and to consent for treatment;
  - Age of majority.
  - If significant medical or mental health concerns are present, they must be well controlled.
  - 12 continuous months of hormone therapy as appropriate to the patient's transition goals (unless the patient has a medical contraindication or is otherwise unable or unwilling to take hormones).
- Criteria for access to metoidioplasty or phalloplasty (masculinising) and for vaginoplasty (feminising):
  - Persistent, well documented gender dysphoria.
  - Capacity to make a fully informed decision and to consent for treatment.
  - Age of majority.
  - If significant medical or mental health concerns are present, they must be well controlled.
  - 12 continuous months of hormone therapy as appropriate to the patient's gender goals (unless the patient has a medical contraindication or is otherwise unable or unwilling to take hormones).
  - 12 continuous months of living in a gender role that is congruent with their gender identity (note that this can include gender identities other than male and female).

In New Zealand, current practice is that the person must be 18 years or older to access publicly funded surgeries as above and in addition to the referral letter from the prescribing clinician, a letter of support from a mental health professional should be provided. The role of the mental health professional is to ensure that the person is psychologically prepared for the surgery (for example, has made a fully informed decision with clear and realistic expectations and is practically prepared for the event).

are inclusive of gender diversity is fundamental to good health care for trans people. Apart from gender affirming healthcare, trans people experience the same health needs as others. Those who have not undergone surgical removal of their breasts, cervix, uterus, ovaries, prostate or testicles remain at risk of cancer in these organs and should undergo screening as recommended. Manage sensitively, as many trans people find cancer screening extremely challenging, both physically and emotionally. Refer trans women for mammograms as per the National Breast Screening programme. Use of internal oestrogen cream prior to cervical smears in trans men may reduce discomfort and reduce the risk of inadequate smear tests.

General recommendations

Based on the guidelines outlined above, to best support the needs of transgender people in Aotearoa, New Zealand, we recommend that:

1. All health services provide equitable and accessible gender affirming healthcare services that align with international standards, evidence-based literature and community feedback.

2. DHBs enable flexible and responsive pathways on the basis of informed consent and self-determination.
3. Health services enable the involvement of trans people, including Māori trans people, in decisions that affect them regarding the development and provision of services.
4. Health services must support the development of culturally appropriate practice within clinical settings that acknowledges kaupapa Māori health frameworks.
5. DHBs provide clear information about pathways to access gender affirming healthcare services. This is inclusive of health services delivered by DHBs and primary healthcare.

Conclusion

The Guidelines for Gender Affirming Healthcare for Gender Diverse and Transgender Children, Young People and Adults in Aotearoa, New Zealand have been developed in acknowledgement of the substantial increase in demand and significant evolution that has occurred in the period since the publication of currently used documents. The above summary provides an overview of gender affirming healthcare, while the full guideline details the role of the healthcare workforce in the provision of holistic healthcare for transgender people. We hope these guidelines will support the development of health services around the country, and provide helpful guidance to all health professionals involved in the care of transgender people.

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Nil.

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Author information:
Jeannie Oliphant, Sexual Health Physician, Auckland Regional Sexual Health Service, Greenlane Clinical Centre, Auckland; Jaimie Veale, Senior Lecturer, School of Psychology, University of Waikato, Hamilton; Joe Macdonald, Rainbow Liaison and Educator, Kāhui Tū Kaha, Auckland Mental Health Services; Richard Carroll, Endocrinologist, Endocrinology Department, Wellington Regional Hospital, Wellington;
Rachel Johnson, Paediatrician, Kidz First, Centre for Youth Health, Counties Manukau DHB, Auckland; Mo Harte, Nurse Practitioner, Auckland University; Health West Youth Health Hub; Cathy Stephenson, General Practitioner, Mauri Ora, Student Health and Counselling Service, Victoria University of Wellington, Wellington; Jemima Bullock, Clinical Psychologist, Endocrinology Department, Wellington Regional Hospital, Wellington;
David Cole, Endocrinologist, Endocrinology Department, Christchurch Hospital, Christchurch; Patrick Manning, Endocrinologist, Endocrinology Department, Dunedin Hospital, Dunedin.

Corresponding author:
Jeannie Oliphant, Auckland Regional Sexual Health Service, Greenlane Clinical Centre, 214 Greenlane West, Epsom, Auckland 1051.
jeannieo@adhb.govt.nz

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