

Characteristics and gender affirming healthcare needs of transgender and non-binary students starting hormone therapy in a student health service in Aotearoa New Zealand

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Handling Editor:

Felicity Goodyear-Smith

Received: 4 April 2023

Accepted: 26 May 2023

Published: 23 June 2023

Cite this:

Carroll R et al.
Journal of Primary Health Care 2023;
15(2): 106–111.
doi:[10.1071/HC23040](https://doi.org/10.1071/HC23040)

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ABSTRACT

Introduction. Traditionally, gender-affirming hormonal therapy (GAHT) is initiated in secondary care, but a primary care based approach has been developed to reduce access barriers. **Aim.** We aim to describe the demographics, hormone choices, and additional referrals made for young people initiating GAHT in a primary care setting in Aotearoa New Zealand. **Methods.** Clinical notes were reviewed for all patients who commenced GAHT between 1 July 2020 to the end of 2022 at a tertiary education health service. Data were collected on age, ethnicity, gender, type of hormones prescribed, and any additional referrals. **Results.** Eighty five patients commenced GAHT during the review period (64% assigned male at birth and starting oestrogen-based GAHT, 36% assigned female at birth and commencing testosterone-based GAHT). Forty seven percent of patients identified as transgender female, 38% as non-binary, and 15% as transgender male. Spironolactone was the most common choice of testosterone blocker (81%). The choice of oestrogen formulation was fairly equal between patches (54%) and tablets (46%). Eighty percent of those assigned male at birth chose to preserve fertility, 54% requested voice therapy, and 87% of those assigned female at birth requested top surgery. **Discussion.** There is a need for improved understanding of non-binary gender-affirmation needs, in particular those of Māori and Pasifika youth. An informed consent approach in primary care can reduce barriers and distress for transgender youth seeking GAHT. The high unmet need for top surgery for transgender people assigned female at birth requires attention.

Keywords: endocrinology, healthcare access, hormone, primary health care, sexual health, transgender, youth health.

Introduction

Gender-affirmation refers to the various social, legal, and/or medical processes a transgender or non-binary (TGNB) person may undertake to affirm their gender. While not everyone seeks medical options, many TGNB people take gender-affirming hormone therapy (GAHT) to embody and affirm their gender. This can help to improve gender incongruence and psychosocial functioning.¹ The 2018 New Zealand trans and non-binary health survey, Counting Ourselves, found that 67% of participants wanted to access GAHT, and youth were more likely to have an unmet need for hormones (29%).²

Pathways to access GAHT in Aotearoa New Zealand (NZ) vary depending on locality. Most general practitioners (GPs) do not commence GAHT in primary care. In line with similar approaches in Australia^{3,4} and Canada,⁵ there is a move towards primary care led GAHT initiation in some regions of NZ. The current government have a Rainbow Policy that includes 'improving access to primary care based on the informed consent model particularly for younger transgender, and intersex New Zealanders'.^{6,7} Primary care clinicians working in TGNB health across the motu are developing pathways for people to access care in this way.^{8,9} A healthcare model that resources and empowers primary care to improve access to an informed consent model of gender-affirming care is advocated for by the Professional Association for Transgender Health Aotearoa.¹⁰

WHAT GAP THIS FILLS

What is already known: Transgender youth face barriers to accessing gender-affirming hormone therapy (GAHT) and services are experiencing an increase in referrals. Primary health led care is preferred by many transgender people.

What this study adds: This paper describes the characteristics and gender-affirming health needs of young adults commencing GAHT in a primary care clinic at a tertiary education health service. High rates of non-binary youth indicate a need to better understand their healthcare needs.

In January 2018, the Mauri Ora student health and counselling service (MO) at the University of Victoria Wellington, with the support of Te Whatu Ora Capital and Coast Endocrinology Service, started a pilot clinic to initiate GAHT in primary care.¹¹ The clinic has developed since and now consists of an inter-disciplinary gender-affirming healthcare team (GP, nurse, and counsellors), who meet for case discussion and peer support. The team works together to support patients with their gender-affirming healthcare needs including prescribing for those who wish to start hormones. For the most part GAHT initiation is managed completely in house without onward referral to secondary care.

There are no data exploring the needs of TGNB people in NZ going through primary care based GAHT initiation. We set out to describe the demographics of patients accessing GAHT through MO, the prescribing patterns, and uptake of additional gender-affirming healthcare services.

Methods

Clinical notes were reviewed for all patients at MO who commenced GAHT between 1 July 2020 and the end of 2022. This start date is when practice changed from a routine referral for a psychological readiness assessment to an individualised primary care led approach to hormone initiation. This timing also enabled us to exclude the period covering the first Covid-19 lockdown when routine gender-affirming health care was delayed. Data were collected on demographics, the type of hormones prescribed, whether the patient had seen a counsellor, and whether referrals had been requested for voice therapy, fertility preservation, or gender-affirming top surgery. Gender was recorded as trans female, trans male, or non-binary. Students used other terms to describe their gender, but always alongside one of these terms; therefore, we have used these groupings for the purpose of this review.

The initial pilot clinic required patients who requested GAHT to attend a number of counselling and GP appointments to ensure there were no psychosocial or physical health issues that would be a barrier to starting GAHT,

before subsequent meetings with a GP and endocrinologist to commence GAHT. There is no longer a routine requirement to see a counsellor prior to commencing GAHT; instead an individualised approach is taken, which aims to meet the specific needs of each patient. Everyone is offered counselling and provided with information about this service. Patients may take this up prior to starting GAHT, alongside GAHT initiation, at some point in the future, or not at all. If the team feels it is needed, support from secondary care is utilised on a case-by-case basis for physical or mental health needs.

Data were recorded anonymously on a password protected excel spreadsheet. Part of the data collection was undertaken by a medical student undertaking a summer studentship (University of Otago, Wellington) and the rest was gathered by two authors who were also clinicians in the service. This is a subset of data gathered for a larger project that looked at all referrals for GAHT initiation in the Wellington region over a longer time period.

Ethics approval

Ethical approval was obtained from the University of Otago, Human Ethics Committee (Ref: HD21/078).

Results

Baseline characteristics

Table 1 shows the baseline characteristics of the cohort. During the two-and-a-half-year period of data collection, 85 patients were initiated on GAHT. In total 54 (64%)

Table 1. Baseline demographic data of patients initiating GAHT.

Category		Number n = 85 (%)
Gender	Trans male	13 (15)
	Trans female	40 (47)
	Non-binary ^A	32 (38)
Ethnicity ^B	Māori	7 (8)
	Pacific	0
	NZ European	67 (79)
	Other European	6 (7)
	Asian	12 (14)
Age group (years)	18–19	42 (49)
	20–21	23 (27)
	22–23	9 (11)
	24–25	6 (7)
	> 26	5 (6)

^AOne non-binary participant also identified as Takatāpui. Of the non-binary patients, 14 (44) were assigned male at birth and 18 (56) were assigned female at birth.

^BSome people had multiple ethnicities so the total number is > 85.

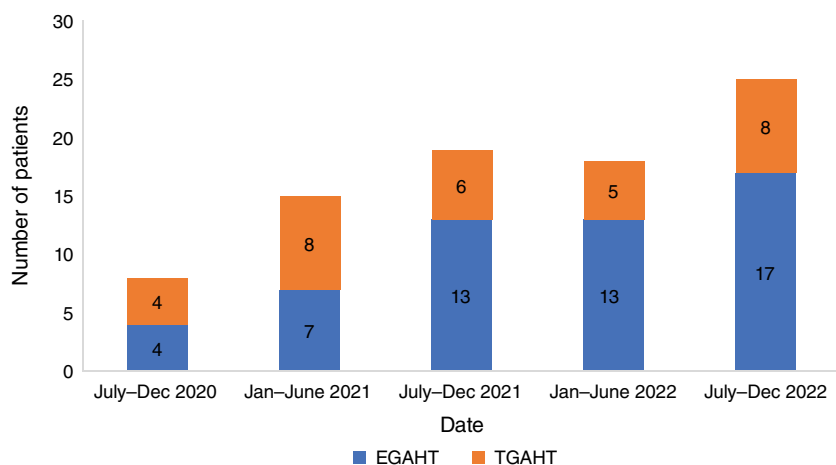


Fig. 1. Number of patients initiating GAHT over time.

were assigned male at birth (AMAB) and 31 (36%) were assigned female at birth (AFAB). Of these, 40 (47%) identified as trans female, 13 (15%) as trans male, and 32 (38%) as non-binary. Of the non-binary patients, 18 (56%) were AFAB and 14 (44%) were AMAB.

Fig. 1 shows the number of patients initiating GAHT over the data collection period, demonstrating an increase in presentations. Twenty five students initiated GAHT during the second half of 2022, which is more than three times the number in the same period in 2020. In June 2021, changes were made to the service that limited the number of new patient appointments each week, and this number may therefore not represent the full demand on the service. In the first half of 2021 there were slightly more people requesting testosterone based GAHT (T-GAHT) (53.3%) compared with oestrogen based GAHT (E-GAHT) (46.7%). In the year that followed, this stabilised to a higher proportion of requests for E-GAHT, with a ratio of approximately one-third T-GAHT to two-thirds E-GAHT. No patients had been on gonadotrophin releasing hormone analogues prior to GAHT initiation.

Most patients were NZ European (79%), although 14, 8, and 7% were of Asian, Māori, and another European ethnicity, respectively. None of the patients were of a Pacific ethnicity. As expected for a student health service, the majority of patients (76%) were aged between 18 and 22 years old when hormones were initiated. There were no patients under the age of 18 years in this cohort.

Testosterone based GAHT

Table 2 shows the initial choice of hormone formulation for those AFAB starting T-GAHT. Three patients (10%) chose to start on transdermal testosterone and the remainder started on testosterone injections (all started depo-testosterone until this became unavailable due to supply issues, and thereafter the majority started on Sustanon as the initial choice, with just one person choosing to start on Reandron). Five (16%) patients (all non-binary) requested a low dose of testosterone at initiation.

Table 2. Patients commencing T-GAHT.

GAHT choice ^A	Number <i>n</i> = 31 (%)
Depo testosterone ^B	14 (45)
Sustanon	13 (42)
Reandron	1 (3)
Topical (Androderm patch)	3 (10)

^AFive (16%) patients requested low dose testosterone at initiation.

^BDepo-testosterone was unavailable after September 2021. Prior to this date all patients commenced on depo-testosterone.

Oestrogen based GAHT

Table 3 shows the initial choice of hormone formulation for those AMAB starting E-GAHT. There was a fairly even spread of oestrogen formulation choice between patches (54%) and tablets (46%). However, Spironolactone was chosen as the androgen blocker for most patients starting GAHT in this clinic (81%). Cyproterone was used for the remaining 17% of patients, other than one patient who chose Goserelin (gonadotrophin releasing hormone (GnRH) agonist).

Additional referrals

Other gender-affirming healthcare referrals were discussed during the hormone initiation appointments, or raised by the patient, and the outcomes are shown in Table 4. Sixty four percent of patients chose to access counselling within MO, either before or alongside GAHT initiation. Trans female and non-binary people AMAB were offered fertility preservation (sperm cryopreservation) prior to E-GAHT initiation and 80% chose to be referred for this. This group was also offered a referral for gender-affirming voice therapy, and this was taken up by 54% of people in our sample. The greatest unmet need we identified was for gender-affirming chest ('top') surgery for trans male and non-binary patients AFAB (87%). At the time these data were gathered there was no publicly funded top surgery available in this region. These patients were therefore not referred, but during the

Table 3. Patients commencing E-GAHT.

GAHT choice	Number <i>n</i> = 54 (%)
Oestrogen	
Topical (Estradot patch)	29 (54)
Oral (Progynova)	25 (46)
Androgen blocker	
Spironolactone	44 (81)
Cyproterone	9 (17)
Gosarelin	1 (2)

Table 4. Additional referrals requested when commencing GAHT.

Referral	Number (%)
Counselling	54 (64)
Fertility preservation ^A	43 (80) AMAB only
Voice therapy ^A	29 (54) AMAB only
Chest 'top' surgery	27 (87) AFAB only

AMAB, assigned male at birth; AFAB, assigned female at birth.

^AFertility preservation is only funded for AMAB as E-GAHT is likely to cause irreversible infertility. Voice therapy is not required for patients starting testosterone as the hormones will lower their voice.

note review it was recorded whether the patient had requested this surgery. We did not collect data relating to other gender-affirming surgeries as these are not usually discussed during initial GAHT appointments.

Discussion

This is the first paper in NZ to describe the characteristics and gender-affirming healthcare needs of a cohort of patients commencing GAHT in primary care. In line with trends reported in other services, an increase in the number of patients presenting for GAHT initiation was noted over the data collection period. A progressive increase in the number of people presenting for GAHT to an urban NZ hospital-based clinic has previously been reported, particularly in the young adult age group.¹² Due to service constraints, there is a cap on the number of patients seen for GAHT initiation at MO, so our paper doesn't give a true reflection of the demand. Of those requesting GAHT, roughly two-thirds requested E-GAHT and one-third requested T-GAHT. This ratio appears to be stable over time and differs from the previously reported cohort, which demonstrated an increase in those starting T-GAHT approaching the numbers of those presenting for E-GAHT. It also differs from a primary care GAHT clinic in Australia, which reported that 52% were on T-GAHT.¹³ While this observation requires further study, one explanation for any change in referral trends could be a greater awareness of non-binary identities among young people as well as non-hormonal methods of gender expression and affirmation.

More than a third of patients identified as non-binary, of which 56% were AFAB. This proportion is similar to the Counting Ourselves survey in which 40% of participants identified as non-binary,² but higher than an Australian survey in which 18.3% of the 540 participants were non-binary.¹⁴ We found a more balanced proportion between those AMAB and AFAB identifying as non-binary than some overseas studies. For example, the large Trans Youth Canada survey found that 82% of non-binary young people were AFAB.¹⁵ This study also found that barriers to accessing GAHT were more likely to be reported by non-binary young people when compared with binary trans youth. There is a lack of evidence for hormone protocols tailored to non-binary people.^{16,17} These findings demonstrate a need for more research into non-binary gender-affirming health needs.

Most patients accessing the MO service were NZ European, with low numbers of Māori and no Pasifika ethnicities. This is not reflective of the enrolled practice population of which 10.9% are Māori and 4.7% are Pacific peoples. Little has been published about the use of GAHT in Māori and Pacific populations, but the Counting Ourselves survey found an unmet need for non-surgical gender-affirming care amongst Māori (43.5%) and Pasifika (60%) participants.¹⁸ More research is required to identify gender-affirming healthcare needs in these populations and to explore ways to provide more equitable and culturally appropriate care. The clinic could explore this disparity by involving TGNB Takatāpui people in their service design and by consulting with Māori and Pasifika student groups. Anecdotally the service hears that Pasifika students are less likely to enrol with student health as they are often expected to remain with their family GP.

As part of the informed consent approach, patients are informed of their GAHT medication choices, which includes a discussion of the risks and benefits of each medication. The Aotearoa New Zealand Primary Care GAHT initiation guidelines outline in detail the information covered in these appointments.⁹ While patients are supported to make their own choice within the boundaries of accepted clinical guidelines, clinical factors may favour a particular regimen. For example, due to the heightened risk of venous thromboembolism (VTE) with both oral oestrogen and Cyproterone¹⁹ over transdermal oestrogen and Spironolactone, respectively, patients who have additional risk factors for VTE would be advised to use lower risk options. Alongside VTE, Cyproterone is associated with low mood, liver function abnormalities at larger doses, and a dose-dependent and cumulative risk of meningioma.^{20–22} Thus, the high use of Spironolactone as the first-choice androgen blocker in this review is likely to reflect clinician bias coming through in the way these risks are presented to patients due to these outstanding concerns around the safety of Cyproterone.

Use of a readiness for hormone assessment, usually carried out by a mental health professional, is commonly required

before patients initiate GAHT. This has been reported by patients in Canada and NZ to create a feeling that they had to present a certain narrative to be believed as being 'really trans'.^{23,24} Participants who were interviewed described a balancing act of needing to show some distress in order to be diagnosed with gender dysphoria, but not so much that their mental health was questioned. This could lead to patients not accessing mental health supports when they need it, which is of particular concern given the high rates of mental health difficulties amongst trans people when compared to their cisgender peers.² Young people can feel frustrated by having to wait for a mental health provider to seemingly approve their gender-affirming treatment.²⁵ It appears that patients feel more satisfied with gender-affirming care provided by a GP when compared to a mental health professional,^{13,26} and that mental health outcomes can be improved with timely access to appropriate gender-affirming treatments.²⁷ The waiting period to start GAHT can be a high-risk time for trans people as demonstrated by a Canadian study reporting high rates of suicidal ideation amongst participants, with highest rates found amongst those who were planning to transition but had not yet begun.²⁸ Moving GAHT prescribing to primary care has the potential to reduce waiting times and thereby reduce the risk of poor mental health whilst waiting for care.

When the original MO pilot clinic was evaluated, the small number of service users interviewed reported many benefits including timeliness, relationship-based care, a comfortable environment, and good accessibility.^{11,29} However, some also described feeling that their gender identity was pathologised and commented on the tension between ensuring their mental health was well supported, whilst not unnecessarily delaying access to GAHT.²⁹ Two users reported feeling cautious about what they said about their mental health in case it affected their access to hormones. The clinic no longer requires a mandatory series of counselling appointments prior to a hormone prescription, instead using an individualised approach that includes offering the option of counselling to all patients, utilised by 64% of patients during the period of data collection. Primary care clinicians take a holistic approach to management, considering a patient's support networks, mental wellbeing, social situation, and the effect of GAHT initiation on wider aspects of a patient's life, as well as management of any co-existing physical or psychological health concerns. An informed consent model of gender-affirming healthcare recognises adults as having the capacity to consent to treatment when they have been provided with the relevant information, and respects people's right to bodily autonomy. It is important that further evaluations are undertaken, and that long term follow up data are collected. These are both projects the team is working on at present.

A high unmet need for top surgery (bilateral mastectomy with chest wall reconstruction) was identified, which is higher than that found in the Counting Ourselves survey

(66.2%).² Although a recent review of gender-affirming healthcare across NZ showed an increase in the availability of top surgery between 2019 and 2021, many services reported a cap on numbers, long waiting lists, or a complete lack of any provision of this service.³⁰ Quality of life has been shown to significantly increase following top surgery, as well as a reduction in gender dysphoria.³¹

Conclusion

Work needs to continue to ensure accessible and equitable pathways are developed around the country for both GAHT and gender-affirming surgeries.

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Data availability. The data that support this study cannot be publicly shared due to privacy reasons.

Conflicts of interest. Three authors were clinicians at the service during the period of data collection. The authors declare no other conflicts of interest.

Declaration of funding. The summer studentship part of this project was funded by The Rule Foundation.

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