

Specialist services for management of individuals identifying as transgender in New Zealand

John W Delahunt, Hayley J Denison, Jane Kennedy, Jackie Hilton, Heather Young, Owais B Chaudhri, Marianne S Elston

ABSTRACT

AIMS: In light of the rising number of referrals to secondary level services of people who identify as transgender, and the Human Rights Commission concerns regarding the care of this group in New Zealand, we felt it was timely to determine the availability of services for people who identify as transgender and whether there are variations in management protocols.

METHODS: We contacted 100 physicians involved in providing a secondary level service to care for people who identify as transgender, and asked them to complete a questionnaire about the services available in their region. This questionnaire consisted of two parts, a 'general questionnaire', which focussed on the consultants' understanding of services available locally, and a 'clinical questionnaire', which presented hypothetical clinical case histories and asked respondents to indicate how they would manage the case.

RESULTS: Sixty-two of the physicians responded. Of these, 18 (45% of the 40 physicians that answered the question) believed they could access a psychological or psychiatric opinion in the public sector for a patient who identifies as transgender, whereas 28 (82% of the 34 that answered the question) knew of access in the private sector. There was a conflict of opinion on the availability of psychological and surgical services in several DHBs where there was more than one clinician responding. This may reflect the case experience of individual clinicians. There was restricted access to common surgical procedures in the public sector, and about half of respondents did not know if techniques were available locally.

CONCLUSIONS: Our results support the development of specialist care services in tertiary centres in addition to the secondary services already available in New Zealand for people who identify as transgender. Development of multidisciplinary management and improved access to psychological support services for individual cases is required.

Gender identity is a process entirely separate from the development of external genitalia, and is unrelated to sexuality.¹⁻³ Gender nonconformity refers to the extent to which a person's gender identity, role, or expression differs from the cultural norms prescribed for people of a particular sex.⁴ Gender dysphoria refers to discomfort or distress that is caused by a discrepancy between a person's gender identity and that person's sex assigned at birth (and the associated gender role and/or primary and secondary sex characteristics), of which only some gender non-conforming people experience at some time in their lives.⁵ We have used the term 'transgender' throughout this report. The term is

inclusive of, but not limited to, people who identify as trans, transsexual, takatāpui, whakawahine, tangata ira tane, fa'afafine, akava'ine, fakaleiti, mahu, vaka sa lewa lewa, fiafifine, and genderqueer.

Studies have concluded that gender non-conformity is not associated with psychopathological disorder.^{6,7} However, individuals identifying as transgender are more likely to experience mental health problems such as anxiety, depression, and functional impairment, and are at higher risk of suicide.⁸⁻¹¹ This is perhaps not surprising given the specific issues that people who identify as transgender face, which may include body dysphoria, discrimination and victimisation.^{12,13}

Recent surveys have suggested a much higher rate of people identifying as transgender than previous reports from specialist transgender clinics. Initial estimates were of the order of 1:11,900 to 1:45,000 for individuals who identify as male-to-female (MtF) and 1:30,400 to 1:200,000 for individuals who identify as female-to-male (FtM).¹⁴ Subsequently, based on information taken from New Zealand passport holders in 2008, the prevalence of people identifying as MtF was estimated at 1:3,600, and the corresponding figure for people identifying as FtM was 1:22,700.¹⁵

More recently, in the Boston Youth Survey 2006, 1,032 students were asked whether they considered themselves to be transgender: 1.6% of teenagers replied 'yes', 6.3% responded 'Don't know', and 5.7% skipped the question.¹⁶ In New Zealand, of 8,166 students asked, 1.2% reported being transgender, 2.5% reported being not sure about their gender, and 1.7% stated that they did not understand the question.¹⁷ Those studies questioned students aged around 16 years of age. However, other smaller studies show prepubertal and adolescent children often do not have an accurate assessment of their eventual gender identity.^{18,19} Internationally, individual clinics have observed an increasing number of referrals of individuals identifying as transgender, and this has been confirmed in at least one New Zealand clinic.^{20,21}

A 2008 report by the Human Rights Commission identified issues in the management of patients identifying as transgender in New Zealand.²² A specific recommendation was to, "improve trans people's access to public health services and develop treatment pathways and standards of care for gender reassignment, through the Ministry of Health working in co-operation with trans people and health professionals". The report went on to say that, "trans-people, their families and health professionals themselves struggle to find out what, if any, gender reassignment services are available within the public health system" (9.21). It also emphasised that, "both treatment pathways and standards of care are essential" (9.24).²² Subsequent to the release of this report, Counties Manukau District Health Board published the Good

Practice Guide for Health Professionals *Gender Reassignment Health Services for Trans People within New Zealand*.²³

It is not clear whether New Zealand has developed the adequate specialist resources to support people who identify as transgender. In order to determine this, we surveyed our colleagues on the availability of specialist services for the endocrine management of gender transition in the individual health regions in New Zealand. A summary of the responses is presented here. We also invited proposals for continuing medical education and development of local protocols for management. These will be provided to the relevant specialist societies.

Method

We contacted 100 specialists involved in the provision of advice and hormone prescriptions, and asked them to complete an online questionnaire on the services available to people identifying as transgender in their region. The questionnaire was available for completion between September and November 2014.

We wished to define the range of services available to, and therapies used by, clinicians in New Zealand. We also asked respondents to identify any practical barriers (or lack of barriers) to providing services. Specifically, our aims were:

1. to determine whether there were variations in management protocols for people who identify as transgender between specialists in sexual health medicine and endocrinology;
2. to assess the services available locally to assist individual specialist clinicians in the care of people who identify as transgender.

We aimed to approach all endocrinologists and sexual health physicians, as well as paediatricians, general physicians or general practitioners known to provide a secondary level service. As the relevant professional societies are a small community, it was felt likely we could identify most physicians active in the field.

We contacted members of the New Zealand Society of Endocrinology (NZSE), endocrinologists who might not be current

members of the NZSE and the New Zealand Fellows of the Royal Australasian College of Physicians Chapter of Sexual Health Medicine (FACHSHM). We also contacted general physicians who see endocrine patients in individual regions, paediatricians known to be managing people who identify as transgender, as well as a general practitioner and a gynaecologist known to see individuals who identify as transgender. Our questionnaire asked respondents to identify any relevant local clinicians who might not be members of the societies, aiming to provide as comprehensive coverage of this level of care as possible. We found we had already contacted the few additional suggestions returned (n=6) that met our inclusion criteria.

The questionnaire was administered in two parts, sent by email simultaneously and hosted by Survey Monkey. The first (general questionnaire) asked for basic demographics, information on how patients who identify as transgender are generally managed, and about the consultants' understanding of services available locally. The second questionnaire (clinical questionnaire) presented hypothetical clinical case histories and asked respondents to indicate how they would manage the case. All participants contacted were asked to complete the general questionnaire because we wanted to assess what clinicians who could potentially provide care, knew about the availability of services, even if they were not currently treating people who identify as transgender. Only those who currently saw people identifying as transgender were asked to complete the clinical questionnaire, as this survey included specialist questions that were likely to be outside the scope of practice for those not currently involved in the care of these individuals.

Identities of each respondent and their District Health Board (DHB) were required in order to assess the services for each region. However, confidentiality of each respondent and each DHB was maintained. Each respondent was given a unique code for identification. Coding and analysis of any links between items was carried out by one researcher (HD). Other team members were blinded to the identities of respondents and their specific DHBs. As several

respondents or their DHBs would be readily recognised from tables of the completed analysis, results have been presented as descriptions of the overall findings for individual items and the contrasts between regions. The numbers of responses to individual items by clinicians, anonymised and independent of their DHB, can be requested from the authors.

The questionnaire included space for free-text comments on individual items or the topic overall. These have been collated, anonymised, and will be provided as verbatim feedback to the NZSE and the New Zealand Fellows of FACHSHM to facilitate continuing education within the individual professional societies. The results in this report address the majority of concerns raised by the individual clinicians in their free comments.

This study was granted ethical approval by the University of Otago Human Ethics Committee (reference number D14/285).

Results

Recruitment

A total of 100 physicians were invited to participate; this included 62 NZSE members known to practice in general endocrinology (ie, excluding specialist practitioners in diabetes), 5 endocrinologists who were not NZSE members, 18 sexual health physicians, 11 paediatricians, 2 general physicians, 1 general practitioner, and 1 gynaecologist known to be managing people who identify as transgender.

Respondents

Of the 100 physicians contacted, 62 responded: 53 answered the general questionnaire, and 38 the clinical questionnaire. This included 29 who answered both questionnaires, 24 who only answered the general, and 9 who only answered the clinical questionnaire. Basic demographics about the respondents can be seen in Table 1.

Coverage of DHBs

We were able to identify at least one specialist in 18 out of the 20 DHBs in New Zealand and at least one representative from each of these responded. Two specialists covered two DHBs and one specialist covered three DHBs.

Table 1: Profile of respondents.

Gender		Scope of practice		Length of practice (years)		Caring for people who identify as transgender (years)		Population base (x10 ³)	
Male	25	Endocrinology	33	<10	19	<1	1	<50	0
Female	27	Sexual Health	13	10–20	16	1–5	17	50–150	10
		Medicine	3	21–30	12	6–10	6	150–300	12
		Other	4	>30	6	10–15	6	300–500	10
						>15	11	>500	20
Total†	52		53		53		41		52

†Data generated from the general questionnaire, n=53

Table 2: Estimated number of individuals identifying as MtF and FtM seen in the past 12 months by each physician (either for initial assessment or for ongoing supervision).

Number of patients	Number of clinicians	
	MtF patients	FtM patients
0	7	15
1–5	24	20
6–10	5	3
11–20	3	1
>20	2	1
Missing entry	1	2
Total	42	42

Two DHBs had eight clinicians who see patients identifying as transgender and two had four. Six DHBs had two or three clinicians who see patients identifying as transgender and another six had only one. Two DHBs had a single respondent who did not see individuals identifying as transgender (data not shown).

About half the clinicians estimated that, individually, they had seen between one and five individuals in the previous year, while about one quarter had seen patients identifying as MtF, but had not seen any patients identifying as FtM in that year (Table 2). In total, 42 secondary level adult physicians estimated they saw 309 and 126 individuals identifying as MtF and FtM, respectively, in the 12 months previous to data collection.

We identified that 89% of individuals identifying as transgender were seen in five main areas, or ‘centres’. The centres were considered to be those with the potential for a coordinated group of physicians: the three Auckland DHBs (Auckland, Waitemata, and Counties Manukau DHBs); Waikato DHB;

Wellington (Capital and Coast, Hutt Valley, Wairarapa DHBs); Christchurch (Canterbury DHB and South Canterbury DHB); and Dunedin (Southern DHB), as discussed below. The number of individuals (both MtF and FtM) seen in the previous year in each of these main centres ranged from 9 to 201.

Physicians with long-term experience in the care of people who identify as transgender

We considered physicians as being ‘experienced in the field’ if they had been practising as a qualified physician in their speciality for more than 10 years and had more than 10 years’ experience of caring for people who identify as transgender. Ten of the 20 DHBs had a physician with this degree of experience, including five of the DHBs serving a population base of 300,000 persons or greater (Table 1).

Physicians access to mental health services

Most respondents said they would require a psychological assessment before starting hormone therapy. About 30% of respon-

Table 3: Number of clinicians who would provide therapy for an adult patient identifying as transgender in the absence of a current psychological or psychiatric assessment.

Proportion of patients	Totals of responses from physicians							Totals
	No patient assessment required before consultation	Small minority of patients	About 1/4 of patients	About half of patients	About 3/4 of patients	The majority of patients	Not applicable	
Number of clinicians	10	13	4	5	2	4	4	42

Table 4: Physician's access to consultation for psychology evaluation and support for adults who identify as transgender who have no apparent psychological issue.

	Totals of responses from physicians (n)			
	Yes	No	Don't know	Total responses
Psychology assessment				
In the public sector	18	17	5	40
In the private sector	28	1	5	34
Psychology/counsellor support				
In the public sector	13	22	5	40
In the private sector	25	3	7	35

dents felt they would be able to see only a small minority of individuals identifying as transgender without a psychological assessment, and a further 24% stated that they required a pre-assessment in their clinical practice, and so would not see any patients without this (Table 3). This pattern was reflected in the clinical questionnaire where respondents were presented with a hypothetical case of a mature individual identifying as MtF, confident in her gender identity, but with the potential of disturbed marital and family relationships as she makes personal changes. In this case, 80% of respondents indicated they would not, or only possibly, provide hormone therapy before psychological assessment, 9% indicated they would or probably would, and 11% responded that they did not know (data not shown).

We asked respondents whether they have access to a psychological assessment for adults who identify as transgender, and who have no apparent psychological issue. We received responses from 42 physicians. Physicians in all the DHBs for which we received at least one answer to this question (n=14) responded that they have access to private sector psychological assessment, although one DHB also had one specialist who said there was not private access in his/her region. Five physicians did not know

if there was private access for psychological assessment in their DHB (Table 4).

Access to psychological assessment for patients who identify as transgender in the public sector is less clear. Of the 40 respondents to this question, 17 felt they did not have access to publicly-funded assessment in their local region. In analysis of the responses within individual DHBs, 8 physicians in 5 DHBs reported no public access for psychological assessment, 7 physicians in 5 DHBs suggested that there was public access within their DHBs, and the physicians in the remaining 6 DHBs had conflicting answers. Five physicians did not know if there was public access for psychological assessment in their DHB (Table 4).

We then asked respondents whether they have access to a clinical psychologist or counsellor for ongoing support of uncomplicated adults who identify as transgender. The majority of the DHBs for which we received at least one answer to this question appear to have access to ongoing psychological support for their patients in the private sector, although 3 DHBs had conflicting answers to this question. In 4 DHBs, 5 physicians indicated that they had public access to ongoing psychological support, in 5 DHBs there was no public access according to the respondents, and a further 7 DHBs had conflicting answers

Table 5: Surgical services available locally.

MtF surgery available locally					
Male to female	Public	Private	Not available	Not known	Total respondents
Orchidectomy	8	16	5	18	40
Breast reconstruction	1	19	7	15	40
Vocal cord remediation	0	6	7	28	40
Facial surgery	2	7	9	23	40
Body or facial hair removal	0	17	9	14	40
FtM surgery available locally					
Female to male	Public	Private	Not available	Not known	Total respondents
Mastectomy	4	16	5	17	40
Hysterectomy	5	14	5	21	40
Endometrial inhibition	7	17	3	19	40
Oophorectomy	4	15	5	21	40

Values are number of respondents

from within the DHB. In addition, 5 physicians did not know if there was public access to support and 7 did not know if there was private access.

Hormone therapies

MtF transition

The preferred therapies for adults undergoing MtF transition were queried in the clinical questionnaire. Of the physicians that answered this question (n=32), almost all (78% answered 'yes' or 'probably') would recommend cyproterone acetate initially, with increasing doses of oestrogen subsequently, and almost no physician uses combined oral contraceptives (one respondent answered 'probably') (data not shown).

FtM transition

Similarly, physicians were asked about which hormone therapy they preferred to use in the case of adults undergoing FtM transition. There was more variability in responses by the responding physicians (n=33) than for MtF therapies. Sustanon or Depot Testosterone was the preferred therapy (58% answered 'yes' or 'probably'), followed by Androderm patches in low then increasing dose (21% answered 'yes' or 'probably') and Combined Lucrein (leuprolide) and testosterone (increasing testosterone dose sequentially) (18% answered 'yes' or 'probably') (data not shown).

Surgical services

The clinician's awareness of the availability of surgical procedures for people who identify as transgender in their local DHBs is detailed in Table 5. In general,

about half of responding physicians did not know of the availability of techniques locally. The majority of the other respondents were aware of services in the private, but not the public, sector.

When analysing the data by DHB, we found that there was some variation in the responses within DHBs. These discordant opinions would suggest that some clinicians are incorrect as to whether particular surgical procedures are available for people who identify as transgender within their DHB.

Free commentary

In the optional free commentary sections, 17 physicians discussed the desirability of a multidisciplinary team grouping; 11 discussed the frustrations of limited support from other specialities—particularly mental health—at a regional level; 15 expressed concern at a lack of psychological services locally; 6 discussed ways to improve training and experience; 29 were generally positive about the value of standardisation of therapy protocols in New Zealand, with some saying overseas guidelines were sufficient.

Discussion

Our respondents confirmed that, while there are a relatively small number of specialists available to manage hormone therapies for individuals who identify as transgender, there is at least one specialist in almost every DHB area. There has been an increase in the number of people who identify as transgender who have been referred for hormone therapy in recent years in New Zealand and overseas.^{20,21} This

trend will have health resource implications for this population group.

There were significant barriers to care in many regions, although these were much less for the individuals who could afford psychology assessment, counselling or surgery in the private sector. We could not assess the reasons for the discrepancy between the availability of secondary level hormonal therapy and both psychological and surgical services in many areas. However, it is apparent that many endocrine and sexual health clinicians are not prepared to provide hormone therapy in the absence of a psychological assessment. This, combined with restricted psychological services in the public sector, seems to present a significant barrier to referral.

Despite the findings of the Human Rights Commission in 2008, and the local availability of surgeons for orchidectomy, mastectomy, hysterectomy and oophorectomy, the survey results suggest that most DHBs do not support surgical therapy in the public sector for relevant individuals who identify as transgender. While this study did not collect systematic data on the underlying reasons for this, one contributing factor may be the issue of surgical priorities, with local surgical guidelines placing little weight on gender reassignment procedures. In its update on the Standards of Care for people who identify as transgender, the World Professionals Association for Transgender Health (WPATH) states:

“The medical procedures attendant to sex reassignment are not “cosmetic” or “elective” or for the mere convenience of the patient. These reconstructive procedures are not optional in any meaningful sense, but are understood to be medically necessary for the treatment of the diagnosed condition.”²⁴

Our results suggest that psychological and surgical services are less accessible via the public system compared with the private system, meaning those with lower socioeconomic status will be disadvantaged. This will likely lead to further health inequality and poorer health outcomes for these individuals as people go without the health care they need, or resort to alternative sources of treatment.²⁵

In the DHBs where there were several physicians responding, there were differences reported on the availability of services, and up to half of respondents flagged ‘Don’t know’ for whether surgical procedures were available locally. As most physicians are seeing fewer than six individuals who identify as transgender annually, and as many individuals may not require surgery or counselling, this may simply reflect differences in clinical experience. This highlights the potential value of each region providing information on the availability of services, or ‘pathways’ for referral and management of individuals who identify as transgender, and clearer communication to clinicians of what surgical procedures are available for their patients. These were recommendations from the Human Rights Commission.²²

Limitations of this study

In requesting the opinions of specialists involved in care of these patients, we have been able to highlight issues but not be definitive on the extent of problems or reasons for them.

The limited number of clinicians involved in the care of people who identify as transgender represents a disadvantage in the number of opinions provided and may be a reflection on a limitation of resources available for this subspecialty, at least in some DHBs. However, it also enabled us to be comprehensive in approaching specialists active in the field and we received a response rate of 62%. Several areas had no dedicated endocrine service but had clinics provided by visiting specialists from either the endocrine or sexual health fields. In addition, general practitioners are likely to have been providing therapy to individuals (who do not wish to have hospital involvement in their management) without our knowledge.

We contacted several paediatricians (11) whose practice has a special focus on endocrinology, but did not approach general paediatricians as a group. The clinical survey included cases only at age 17 and 18, as these are more likely to present to general endocrinologists. Two paediatric specialists responded and discussed only those issues relevant to their practice. People who identify as transgender do present both

before puberty and in adolescence. These patient groups present particular challenges for assessment and management which are less relevant in the adult population. A separate approach to this group of specialists may therefore be warranted.

The estimates of the number of patients who identify as transgender seen by individual clinicians throughout the previous year are indicative only. A more accurate figure would be provided by a prospective record. Furthermore, the numbers do not provide an estimate of the numbers of individuals who identify as transgender in New Zealand. For example, many such individuals may not seek hormone therapy. Given that the future trends in transgender medicine are not clear, there would be an advantage in individual clinics maintaining a prospective audit of the number of patients seeking care to assist a review of outcomes in the longer term.¹ However, outpatient assessments may not be captured by hospital coding. This would therefore require individual clinicians to monitor patient numbers, which would necessitate additional infrastructure support.

To further inform service provision for individuals who identify as transgender, a qualitative study would be beneficial. Speaking with individuals who identify as transgender to discover their needs and what they perceive to be the main barriers to healthcare would help to improve services, as well as provide a more full understanding of the impact current practice and policy has on their lives.

Our results support the development of specialist management services for people who identify as transgender in tertiary centres in New Zealand. There were at least six DHBs where, together with their adjacent DHBs, there was at least one 'experienced physician' in the field, with three or more colleagues seeing individuals

who identify as transgender. We would propose that their local DHB administrations develop these centres to facilitate a consultative service for the local and adjacent DHBs with ongoing management of individual cases generally remaining the responsibility of the local physician. These 'centres of excellence' could involve local input from—and clinical collaboration between—interested secondary level specialists in sexual health, endocrinology and mental health. These might have an informal grouping rather than a formal combined clinic.

The group could define referral pathways, assist in developing criteria for care, provide experience for postgraduate trainees, liaise with relevant local gender support groups, and provide increased support for primary care clinicians. However, to provide this approach, it seems likely individual DHBs would need to acknowledge the value of mental health input to care services for people who identify as transgender and include transgender issues in their funding for secondary level services. Mental health funding in DHBs is 'ring-fenced' in a separate category to other specialties. It is not clear to the authors if this excludes responsibility for assessment of individuals who identify as transgender who do not have a specific psychiatric diagnosis.^{26,27}

It also seems appropriate for the three relevant professional societies to plan joint postgraduate meetings and consider a working group to foster services for the care of people who identify as transgender within groups of DHBs. We would expect local meetings to link with the paediatric service, the primary care sector, relevant general practitioners and practice nurses, counsellors and psychologists, as well as engaging and consulting with the transgender community working groups.

Competing interests:

Nil

Author information:

John W Delahunt, Department of Medicine, University of Otago Wellington; Hayley J Denison, Victoria University of Wellington, Wellington and Department of Medicine, University of Otago Wellington; Jane Kennedy, Wellington Sexual Health Service, Wellington; Jackie Hilton, Auckland Regional Sexual Health Service, Auckland District Health Board, Auckland; Heather Young, Christchurch Sexual Health Centre, Canterbury District Health Board, Christchurch; Owais B Chaudhri, Department of Medicine, University of Otago Wellington, Wellington and Diabetes and Endocrinology Service, MidCentral Health, Palmerston North Hospital, Palmerston North; Marianne S Elston, Department of Endocrinology, Waikato Hospital and Waikato Clinical Campus, University of Auckland, Hamilton, New Zealand.

Corresponding author:

John W Delahunt, Department of Medicine, University of Otago Wellington, PO Box 7343, Wellington 6242.
john.delahunt@otago.ac.nz

URL:

www.nzma.org.nz/journal/read-the-journal/all-issues/2010-2019/2016/vol-129-no-1434-6-may-2016/6882

REFERENCES:

- Diamond M. Developmental, sexual and reproductive neuroendocrinology: historical, clinical and ethical considerations. *Front Neuroendocrinol.* 2011;32(2):255-63.
- Berenbaum SA, Beltz AM. Sexual differentiation of human behavior: effects of prenatal and pubertal organizational hormones. *Front Neuroendocrinol.* 2011;32(2):183-200.
- Bao AM, Swaab DF. Sexual differentiation of the human brain: relation to gender identity, sexual orientation and neuropsychiatric disorders. *Front Neuroendocrinol.* 2011;32(2):214-26.
- Institute of Medicine (US) Committee on Lesbian, Gay, Bisexual, and Transgender Health Issues and Research Gaps and Opportunities. *The National Academies Collection: Reports funded by National Institutes of Health.* Washington (DC): National Academies Press (US) National Academy of Sciences.; 2011.
- Coleman E, Bockting W, Botzer M, et al. Standards of Care for the Health of Transsexual, Transgender, and Gender-Nonconforming People, Version 7. *International Journal of Transgenderism.* 2012;13(4):165-232.
- Cole CM, O'Boyle M, Emory LE, et al. Comorbidity of gender dysphoria and other major psychiatric diagnoses. *Arch Sex Behav.* 1997;26(1):13-26.
- Cohen L, de Ruiter C, Ringelberg H, et al. Psychological functioning of adolescent transsexuals: personality and psychopathology. *J Clin Psychol.* 1997;53(2):187-96.
- Colizzi M, Costa R, Todarello O. Transsexual patients' psychiatric comorbidity and positive effect of cross-sex hormonal treatment on mental health: results from a longitudinal study. *Psychoneuroendocrinology.* 2014;39:65-73.
- Heylens G, Elaut E, Kreukels BP, et al. Psychiatric characteristics in transsexual individuals: multicentre study in four European countries. *Br J Psychiatry.* 2014;204(2):151-6.
- Reisner SL, White JM, Bradford JB, et al. Transgender Health Disparities: Comparing Full Cohort and Nested Matched-Pair Study Designs in a Community Health Center. *LGBT Health.* 2014;1(3):177-84.
- Haas AP, Eliason M, Mays VM, et al. Suicide and suicide risk in lesbian, gay, bisexual, and transgender populations: review and recommendations. *J Homosex.* 2011;58(1):10-51.
- Hoffman B. An Overview of Depression among Transgender Women. *Depress Res Treat.* 2014;2014:394283.
- Claes L, Bouman WP, Witcomb G, et al. Non-suicidal self-injury in trans people: associations with psychological symptoms, victimization, interpersonal functioning, and perceived social

- support. *J Sex Med.* 2015;12(1):168-79.
14. De Cuypere G, Van Hemelrijck M, Michel A, et al. Prevalence and demography of transsexualism in Belgium. *Eur Psychiatry.* 2007;22(3):137-41.
 15. Veale JF. Prevalence of transsexualism among New Zealand passport holders. *Aust N Z J Psychiatry.* 2008;42(10):887-9.
 16. Almeida J, Johnson RM, Corliss HL, et al. Emotional distress among LGBT youth: the influence of perceived discrimination based on sexual orientation. *J Youth Adolesc.* 2009;38(7):1001-14.
 17. Clark TC, Lucassen MF, Bullen P, et al. The health and well-being of transgender high school students: results from the New Zealand adolescent health survey (Youth'12). *J Adolesc Health.* 2014;55(1):93-9.
 18. Drummond KD, Bradley SJ, Peterson-Badali M, et al. A follow-up study of girls with gender identity disorder. *Dev Psychol.* 2008;44(1):34-45.
 19. Wallien MS, Cohen-Kettenis PT. Psychosexual outcome of gender-dysphoric children. *J Am Acad Child Adolesc Psychiatry.* 2008;47(12):1413-23.
 20. Leinung MC, Urizar MF, Patel N, et al. Endocrine treatment of transsexual persons: extensive personal experience. *Endocr Pract.* 2013;19(4):644-50.
 21. Delahunt J. Clinical Audit Report. Endocrine Transgender Services: Referral Patterns. Senior Document Owner: Quality and Risk Manager, Capital Coast Health District Health Board, 29 April 2014. Report No.: Contract No.: Document ID 1.810.
 22. "To Be Who I Am/Kia noho au ki toku ano ao" - Report of the Inquiry into Discrimination Experienced by Transgender People. New Zealand: Human Rights Commission, 2008.
 23. Counties Manukau District Health Board. Gender Reassignment Health Services for Trans People within New Zealand. Wellington: Ministry of Health: 2012.
 24. WPATH Clarification on Medical Necessity of Treatment, Sex Reassignment, and Insurance Coverage for Transgender and Transsexual People Worldwide.: World Professional Association for Transgender Health (WPATH). [updated 17 June 2008]. Available from: http://www.wpath.org/site_page.cfm?pk_association_webpage_menu=1352&pk_association_webpage=3947 [Accessed 9 October 2015].
 25. Gehi P, Arkles G. Unraveling injustice: Race and class impact of Medicaid exclusions of transition-related health care for transgender people. *Sexuality Research & Social Policy.* 2007;4(4):7-35.
 26. Ministry of Health. Operational Policy Framework 2014/15. . Wellington: Ministry of Health., 2014.
 27. Ministry of Health. Rising to the Challenge: The Mental Health and Addiction Service Development Plan 2012-2017. Wellington: Ministry of Health, 2012.