Time for another review: following implementation of a new service model for Auckland Sexual Health service there has been an increase in referrals, case complexity and clinical workload but regional inequities in access remain

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ABSTRACT

AIMS: A review of the Auckland Sexual Health regional service in 2014 resulted in new criteria for access, and redundancy of two sexual health physicians. The aim of this audit was to review the impact of the review on operating volumes, referrals and case complexity.

METHODS: Secondary care referrals to the service were audited over three 12-month periods and were compared to the total volumes of first specialist assessments during the same periods following implementation of the new service model.

RESULTS: Numbers of secondary referrals nearly doubled from 1,218 referrals in 2017 to 2,036 in 2021. Auckland (40%) and Waitematā (31%) District Health Boards accounted for a much greater proportion of secondary referrals than Counties Manukau (22%). This was similar for self-referrals, with only 17% coming from Counties Manukau. The biggest increases in secondary referrals were for virtual specialist advice (500%) and for gender-affirming treatment (220%).

DISCUSSION: The Auckland sexual health review has resulted in an increase in case complexity and in workload of all staff, including specialists, but has not addressed regional inequities in service access or provision. Provision of gender-affirming care has resulted in greatly increased demand for service. Service delivery and workforce require a review to guide commissioning of sexual health and gender-affirming healthcare in the region.

The Auckland Sexual Health Service (ASHS) is New Zealand's largest sexual health service, and prior to the establishment of Te Whatu Ora – Health New Zealand it was contracted to provide primary- and secondary-level specialist sexual health care to three regional district health boards (DHBs): Auckland, Counties Manukau and Waitematā. Auckland has a large, culturally diverse population of around 1.7 million people, which is younger on average than the rest of New Zealand. It is estimated that around 30% (500,000) of the population live within the former Auckland DHB catchment area, 34% (580,000) in Counties Manukau and 37% (630,000) in the Waitematā DHB area.[1] ASHS provides access through a number of clinic locations in Auckland: Greenlane Clinical Centre (Auckland DHB), Glenfield, Henderson (Waitematā DHB), and Māngere (Counties Manukau DHB). There are also two weekly outreach clinics; one operating in the Aotearoa New Zealand Sex Workers' Collective (formerly New Zealand Prostitutes' Collective) premises in the city centre and the other at Body Positive, a community non-governmental organisation (NGO). A further outreach clinic located at the New Zealand AIDS Foundation was closed in late 2021. All clinics can be accessed by anyone in the Auckland region no matter where they normally reside.

Background to review of regional sexual health service

Prior to the establishment of The Auckland DHB funding and planning department has held the contract for provision of sexual healthcare to the Auckland region for the last three decades or more. All of the three regional DHBs contributed to the sexual health operating budget, which is volume-based. In 2014, ASHS staff were directed by Auckland DHB senior management to internally review the service with the aim of transitioning it to a more specialised secondary-level service

accessible only by referral, and with the thought that there would need to be a 30% reduction in operating volumes. No formal documentation was provided to support the rationale for the review or for the reduction in operating volumes. (The proposed changes would have resulted in a radical change in service delivery as at that time there were no restrictions on access and most patients were self-referred.) Staff were directed to develop new service specifications to inform referral criteria for a more specialised secondary-level service and to advise which patients should be referred back to primary care services for management. Although the funders and planners envisaged that primary care would pick up the 30% of people no longer eligible to access the service, there was no robust parallel consultation process with primary care or with consumers of the service to determine whether this would be acceptable or appropriate. The commissioners of the review appeared to have little understanding of the nature or scope of sexual health medicine as a speciality or the importance of maintaining primary level access to sexual health services, as many people affected by sexually transmitted infections experience significant barriers in accessing healthcare. For this reason, the current Ministry of Health service specifications for specialist medical and surgical services state that, "*Hospital-based sexual health services operate mainly as a multi-disciplinary outpatient service with patients attending on a self-referred basis. Referrals also come from general practitioners, the New Zealand Family Planning Association, Māori providers such as marae health clinics, and the New Zealand AIDS Foundation clinics, for example*".

The review was conducted by a committee of medical and nursing staff from the service, and they strongly advocated that primary-level access to the service should be maintained; this was supported by evidence that outlined the epidemiological rationale for maintaining primary access for key priority populations who would be able to self-refer. These were to be people aged under 30 years, Māori and Pasifika, men who have sex with men, people living with HIV, sex workers, people who inject drugs and transgender people. Those people designated as non-priority populations would require a referral in order to access the service. It should be noted that the specifications were not intended to address workforce requirements and did not refer to any reduction in FTE (full-time equivalent) for either medical or nursing staff. There were already challenges involved in staffing the multiple clinic locations and difficulties providing adequate levels of clinical supervision for registrars and support for nursing staff. Further, it was envisaged that the workload for the service would actually increase for a number of reasons, including a projected increased growth in the population of the Auckland region, a poorly controlled syphilis outbreak, a projected increase in demand for HIV pre-exposure prophylaxis (PrEP), an increase in complex cases and that additional nursing staff would be required to staff the new telephone triage system. (It should be noted that at the time of the review there were only 19.3 total FTE clinical and allied health professional staff employed at the service.)

The new service model and specifications were accepted by the funding and planning unit in late 2014 and there followed a 12- month trial period of implementing the new service model to assess the effect on patient volumes. Following this, a workforce consultation process was conducted in 2016 by Auckland DHB management that recommended an immediate reduction of senior medical staff from 4.8 FTE to 3.2 FTE despite feedback from medical staff and the Association of Salaried Medical Specialists that this would result in insufficient capacity to cover leave or to manage the anticipated increased workload and greater clinical acuity of cases. The Māngere clinic was also reduced in operating hours from 4 to 3 days per week, against advice from sexual health staff.

Following the sexual health review, a parallel review of gender-affirming services in the region led to ASHS being designated the regional provider of this completely new service, in addition to being the regional provider of secondary sexual health services. In 2017, despite written submissions by medical staff and ASMS advising against such a move, Auckland DHB management made the decision to make 1.6 FTE of the senior medical staff redundant with no additional nursing, medical or psychology FTE created to provide the new gender-affirming service.

Aim

The aim of this audit was to analyse the impact of the review on operating volumes, referrals, case complexity and specialist clinical workload.

Method

A search was conducted of the ASHS electronic medical record system (HCC) for all secondary care referrals to the service over 3 years following imple-

mentation of the new service model. Three 12-month periods in 2017, 2018 and 2021 were audited in order to track the evolution of service delivery and access. Secondary care referrals to the service are mainly by e-referral. ASHS accepts referrals for a range of conditions including genital dermatology opinions, management of complex STIs such as syphilis and HIV, vulvovaginal conditions including recurrent candidiasis and recurrent bacterial vaginosis, chronic genital pain and people wishing to start gender-affirming hormones. All secondary care referrals to the service are triaged by sexual health specialists to determine if the referral is appropriate and to grade priority.

The search included data on NHI, encounter date, name of triaging clinician and demographic information (age and ethnicity) of patients referred to the service. Ethnicity categories were condensed as follows into: New Zealand European/European, Māori, Pacific, Chinese, Indian, other Asian, other (African, Latin American/Hispanic, Middle Eastern) and not stated or specified. Information was also collected on which DHB the person resided in, the referral source (general practitioners (GP), secondary health care service, NGO etc.) and the clinical indication for referral. The majority of referrals are triaged into appointments for medical staff, but the service's two nurse practitioners also provide gender-affirming care and some complex STI management. Most people self-refer and data on total first visit volumes (FSA) for the same three time periods were collected from routine business intelligence reports.

Results

Volumes

The total numbers of first specialist assessments (FSAs) were 12,465 in 2017, 12,789 in 2018 and 11,181 in 2021. There was a 12% reduction in FSA volumes in 2021 compared to the other time periods that was due to the two COVID-19 related lockdowns that occurred in Auckland in February 2021 and August 2021 (Figure 1).

The majority of FSAs seen in all three periods were from the Auckland DHB area followed by Waitematā and Counties Manukau. Counties Manukau DHB accounted for only 17% of FSAs in 2021 with Auckland and Waitemata DHBs having 37% and 28% respectively. The other 19% of FSAs in 2021 were from DHBs outside Auckland.

Although total FSAs remained similar or lower over the three periods, the number of secondary referrals increased 200% over time, from 1,218 referrals in 2017 to 2,036 in 2021. Therefore, the proportion of secondary care referrals to total FSAs increased from 9.7% in 2017 to 18.2% in 2021. The largest numbers of referrals in all audited years were from Auckland DHB, averaging 40% over the three periods, followed by Waitematā with an average of 31% of referrals and Counties Manukau with the smallest proportion at an average of 22%, demonstrating inequities in access between the three DHBs (Figure 2).

Ethnicity of referrals

The ethnic breakdown of referrals remained similar across the years with NZ and other Europeans making up the biggest proportion; averaging 56% of total referrals over the three periods, followed by Māori and Pasifika who accounted for 11% and 9% of referrals. The 2018 Census figures for Auckland reported the ethnic breakdown as 53.5% European, 11.5% Māori, 15.5% Pasifika, 28.2 % Asian, 2.3 % Middle Eastern/Latin America/African and 1.1% as other, so it would appear that Pasifika were under-represented for referrals (Figure 3). When comparing ethnicities of referrals across the three DHBs in 2021, Counties Manukau DHB had a lower proportion of referrals of people of NZ European/European ethnicity (40%) and a much higher proportion of referrals for people of Māori ethnicity (26%) than the other two DHBs. Waitematā DHB had a higher proportion of referrals of people of NZ European/European ethnicity (68%) and a lower proportion of referrals of people of Pacific ethnicity (6%) than the other two DHBs. Counties Manukau DHB has a higher proportion of Pasifika people, a similar proportion of people of Māori ethnicity and a lower proportion of people of other ethnicities compared to the national average. Auckland DHB has a higher proportion of people of Pacific and other ethnicities and a lower proportion of people of Māori ethnicity than the national average. Waitematā DHB has a lower proportion of Māori and a higher proportion of people of other ethnicities than the national average.

Referral source and type

The biggest source of referrals was from GPs, (75% in 2017, 70% in 2018 and 75% in 2021) followed by secondary care services, which ranged between 7% and 12% of referrals. The remaining referrals were from a range of services including family planning clinics, lead maternity carers, corrections services and non-governmental agencies such as Body Positive and the New Zealand AIDS Foundation (now Burnett Foundation Aotearoa).

Figure 1: Total FSA volumes 2021 by DHB.

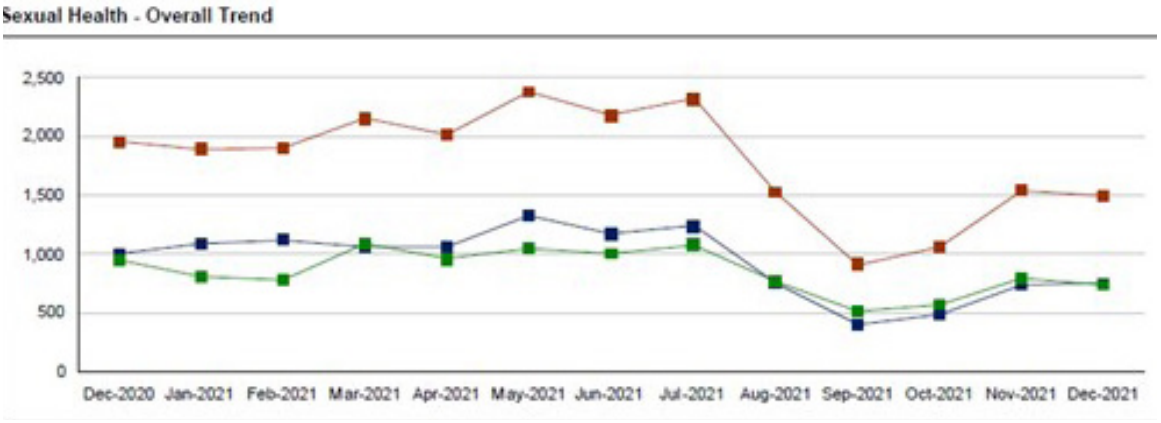


Figure 2: Secondary care referrals by DHB.

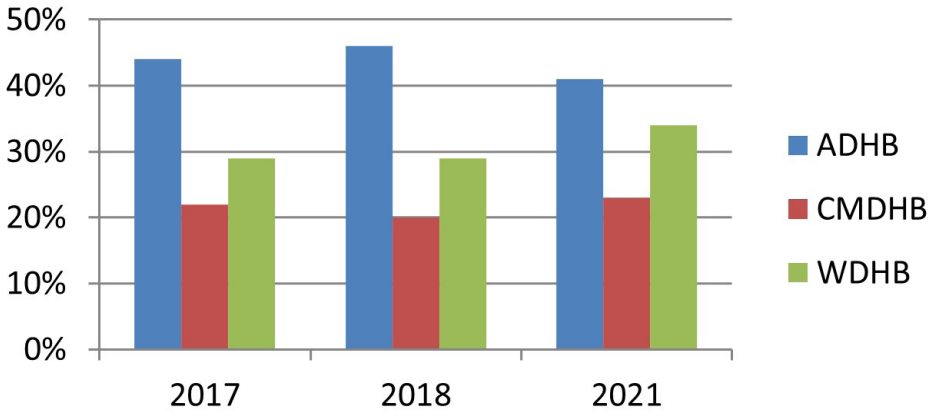


Figure 3: Ethnicity of referrals by DHB compared to 2018 Census data.

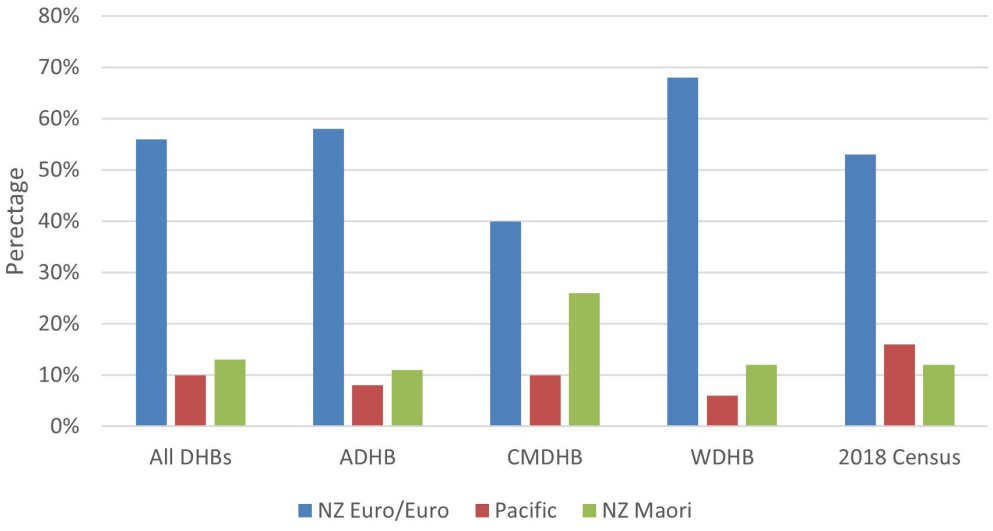


Figure 4: Referral categories.

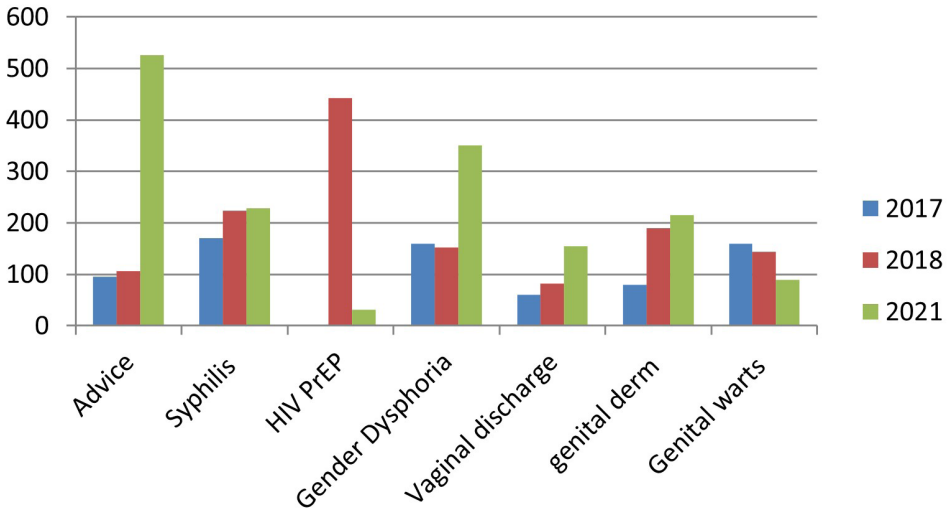
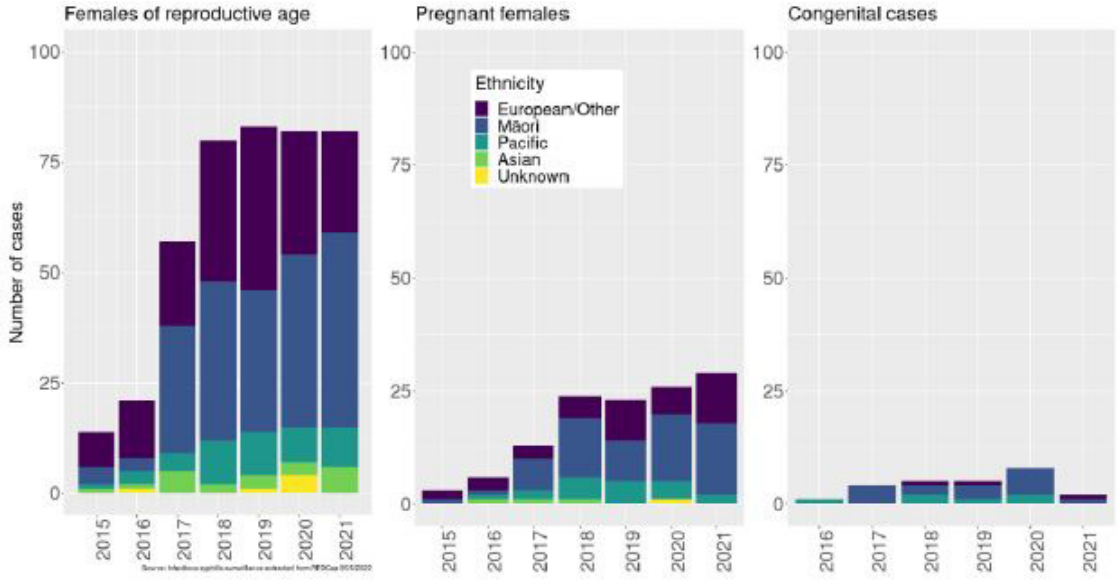


Figure 5: Syphilis cases in females of reproductive age, 2015 to 2021.*



*It should be noted that syphilis cases may be under-reported by clinicians, and therefore ESR surveillance data may not be representative of all cases treated. Also that in 2020 and 2021, there were substantial changes to behaviour, healthcare interactions and testing related to COVID-19 alert changes and therefore these data should be interpreted with caution.

The reasons for referral were categorised as follows: specialist advice, genital ulceration, chronic vaginal discharge, chronic urethritis, HIV PrEP, HIV management, HIV post-exposure prophylaxis (PEP), syphilis management, gender dysphoria, genital dermatology opinion, recurrent candidiasis, genital warts management, chronic genital pain, complex genital herpes, STI treatment, unspecified, other and declined (Figure 4). HIV PrEP was funded by PHARMAC for the first time in 2018 and initially all applications for special authority had to be approved by an HIV prescriber. The number of referrals for this increased rapidly in 2018 (23% of all referrals), however, this requirement for specialist consultation was later removed and in 2021 only 1% of referrals were for management of HIV PrEP.

Over time the number of referrals requesting or being managed as virtual specialist advice increased over 500% from 96 in 2017 to 517 in 2021. Numbers of referrals for gender-affirming treatment more than doubled from 159 referrals in 2017 to 351 in 2021. Genital dermatology opinions, syphilis management, genital warts management and chronic vaginal discharge were the next most common reasons for referral (Figure 4). Referrals for genital dermatology opinions and management of chronic vaginal discharge have increased over time, while referrals for genital warts management have declined. In 2021, management of gender-affirming healthcare accounted for 42% (217) of referrals managed as virtual advice and the next most frequent categories were advice for reactive syphilis serology 18% (92), HIV PrEP 6% (31), genital herpes 5% (26), STI management 5% (26) and genital dermatology 4% (21).

Discussion

The sexual health review has achieved its aim of transitioning ASHS to a more specialised secondary level service. This is evidenced by the fact that the numbers of secondary care referrals have increased since the new model was implemented, while overall FSA volumes have remained static. The audit has also highlighted large inequities in access between the three DHBs in terms of both primary- and secondary-level access to care. Auckland and Waitematā DHBs accounted for 80% of Auckland region FSAs despite Counties Manukau DHB having a similar population. The disparity was similar for secondary care referrals and is striking given that the population of Counties Manukau does have significant numbers of people who are regarded as priority populations by ASHS, including young people and Pasifika. Also, Counties Manukau has a greater proportion of people living with social deprivation who face significant barriers and challenges in terms of access to health services. Contributing factors to poor access in Counties Manukau are likely to be the limited days of operation, the current clinic location and challenges for people accessing primary care services in south Auckland, given that the majority of secondary care referrals are from GPs. Interestingly this audit has also highlighted that nearly 20% of FSAs resided outside the Auckland region.

A compelling equity argument can be made for improving access to sexual health services in Counties Manukau. Syphilis is a serious sexually transmitted infection that has been highly endemic in the Auckland region since the early 2000's, with a rapid increase in cases since 2015.[3] ASHS data have highlighted grave inequities and a rapidly evolving change in the epidemiology of syphilis infections in the Auckland region since then. Formerly, this disease was predominantly diagnosed in men who have sex with men (MSM), however, Environmental Science and Research (ESR) STI surveillance data shows that the proportion of people infected through heterosexual transmission has steadily increased over time (data provided by Putu Duff on behalf of ESR Sexually Transmitted Infections Surveillance team).[3] In 2015, 73% of cases were diagnosed in MSM but by 2021 they only made up 56% of cases. In 2015, 25% of cases were diagnosed in heterosexual men (MSW) and women (WSM) but by 2021 that had increased to 57%. There has also been a change in the ethnicity distribution of cases over time. In 2015, individuals of Māori and Pacific ethnicities accounted for 20% of cases notified in Auckland region, but by 2021 this had increased to 41.3%. Even more concerning is the continued rise in numbers of women of reproductive age and pregnant women being diagnosed with syphilis, many of whom reside in Counties Manukau DHB. This ethnic disparity is also noted in national ESR data for syphilis cases in women of reproductive age, in pregnant women and in congenital cases (Figure 5). There have been 23 congenital syphilis cases reported in New Zealand from 2016 to 2020, including eight fetal and one peri-natal death[4] (this is likely under-reported as not all cases of fetal loss are investigated); all potentially pre-

ventable by early diagnosis and treatment during pregnancy. The syphilis data highlight that Counties Manukau is a region of high need that should be given urgent priority. This could include better targeting of resources, better collaboration with Māori and Pasifika healthcare providers and more innovative approaches to service provision.

It should be noted that the general increase in case complexity since the implementation of the new model cannot be completely captured in this audit of secondary care referrals, and the overall workforce impact of the transition has not been properly reviewed since 2016. The Ministry of Health service specifications are cognisant of the fact that sexual health services need to provide "*access to free confidential consultation for prevention, counselling, diagnosis, treatment, follow-up and partner notification (contact tracing). Hospital-based clinics will be part of a network of service providing multiple entry points to the system.*" There is no doubt that the new model has resulted in a much bigger workload for a relatively small workforce in terms of triage and management of these patients. The large volume of self-referrals requires an adequately staffed roster of experienced nurses for effective triage. The telephone consultations are often time consuming and difficult as many involve distressed and anxious people discussing sensitive information. Further, people who self-refer often have similar clinical complexity to those who are referred by other services, so secondary care referrals do not present a complete picture of the change in workload. The increased syphilis cases have also increased nursing workload for contact tracing and follow-up and have increased specialist workload in terms of triage, case management and clinical oversight. Many cases are complex and require case discussion to determine a consensus on management and will sometimes require referral to other secondary services such as infectious diseases, dermatology or ophthalmology.

ASHS has also taken on a new role as regional provider of gender-affirming healthcare for adults following the review, and since 2017 there has been a corresponding 220% increase in referrals for gender-affirming healthcare. This has resulted in increased demand for clinical case management by doctors and nurse practitioners and also for psychology appointments. There has also been a big increase in requests for virtual advice for GPs managing gender-affirming healthcare as the service's visibility has increased. Many gender-diverse people require a lot of clinical and psychological support due to a greater prevalence of mental health and social issues, which has resource implications.[5] The appointment of a transgender key worker has helped considerably with patient liaison and support, but this has not addressed increased demand for appointments and provision of case management advice.

Demand for HIV PrEP increased substantially following the decision by PHARMAC in 2018 to fund PrEP for MSM and transgender people at high risk of HIV acquisition. Since then, an internal ASHS audit found that 1,100 patients had been commenced on PrEP over a 2-year period from March 2018 to February 2020. The demand steadily increased from 179 visits for PrEP in the first quarter of 2018 to 637 visits in the last quarter of 2020. People on PrEP require regular testing and follow-up, so many of these patients have had multiple visits to the service for testing, STI treatment and repeat prescriptions. The increasing PrEP workload for medical and nursing staff was resulting in significant capacity issues and wait times, so in early 2020 a decision was made to refer many of these patients back to primary care for follow-up once treatment was initiated. The service continues to provide PrEP for people who are considered to have greater barriers to accessing primary care including those aged under 25, those of Māori and Pacific ethnicity, those with sexualised drug use, sex workers and transgender people. Although the majority of follow-up PrEP consults are now managed by nurses via telehealth, this still requires as much clinical resource as provision of face-to-face appointments, and there is still a requirement for some oversight by medical staff or nurse practitioners for the prescribing and management of abnormal test results. Equity of access to the service also may need addressing as MSM accounted for 42% of clinical encounters between January 2021 and January 2022, which may be affecting access for other priority populations. The recent decision by PHARMAC to widen access criteria for PrEP will also increase pressure for service access.

All these factors have inevitably resulted in medical staff experiencing an overall increased clinical administration workload in order to manage telephone and email consultations, clinic letters, virtual consults with GPs and other referrers, arrange prescriptions for chronic care patients and attendance at multi-disciplinary meetings to discuss complex patients. There is also a requirement for clinical oversight of two training registrars and to provide teaching for other health

professionals. An appropriately skilled workforce is critical to the delivery of high-quality health services, but unfortunately New Zealand does not have any national standards for the management of STIs or a workforce strategy for sexual health. The Ministry of Health tier two specifications, which have not been reviewed since 2001, do refer to service components required for a hospital-level sexual health service but do not have any criteria for workforce requirements. The United Kingdom developed standards for the management of STIs in 2013, which were intended to be a guide to commissioners of sexual health services, and they refer to three levels of care (Level 3 being complex/specialist). The standards state that, "*Only a service led by a consultant on the specialist register of the General Medical Council (GMC) for Genitourinary Medicine (GUM) and offering a comprehensive range of services spanning all three levels, can be defined as being a specialist GUM service (Level 3) for the management of STIs. Specialist GUM services should provide clinical leadership, including training, clinical expertise and clinical governance in the management of STIs, within local health economies*". Translating this to the New Zealand context, a secondary-level specialist sexual health service should require the leadership of vocationally trained sexual health specialists in order to be designated a true specialist-level service. It is unfortunate to say the least that the 2016 workforce development consultation completely disregarded the important role that sexual health specialists have to play in the leadership and governance of a secondary-level specialist service. A national survey of DHB- provided sexual health services in 2021 (Personal communication Anne Robertson, Mid central health, unpublished data) noted that there is wide inter-DHB variation in the size and level of service provision and in the range of services offered. It was also noted that when DHBs sub-contract sexual health services to other DHBs, the "home DHB" has a higher level of service provision. (This is certainly the case in the Auckland region when the volumes data for the three DHBs are compared). The survey also noted that some services have no capacity to provide cover for annual and sick leave with reduction of service access when staff are away, and that there is a need for a more critical mass for services in order to provide more sustainable support to primary care and other providers. Since the review was implemented, there has been a small increase in specialist FTE, but it is still below the staffing levels prior to the review. There are currently only 2.9 FTE specialist sexual health consultants, resulting in a reduction in clinical expertise for an already challenged region and a ratio of only 0.17 sexual health specialists per 100,000 head of population. Disestablishment of the DHBs and the creation of Te Whatu Ora offer opportunities for reducing regional inequities and improving access to hospital services, however, the concern is that sexual health will be overlooked yet again as a poorly understood specialty by health policy makers and funders.

To conclude, implementation of a new service model has been successful in transitioning the ASHS to a more specialist secondary-level service. The increased case complexity has placed increased demands on the nursing, medical and psychology workforces, and although there has been a small increase in nursing FTE there has been no increase in medical FTE. It is recommended that the workforce requirements be reviewed, in particular specialist FTE, and that consideration be given to commissioning a specific separate service for the provision of gender-affirming healthcare. Implementation of the new model has not addressed regional inequities in service access or provision and has not been responsive to the increased workload or the changing workforce requirements of the service. Current marked regional inequities in access need to be urgently addressed and consideration should be given to the wider geographic role of the service, as 20% of FSAs are from outside the Auckland region.

COMPETING INTERESTS
Nil.

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