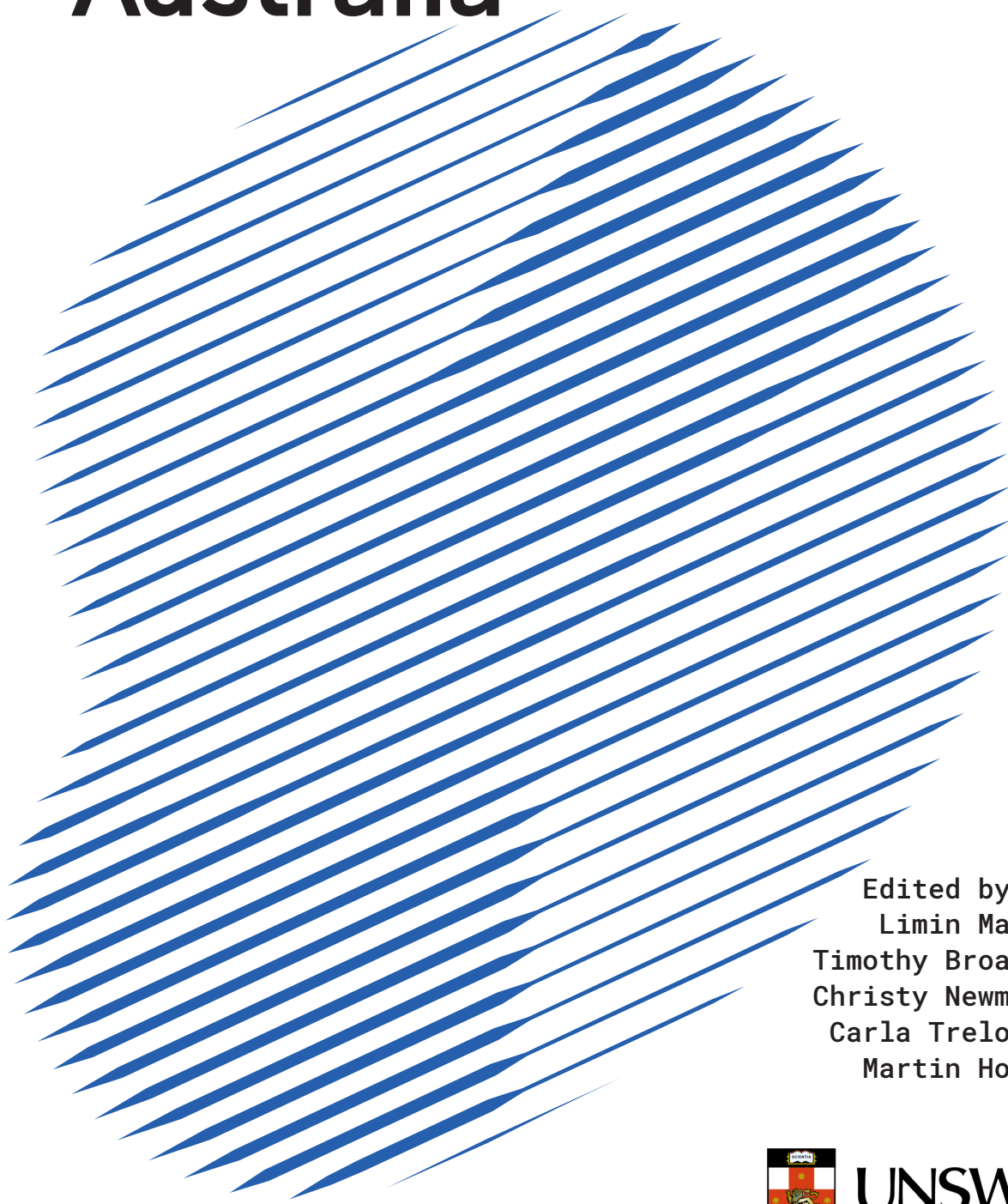




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Research in Health

HIV/STIs and Sexual Health in Australia



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Abbreviations

ART	antiretroviral treatment
ARTB	Annual Report of Trends in Behaviour
BBV	blood borne virus
CLAIC	condomless anal intercourse with casual partners
GCPS	Gay Community Periodic Survey
HCV	hepatitis C
HIV	human immunodeficiency virus
PLHIV	people living with HIV
PrEP	pre-exposure prophylaxis
STIGMA	Sexually Transmissible Infections in Gay Men Action Group
STI	sexually transmissible infection
TasP	treatment as prevention
U=U	undetectable equals untransmittable

Executive Summary

Overview

The COVID-19 pandemic is now in its third year and continues to affect health systems and everyday life. While we strive to maintain a reliable and consistent surveillance system with a range of affected communities, the impacts of COVID-19 continue to affect many of the indicators that inform the ARTB, and where appropriate, we note these in our commentary.

In addition, over the last decade we have made significant changes to behavioural surveillance in response to the introduction or expansion of biomedical HIV prevention innovations. These new prevention methods have undoubtedly changed the priorities and practices of communities affected by blood borne viruses (BBVs) and STIs, and we also comment on these adaptations where relevant.

Following previous reports, the material we present reflects the prevention, care and treatment cascades for HIV and STIs, supplemented by additional studies that respond to the National Blood Borne Viruses and Sexually Transmissible Infections Strategies 2018–2022 (specifically, the Eighth National HIV Strategy and the Fourth National STI Strategy). We expect that readers will find different aspects of what is presented here useful and we encourage you to consider our findings in light of our partner organisations' publications, particularly the companion surveillance reports from the Kirby and Burnet Institutes.

However, a few key elements of this year's report deserve particular mention.

Gay and bisexual men and HIV prevention

Over the last decade, gay and bisexual men have increasingly adopted HIV biomedical prevention strategies, particularly pre-exposure prophylaxis (PrEP) and treatment as prevention (TasP). Our national survey data show a rapid uptake of PrEP since 2016, with PrEP becoming the most commonly used HIV prevention strategy by gay and bisexual men from 2019 onward. As PrEP use has become more common, we can see an increasingly level of HIV prevention coverage nationally.

Over the last 10 years, annual HIV testing has become more frequently reported by gay and bisexual men, although since the emergence of COVID-19, annual testing levels have fallen. Higher frequency testing (testing more than once a year) has also increased over time, although it remains highly concentrated among PrEP users, who are usually tested when they request a new prescription.

High levels of HIV treatment coverage and viral suppression among HIV-positive men appear to have been sustained throughout the COVID-19 pandemic, suggesting that HIV care has been largely maintained. Having an undetectable viral load (the key part of TasP) has become the most commonly used HIV prevention strategy by HIV-positive men over the last 10 years.

Testing for HIV and STIs

This report demonstrates that rates of HIV and STI testing had been increasing over the last ten years, until COVID-19. The restrictions on service attendance during COVID-19 lockdowns led to predictable falls in testing rates, which are also likely to be due to gay and bisexual men having fewer ssex partners during the pandemic. Frequent testing for HIV and STIs (i.e., up to quarterly testing per year) has become more common over time, associated with rising PrEP use, but has stabilised in the last three years, likely due to COVID-19.

Comprehensive STI screening (testing different anatomic sites for STIs) has improved in most jurisdictions over the last 10 years. As testing has increased, there was an upward trend in STI diagnoses (until 2020). However, there were sharp declines in STI diagnoses in 2021, likely due to reductions in sexual contacts and in testing opportunities during periods of COVID-19 lockdowns.

Stigma

Since 2016, the Stigma Indicators Monitoring project has assessed experiences of stigma among priority population groups identified in the Australian Government's blood-borne virus and sexually transmissible infections strategies. These include gay, bisexual, and other men who have sex with men, people who inject drugs, people living with HIV, people living with chronic hepatitis B or C, and people who engage in sex work. The project also monitors the expression of stigma by the general public and health care workers towards these priority groups.

Monitoring of stigma among healthcare workers shows that a larger proportion of participating healthcare workers indicated that they would behave negatively towards someone with HIV or an STI in 2021 than in 2018. However, a smaller proportion in the latest round reported witnessing colleagues (fellow healthcare workers) enacting discriminatory acts towards people with HIV. Interventions to reduce stigma and discrimination in healthcare settings remain a priority.

A new stigma intervention project was conducted with healthcare workers in 2021. The online intervention aimed to challenge healthcare workers' perceptions of their colleagues' attitudes towards PLHIV and people who inject drugs (PWID). Compared to baseline, participants reported believing that their colleagues held more positive attitudes towards PLHIV and PWID immediately after the video. They also reported more positive attitudes towards PWID themselves.

Sexual health among priority populations

In this edition, a number of indicators related to young people's sexual health-related knowledge, attitudes and practices are presented. These findings, such as those from the national Debrief behavioural surveillance surveys and the NSW-based 'Down-to-Test' music festival interventions, suggest the importance of engaging young people in promoting awareness and undertaking screening of sexually transmissible infections. They also demonstrate the impact of COVID-19 on young people's sexual practices and health service engagement, including declines in the number of sex partners, condomless sex with casual partners and uptake of STI screening.

We also report on research with other priority populations, including Aboriginal and Torres Strait Islander peoples, and sex workers based in various settings (e.g., including people using point-of-care STI testing). Emerging evidence from these studies demonstrates the value of promoting sexual health and safety among these often-marginalised populations through strength-based research partnerships.

1 HIV prevention among gay and bisexual men

The data we gather on sexual practices and risk among gay and bisexual men are predominantly collected through the Gay Community Periodic Surveys (GCPS). Initiated in 1996, the GCPS are primarily conducted in capital cities and other densely populated areas of Australia where gay men congregate: Adelaide, Canberra, Melbourne, Perth, Queensland (Brisbane, Cairns and the Gold Coast), Sydney and Tasmania. The GCPS deliberately target men who are sexually active and socially connected with each other and the surveys recruit participants at gay community venues and events, sexual health clinics and online. Online recruitment has played a major role since the emergence of the COVID-19 pandemic. **See Tables 1–3.**

Given the gay community focus of recruitment, the majority of the GCPS sample is usually comprised of cisgender, gay-identified men, although in recent years nearly one in five in the sample identified as bisexual or another sexual identity (such as queer).

GCPS recruitment continued to be affected by the COVID-19 pandemic in 2021. Most recruitment for the GCPS was online, relying on advertising through Facebook and on sex and dating apps like Grindr. Questions about the impacts of COVID-19 were added to the GCPS questionnaire from 2020 onwards, with the majority of participants reporting reductions in the number of sex partners due to COVID-19.

Sexual practices and risk in gay and bisexual men

The GCPS show that many key HIV-related behavioural indicators, such as HIV testing, treatment, and the use of different prevention methods, have improved over the last decade. Much of the recent shift away from consistent condom use during anal intercourse has coincided with a rapid uptake of highly effective biomedical strategies, particularly the use of PrEP by HIV-negative men and the use of HIV treatment to sustain viral suppression (TasP or Undetectable equals Untransmittable “U=U”) by HIV-positive men. Overall, the level of HIV prevention coverage (the use of any safe strategy to prevent HIV, such as condoms, PrEP or U=U) has increased over the last ten years, although the level of coverage has stabilised or fallen in some jurisdictions during COVID-19.

There remains a small group of gay and bisexual men who may be at risk of HIV, either because they do not know their HIV status, or engage in condomless sex without the protection of PrEP or U=U. These men remain a priority for HIV prevention efforts.

Number of male partners in the Gay Community Periodic Surveys

Over the last 10 years, the proportion of participants reporting more than 10 male sex partners in the six months prior to survey has been stable (reaching a maximum of 30% in 2019). Increases over the last decade have been seen in Canberra, Perth and Sydney. During the most recent three-year period (2019–2021), the proportions of men reporting more than 10 male partners have decreased in all jurisdictions (reflecting the impact of COVID-19).

Of note, most GCPS indicators in this report are adjusted rates to account for recruitment changes, sample variations and adaptations in survey delivery modes (online and offline) over time. The remaining small proportion of indicators are based on raw data and include missing data in the denominators (unadjusted indicators). **See Table 4 and Figure 1.**

HIV risk reduction with casual male partners in the Gay Community Periodic Surveys

A range of HIV risk reduction strategies are measured in the GCPs. Based on unadjusted (raw) data from gay men who reported any condomless anal intercourse with casual partners (CLAIC) in the previous six months, PrEP use has replaced serosorting (seeking partners of the same HIV status) as the most frequently used risk reduction strategy by HIV-negative men (from 4% in 2013 to 64% in 2021, a more than 15-fold increase). Having an undetectable viral load (TasP, “U=U”) has remained the most common risk reduction strategy reported by HIV-positive men, increasing from 58% in 2013 to 90% in 2021.

Among HIV-positive men who had CLAIC, there has been a shift away from serosorting (from 59% in 2012 to 29% in 2021, almost halved) to a reliance on having an undetectable viral load. In the last three years, we have also assessed the number of men who indicate their partners are on PrEP before CLAIC (i.e. PrEP sorting). About 50% of HIV-positive men who engaged in CLAIC in 2021 indicated that their partners were on PrEP (an increasing trend since 2017).

Among HIV-negative men who had CLAIC, we have observed the rapid adoption of biomedical prevention strategies, such as taking PrEP, and having sex with HIV-positive partners who have an undetectable viral load (from 12% in 2013 to 26% in 2021, more than doubled). In 2021, our data shows that about 50%-60% of HIV-negative men who engaged in CLAIC either used PrEP themselves or knew their partners were using PrEP before sex. These increases have been most evident from 2017 onwards. **See Table 5.**

The proportions of men with casual partners who report no anal intercourse (21% in 2013 to 17% in 2021) or consistent condom use (45% in 2013 to 17% in 2021) with those partners have declined, based on unadjusted data. At the same time, there has been a marked increase in the proportion of men with casual partners who report CLAIC and PrEP use (34% in 2021), especially since 2016 (5%). **See Table 6 and Figure 2.**

The proportion of men with casual partners who were HIV-positive, had an undetectable viral load and engaged in CLAIC has also increased since 2013 (peaking in 2021 at 7%). The proportion of men with casual partners who were HIV-positive, either not on treatment or had a detectable viral load, and reported CLAIC has declined since 2013, but has risen slightly in the past three years.

The proportion of men with casual partners who were either HIV-negative but not on PrEP or HIV status unknown (untested) has decreased from 31% in 2013 to 24% in 2021, indicating a reduced probability of HIV transmission through CLAIC. This trend of men reporting CLAIC with a risk of HIV transmission has been stable over the past three years.

If we consider all forms of safe sex (no anal intercourse, consistent condom use, PrEP use and undetectable viral load), the level of net prevention coverage during casual sex has increased from 69% in 2013 to 75% in 2021 (peaking at 79% in 2020). We believe this is one of the main reasons that HIV infections among gay and bisexual men have declined in Australia in the last few years, although the level of coverage has stabilised during the last three years during COVID-19. **See Table 6 and Figure 2.**

PrEP cascade: the Gay Community Periodic Surveys

In the GCPS, we adapted the 2018 national prescribing criteria for PrEP eligibility to construct a historically comparable cascade assessing PrEP uptake (unadjusted data). The proportion of non-HIV-positive men (i.e., HIV-negative, untested and HIV-status unknown men) in the GCPS who we classified as eligible for PrEP increased from 28% in 2014 to 40% in 2021. This is largely due to increased reporting of CLAIC and diagnoses of sexually transmissible infections in the sample. Awareness of PrEP among eligible men has increased markedly, with the proportion of non-HIV-positive men who were both eligible for PrEP and aware of it increasing from 8% in 2014 to 39% in 2021. PrEP use by eligible and aware men increased from 0.3% of non-HIV-positive men in 2014 to 20% in 2021 (peaking in 2020 at 21%), a marked increase, particularly since 2016. **See Table 7 and Figure 3.**

In 2021, based on unadjusted data, of the 40% of men who were deemed to be eligible for PrEP using the specified criteria, 97% were aware of PrEP. Of those who were both eligible and aware, 52% had used PrEP in the previous six months.

In 2021, based on unadjusted data, among all non-HIV-positive men (N=6,413), 30% (n=1,913) reported any PrEP use in the previous six months, with Melbourne (37%) and Sydney (29%) reporting the highest levels of use, followed by Perth (27%), Canberra (26%) and Queensland (23%).

Commentaries based on publications in 2021

Holt, M., Broady, T. R., Mao, L., Chan, C., Rule, J., Ellard, J., . . . Bavinton, B. R. (2021). Increasing preexposure prophylaxis use and 'net prevention coverage' in behavioural surveillance of Australian gay and bisexual men. *AIDS*, 35(5), 835-840. doi:10.1097/QAD.0000000000002797

Drawing on national behavioural surveillance data, this analysis shows a historic shift in HIV prevention, with HIV pre-exposure prophylaxis (PrEP) use becoming more commonly used than condoms by gay and bisexual men in Australia in 2019. This is the first publication to show this shift internationally at a country level, a change which took place rapidly after PrEP rollout commenced in earnest in 2016. The paper also introduces the concept of 'net prevention coverage' – the use of any safe strategy to prevent HIV. For Australian gay and bisexual men having casual sex, we define this as including condom use, PrEP and having an undetectable viral load. The analysis shows that as PrEP use increased, condom use fell, and the proportion of HIV-positive participants with an undetectable viral load increased. Overall, the level of prevention coverage increased from 68.1% in 2014 to 74.9% in 2019, coincident with a fall in new HIV diagnoses among gay and bisexual men across Australia. The paper also analysed the profile of participants who remained at risk of HIV i.e. HIV-negative and untested participants who were not using PrEP but reported condomless sex with casual partners. This analysis showed that 'at risk' participants had become more likely to report frequent condomless sex with casual partners over time, but had fewer partners and more partners who were using PrEP or had an undetectable viral load. Over time, 'at risk' participants were more likely to report being bisexual or to be born overseas. Overall, this suggests that the proportion of sex acts that pose a risk of transmission has fallen, but some groups (such as bisexual and overseas born men) should continue to be a focus of HIV prevention efforts.

Holt, M., MacGibbon, J., Bear, B., Lea, T., Kolstee, J., Crawford, D., . . . de Wit, J. (2021). Trends in belief that HIV treatment prevents transmission among gay and bisexual Men in Australia: results of national online surveys 2013-2019. *AIDS Education and Prevention*, 33(1), 62-72. doi:10.1521/aeap.2021.33.1.62

This analysis assesses trends in belief that HIV treatment prevents transmission ('treatment as prevention') in repeated, national samples of gay and bisexual men. Participants were recruited to complete online surveys about attitudes to biomedical HIV prevention every two years from 2013 to 2019. This was a period in which compelling evidence was released that sustained viral suppression through treatment completely prevents HIV transmission between male serodiscordant couples, and the global Undetectable = Untransmissible (U=U) campaign was launched. The analysis shows that belief in HIV treatment as prevention increased substantially (from 2.6% in 2013 to 34.6% in 2019), with the largest increase among HIV-positive participants (from 9.7% to 65.3%). Other than being HIV-positive, gay and bisexual men with higher levels of education, PrEP users, and participants who knew more people living with HIV were more likely to believe in treatment as prevention. While the results are promising, they indicate that further effort is required to educate and assure gay and bisexual men about U=U, particularly those who know few people living with HIV.

Smith, A., Holt, M., Haire, B., & Newman, C. (2021). Issues associated with prescribing HIV pre-exposure prophylaxis for HIV anxiety: a qualitative analysis of Australian providers' views. *Journal of the Association of Nurses in AIDS Care*, 32(1), 94-104. doi:10.1097/JNC.0000000000000219

Smith, A. K. J., Newman, C. E., Haire, B., & Holt, M. (2021). Clinician imaginaries of HIV PrEP users in and beyond the gay community in Australia. *Culture, Health & Sexuality*, 1-15. doi:10.1080/13691058.2021.1957152

Who is believed to be a suitable and deserving PrEP user continues to evolve as PrEP rollout matures. In this qualitative study we considered: 'how do clinicians think about and interact with patients when prescribing PrEP, and how do their imaginaries about users shape priorities in service delivery?' This article draws on interviews with 28 PrEP providers (including general practitioners, sexual health nurses and sexual health doctors working in either New South Wales or Western Australia) in 2019-2020 to consider how they imagined PrEP users and the broader communities from which potential users originate. We inductively developed three themes through a reflexive thematic analysis: 'PrEP users as 99% gay men/MSM', 'The informed and connected PrEP user', and

'Condom users in the PrEP era'. Participants imagined PrEP users primarily as gay men, and that most PrEP users came from the gay community. Users were imagined as supporting one another to use PrEP effectively, although clinicians were concerned about whether overseas-born Asian gay men benefited from the types of community attachment that Australian gay men were believed to possess. Conversely, some clinicians imagined PrEP users as threatening norms of condom use in the gay community, including putting pressure on non-PrEP users to engage in condomless sex. Analysing clinician imaginaries of PrEP users reveals how clinicians speculate about and engage with changing community norms related to condom use and accessing PrEP. These imaginaries reveal ongoing tensions about who is believed to be best suited to PrEP, and PrEP's impact on norms of conduct in imagined biosocial communities like those comprised of gay men.

Smith, A. K. J., Haire, B., Newman, C. E., & Holt, M. (2021). Challenges of providing HIV pre-exposure prophylaxis across Australian clinics: qualitative insights of clinicians. *Sexual Health*, 18(2), 187-194. doi:10.1071/SH20208

PrEP has been rapidly implemented in Australia, initially through restricted access in state-based demonstration studies, and then through prescribing in sexual health clinics and general practice settings. In 2018, PrEP was publicly subsidised for people with Medicare coverage in Australia. In this qualitative study, we examined the challenges that emerged for PrEP-providing clinicians in different clinical settings after the public subsidy for PrEP was introduced. This article draws on interviews with 28 PrEP providers (including general practitioners, sexual health nurses and sexual health doctors working in either New South Wales or Western Australia) conducted in 2019-2020. We inductively developed four themes through a reflexive thematic analysis: 'Prioritising equitable financial access in sexual health clinics', 'Changes to nurse-led PrEP', 'Challenges for general practice', and 'Discomfort with on-demand PrEP'. We found that sexual health services have been reconfigured to meet changing levels of patient demand and the shift from nurse-led PrEP models in trials to general provision. Amongst these changes, services have tried to promote equitable financial access to PrEP. Although GPs were believed to be less effective at prescribing PrEP, GP participants themselves indicated that PrEP was an easy intervention, but difficult to integrate into general practice consultations. Participants expressed discomfort with on-demand PrEP and preferred to promote daily PrEP. Our findings indicate that supporting ways for patients without Medicare to access PrEP inexpensively, advocating for nurse-led PrEP, and developing guidelines suited to general practice consultations could ensure that PrEP is delivered more effectively and equitably. Additionally, PrEP providers require encouragement to provide and support patients using on-demand PrEP.

2 HIV and STI testing among gay men

HIV testing in the Gay Community Periodic Surveys

Over the past 10 years, the rate of lifetime HIV testing (being tested at least once for HIV) among gay and bisexual men in the GCPS has increased nationally from 86% in 2012 (peaking in 2019 at 93%). The proportion of untested participants has risen since the COVID-19 pandemic, which is likely to be a result of restrictions limiting testing and the increased reliance on online recruitment since 2020. **See Table 8 and Figure 4.**

Among non-HIV-positive GCPS participants in 2021, 66% reported having had at least one HIV test in the previous 12 months. Over the last decade, this proportion has increased nationally and in all participating states and territories except Canberra, Melbourne and Tasmania. Since 2019, the level of annual HIV testing has fallen nationally and in all jurisdictions (except in Perth), likely due to the effect of COVID-19 restrictions.

See Table 9 and Figure 5.

Of non-HIV-positive men who reported any HIV test in the previous 12 months in 2021, 48% reported three or more HIV tests. This proportion has increased significantly (more than doubled) since 2013 (22%) in all jurisdictions. Since 2019, the proportions reporting higher frequency HIV testing have remained stable nationally, increased in Sydney, but declined in the other jurisdictions.

Recent increases in HIV testing frequency have largely been driven by PrEP uptake (as PrEP users generally undergo testing when seeking repeat prescriptions for PrEP). Since 2016, among non-HIV-positive men tested for HIV in the previous 12 months, 81% of PrEP users, on average, had at least three HIV tests per year (71% in 2021, peaking in 2018 at 90%) compared to the average of 28% of non-PrEP users (declining from 29% in 2016 to 15% in 2021). **See Table 10 and Figure 6.**

Comprehensive STI testing and STI diagnoses by participants in the Gay Community Periodic Surveys

The proportion of GCPS participants who reported at least four different tests for STIs (i.e. throat and anal swabs, urine samples and blood tests) in the 12 months prior to survey increased from 37% in 2012 to 47% in 2021 (reaching a peak of 57% in 2019). This is likely to have been connected to rising levels of PrEP use. Over the decade, comprehensive STI testing has become more common in all participating states and territories, except Adelaide and Tasmania (both having stable trends). Community engagement, health promotion and primary care workforce development have all contributed to the increases in the frequency and comprehensiveness of STI testing.

Since 2019, the proportion reporting comprehensive testing decreased nationally and in Melbourne, Queensland and Sydney, but remained stable in Canberra and Perth. **See Table 11 and Figure 7.**

In 2021, about 14% of HIV-negative men and 29% of HIV-positive men reported any STI diagnosis in the previous 12 months. STI diagnoses had increased in both groups since 2012 (i.e., prior to PrEP rollout) and most obviously between 2016 and 2019, as PrEP use became more common. Declines in STI diagnoses since 2019, particularly in 2021, are likely to be due to reduced sexual activity and testing due to COVID-19. **See Table 12 and Figure 8.**

Long-term increases in STI diagnoses appear to be connected to a combination of factors, including reduced levels of condom use and increased levels of HIV and STI testing, both of which may be associated with the increased use of PrEP and TasP.

3 Living with HIV

Antiretroviral treatment and viral load among HIV-positive gay men in the Gay Community Periodic Surveys

Nationally, the majority of HIV-positive gay men in the GCPS (83%) reported being on antiretroviral treatment (ART) in 2021 (after a record high of 92% in 2017). ART uptake has increased significantly over the last 10 years, from 78% in 2012, due to consolidated evidence about the benefits of early treatment and changes to clinical guidelines to support immediate ART initiation. Nationally, the proportion on ART appears to have decreased a little in the previous three years. **See Table 13 and Figure 9.**

The proportion of HIV-positive men nationally reporting an undetectable viral load at the time of the survey, regardless of ART use, has increased substantially over the past decade, from 79% in 2012 to 82% in 2021 (peaking at 92% in 2018 and 2019). **See Table 14 and Figure 10.**

Of note, in 2021, the adjusted rates of ART and viral suppression have shown some unexpected changes in direction and some marked differences between the adjusted indicators (reported here) and the unadjusted data (ART coverage: national 92.9%; Sydney 93.6%; Melbourne 94.6%; Queensland 87.2%; Viral suppression: national 90.8% ; Sydney 90.2%; Melbourne 94.6%; Queensland 84.4%). This is likely due to the increased reliance on online sampling, COVID-19 and changes in HIV-positive participants' age profile.

Reaching the UNAIDS Fast-Track target of 95% diagnosed, 95% on treatment and 95% virally suppressed will require additional effort and tackling barriers to diagnosis and treatment such as engaging people who delay testing, overseas-born men, and those not connected to sexual health services or gay community networks.

HIV-related clinical visits among HIV-positive gay men in Gay Community Periodic Surveys

Among all HIV-positive participants, regardless of their treatment status, close to 90% had at least one HIV-related clinical visit in the previous 12 months (a proxy for retention in care),

based on unadjusted data. Since 2014, the proportion of men who had one or two clinical visits has increased, while the proportion of men who had more than four visits has declined. This trend is also apparent in the previous three years. This is partly influenced by the fact that HIV treatments are generally simpler and better tolerated and HIV-positive people can have longer intervals between visits to obtain prescriptions for their treatment. The most common pattern reported by HIV-positive men is having one or two clinical visits per year (reported by 45% in 2021) suggesting sustained engagement in HIV care, despite COVID restrictions.

See Table 15.

Commentaries based on publications in 2021

Lee, E., Mao, L., de Wit, J., Rule, J., Carr, A., & Siefried, K. J. (2021). Impact of the removal of patient co-payments for antiretroviral therapy (ART) on out-of-pocket expenditure, adherence and virological failure among Australian adults living with HIV. *Health Policy*, 125(9), 1131-1139. doi:10.1016/j.healthpol.2021.07.002

In NSW, patient co-payments for HIV medications (antiretroviral treatment, ART) were abolished on 1st October, 2015. This paper examined the impacts of this policy change on total out-of-pocket healthcare expenses, treatment adherence and HIV viral suppression. Data was analysed from a national, two-year prospective, observational cohort of people living with HIV who had sustained viral suppression (viral load consistently <50 copies/ml) six months prior to enrolment (known as the PAART study). A total of 364 participants were selected, all Medicare-eligible, who had completed at least one follow up after 1st October 2015 during the study period (2013-17). Comparisons were made between three groups: a) NSW residents who had switched from paying to not paying (n=251); b) Western Australian and some Victorian residents (e.g., those recruited from the Melbourne Sexual Health Centre) who had never paid for ART (n=53), and c) the remaining non-NSW residents who had continuously been paying pharmacy dispensing fees (n=60). The main finding shows that the removal of HIV ART co-payments had made no significant differences in patients' total out-of-pocket healthcare expenses (self-reported HIV and non-HIV related healthcare expenses, recorded ART dispensing fees). This is largely due to the fact these co-payments represented a small proportion of total out-of-pocket healthcare expenses, as 57% of the total sample (53 years old, on average) had been diagnosed with co-morbidities such as cardiovascular diseases, liver or kidney diseases, diabetes or psychiatric conditions (the bulk of their out-of-pocket costs were related to these conditions rather than HIV per se). Due to limited statistical power, the study was not able to detect changes in HIV treatment adherence or viral suppression related to the change in co-payments.

Mao, L., Kirby, E., Drysdale, K., Rance, J., Treloar, C., Tu, T., Fowlie, C., & Howard, C. (2021). Resilient ageing and end of life planning among people living with or affected by chronic HBV, HCV or HIV in Australia. Sydney: UNSW Centre for Social Research in Health. doi:10.26190/f13r-7p71

This study was funded by the Blood Borne Viruses (BBVs) and Sexually Transmissible Infections Research Program (Australian Government Department of Health, 2020-21). The mixed-method approach consisted of: a scoping literature review; in-depth online interviews with key informants (n=20); and a modified Delphi exercise about end-of-life planning among key stakeholders in the BBV sector. As a consensus building tool, the modified Delphi exercise was executed through a two-stage online survey series (reaching a maximum of 21 participants). It targeted key stakeholders with expertise in BBV ageing and end-of-life disciplines across Australia with the majority having 5-10 years' experience.

Both early referral to palliative care services and the integration of tertiary therapeutic care (by specialists) and palliative care are identified as showing promise in the literature. In practice, however, palliative care is often underutilised. Generalist or specialist palliative care services can intersect with other speciality areas of clinical care and human services at multiple time points and places for people affected by BBVs. Clinicians are encouraged to initiate conversations with patients to introduce palliative care services at early stages of clinical care. Further, closer multidisciplinary collaborations between palliative care clinicians, other specialists and general practitioners should be encouraged, more generalised healthcare and community support service providers should also be encouraged to join forces.

Key informant interviews revealed resilience as an important issue, at both the individual and the collective level (such as social support networks, community service capacities), in coping with ageing, chronic BBVs and other comorbidities. It is often challenging to initiate discussions around or to enact preparations for death, dying and bereavement. From a service provision perspective, major gaps exist when it comes to helping people make sense of the transition from ageing well to dying well, due to normative expectations and standards for living well and healthy ageing. There are also implications of various resilience discourses among people living with BBVs. Consistent with these qualitative findings, some consensus was reached through the Delphi online surveys,

regarding the top three BBV-specific ageing priorities. These were social isolation and lack of support; stigma and discrimination; and infection control, treatment uptake and disease monitoring.

Taken together, the project shows that for older people living with chronic hepatitis B, hepatitis C or HIV, there are a number of growing healthcare and social service needs. These include service provision to increase health literacy, to tackle social isolation, and to enable engagement with appropriate palliative healthcare as well as other clinical and social services. Reducing people's fears to express, engage and demand various end-of-life choices needs to be put on the agenda.

People's daily lived experiences with chronic infectious conditions show needs for the establishment of tailored referral pathways, led by multidisciplinary teams of general practitioners, specialists, palliative care clinicians and community experts. Priorities should also be given to strengthen BBV and broader healthcare and community service workforce capacities to attend to these growing ageing populations with diverse physical, mental and cognitive capabilities. Some existing programs, either led by nurse, other allied healthcare workers or peers, have shown promise to respond to these rising challenges.

Smith, A. K. J., Persson, A., Drysdale, K., Bryant, J., valentine, K., Wallace, J., . . . Newman, C. E. (2021). Family imaginaries in the disclosure of a blood-borne virus. *Sociology of Health and Illness*, 43(6), 1422-1436. doi:10.1111/1467-9566.13316

Contemporary sociological work has emphasised that family is not static, but actively shaped by ideas of who and what makes a family. Disclosure of a blood-borne virus (BBV), including HIV, hepatitis B and hepatitis C, can change the dynamics of family relationships. In this article we considered how family was imagined in the context of stories about BBV disclosure, drawing on interviews conducted in 2017-19 with 61 people living in Australia with one or more BBVs and their family members to understand the experiences of serodiscordant (mixed viral status) families. We developed three themes: 'assembling a functional family', 'protecting the self against the family', and 'keeping the family secure'. Through exploring the family imaginaries participants evoked when describing their disclosure practices, we found that disclosure enabled them to (1) reshape who or what family means to them, (2) to maintain boundaries between themselves and family, and (3) to protect family from distress in the process of finding out about their BBV. These accounts of disclosure revealed imaginaries of family as a precious web of connections to be nurtured or protected, but also as sites of ambivalent belonging and complex histories. Participants were often concerned that disclosure of their BBV diagnosis would disrupt their relationship with their family, either by 'letting them down' or by being 'let down' by their family's reaction. However, disclosure was also an opportunity to shape what it means to be a family in new and productive ways, including by generating a sense of trust, belonging, and renewed connection. We conclude that BBV disclosure practices within families reveal important ideas about how families are imagined and negotiated in response to the threat of loss, change and stigma.

Spotlight 1: National Gay Asian Men's Surveys

The Gay Asian Men's Surveys (GAMS) aim to conduct a comprehensive assessment of HIV/STI prevention, treatment and care needs among men who have sex with men of Asian background living in Australia. Due to COVID-19 restrictions, the 2021 round was conducted entirely online. This was a necessary shift from the previous rounds where online ads were used to supplement face-to-face recruitment through community venues, social events, sex-on-premises venues and HIV and STI testing facilities, such as publicly funded sexual health clinics and community-based testing sites (online recruitment: 30% in the 2015-6 round; 38% in the 2018 round). From March to September 2021, a total of 970 valid survey responses were collected and analysed, with about two-thirds of participants recruited from paid Facebook ads.

At the time of survey, about two-thirds of participants were living in NSW, just over 10% in Victoria, about 3%-5% each in Queensland, ACT, South Australia and Western Australia, and a further 1%-2% each in Tasmania and Northern Territory. This shows a gradual expansion of geographical coverage from the 2015-6 round, which was only conducted in Sydney and Melbourne, followed by the 2018 round with 93% from NSW or Victoria, to the latest round covering all Australian jurisdiction.

The average age of the participants in the 2021 round was 31 years old (range 18-81 years), with 41% in the 30-39 years age group (the most common). This age profile was consistent with previous rounds: median age 30 years (range 18-65 years, 32% in the 30-39 years age group) in the 2015-6 round; and median age 31 years (range 16-72 years, 38% in the 30-39 years age group) in 2018.

In 2021, two-thirds of participants were born overseas and 70% reported that their parents were also born overseas (participants being overseas-born: 86% in 2015-6; 82% in 2018). The reduction in the proportion of overseas-born participants is likely to due to border closures during COVID-19. About half of the participants reported speaking a language other than English at home, with Chinese (Mandarin or Cantonese) being the most commonly spoken at home.

Of the overseas-born participants, about one-fifth had been living in Australian between two to four years, a quarter between five to nine years and a further 43% ten or more years (living in Australia for more than five years: 58% in 2015-6; 55% in 2018). About 84% of participants had Medicare coverage. Among those who were Medicare ineligible, the majority had Overseas Student Health Cover.

A majority (>90%) of participants in 2021 self-identified as cis-gender men and a further 7% identified as non-binary. Consistent with previous rounds, a majority (88%) self-identified as gay, and 9% as bisexual or heterosexual (gay identification: 88% in 2015-6; 85% in 2018). About 72% of the participants in 2021 indicated sexual attraction to men only and a further one-fifth to mainly men but also women.

There have been substantial changes in recruitment strategy in the study along with the effects of COVID-19 restrictions, making it difficult to conduct reliable historical comparisons of the unadjusted (raw) data. Here, rather than using statistical trend analysis, we briefly describe noticeable patterns of change.

Table S1: Gay Asian Men's Surveys: key HIV & STI behavioural surveillance indicators, 2015–2021

	2015-6 %	2018 %	2021 %
More than ten male sex partners in the previous six months	23	20	9
Having a regular male partner at the time of survey	50	52	51
Anal intercourse with casual male partners in the previous six months			
No partner/no anal sex		41	62
Consistent condom use		23	11
Biomedically protected CLAIC: (sustained viral suppression through HIV treatment or taking PrEP)		19	17
CLAIC with a risk of HIV transmission		17	10
Ever tested for HIV	93	93	83
Comprehensive STI testing in the previous 12 months*	50	54	34
Any STI diagnosis in the previous 12 months	19	23	14
Total N	604	875	970
Non-HIV-positive men			
Using any PrEP in the previous six months	5	26	35
HIV testing within the previous 12 months	80	78	64
Subtotal n	566	823	922
Non-HIV-positive men tested for HIV within the previous 12 months			
At least three HIV tests	32	49	33
Subtotal n	451	643	590
HIV-positive men			
On HIV antiretroviral treatment at the time of survey	68	83	92
Having an undetectable viral load at the time of survey	77	75	73
Subtotal n	37	52	48
COVID Impacts in the previous six months in 2021			
	No change	Increased	Decreased
Number of sex partners	44%	8%	47%
Smoking	46%	30%	24%
Drinking	50%	17%	33%
Use of recreational drugs	47%	22%	31%

* Comprehensive STI testing defined as self-reported as having been tested at more than three different anatomic sites, including blood test.

As shown in Table S1, due to the COVID-19 epidemic, there was a marked decline in 2021 in the proportion of gay Asian men reporting more than ten male sex partners in the previous six months, with 47% of participants reporting a reduction in the number of sex partners specifically due to COVID-19 in 2021.

The uptake of biomedical prevention (maintaining viral suppression through HIV treatments or taking PrEP) for CLAIC was sustained between 2018 and 2021 among participants. Among non-HIV-positive men specifically, any PrEP use (daily, most days, or around the time of sex) in the previous six months has steadily increased (to 35% in 2021). The proportion of men reporting consistent condom use during anal intercourse with casual partners has almost halved (from 23% in 2018 to 11% in 2021). There has also been a decline in the proportion of men reporting CLAIC with a risk of HIV transmission, from 17% in 2018 to 10% in 2021.

For gay Asian men, there were clear decreases in HIV and STI testing in 2021. These are likely to be a result of COVID-19 restrictions and sampling variation. The reduced number of reported sex partners and reduced STI testing may well explain the decline in the STI diagnoses reported in the sample in 2021.

The proportion of HIV-positive participants reporting being on HIV treatment at the time of survey reached a peak in 2021 (at 92%), from 68% in 2015-6. However, the proportion of HIV-positive men reporting an undetectable viral load at the time of the survey remained below 80%.

Apart from a reported reduction in the number of sex partners, a slight increase in smoking and decreases in drinking and recreational drug use were attributed to COVID-19 by participants in the gay Asian men's survey in 2021. **See Table S1.**

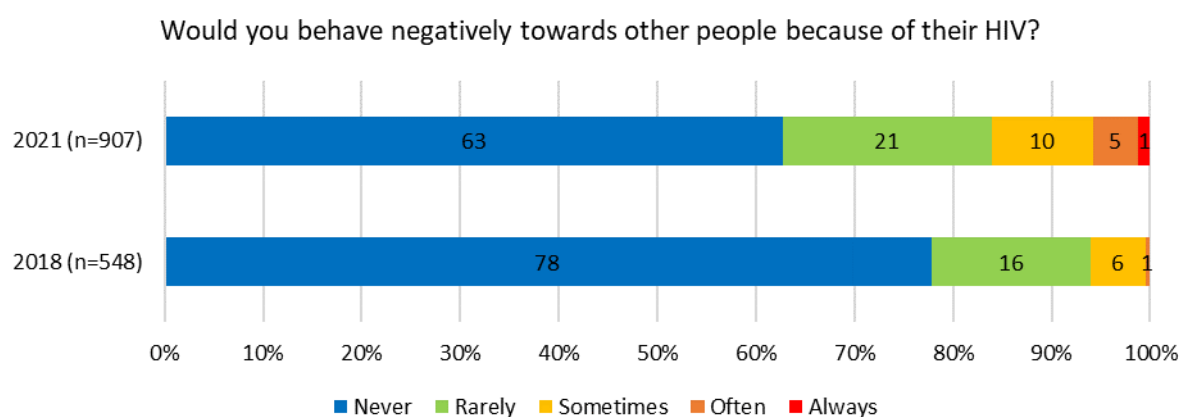
4 The Stigma Indicators

Since 2016, the Stigma Indicators Monitoring Project has measured experiences of stigma among priority population groups identified by the Australian Government's blood-borne virus and sexually transmissible infections strategies, including gay, bisexual and other men who have sex with men, people who inject drugs, people living with HIV, people living with hepatitis B, people living with hepatitis C, and people who engage in sex work. A single question was developed as an indicator of experienced stigma for all priority groups (the 'Stigma Indicator'). The question was asked in a similar way for all priority groups e.g. In the last 12 months, to what extent have you experienced any stigma or discrimination (e.g., avoidance, pity, blame, shame, rejection, verbal abuse, bullying) in relation to your sexual orientation, injecting drug use, HIV, hepatitis B or hepatitis C status, or sex work. The project has also monitored the expression of stigma by the general public and health care workers towards these priority groups through the use of a mirrored indicator, which measures the likelihood of participants behaving negatively towards priority population groups. Additional information regarding the development of these indicators has been published (Broady et al., 2018).

In 2018, a national online survey of health care workers (n=550) was conducted to investigate their expression of stigma towards priority groups (results related to PLHIV and people with STIs are outlined below). Participants were recruited via paid Facebook advertising. In 2021, another online survey of health care workers (n=907) was conducted, with participants recruited through a Qualtrics research panel.

Due to the different recruitment methods utilised, there were some notable differences in the demographic profiles of the two samples. For example, the proportion of female participants was significantly lower in 2021 than 2018 (77.5% vs. 93.8%) and the proportion of male participants was higher in 2021 than 2018 (22.3% vs. 5.5%). In 2021, the proportion of heterosexual participants was larger than in 2018 (89.9% vs. 81.6%). Participants in 2021 were younger than those in 2018 (M=33.7 years vs. M=41.6 years) and had less experience in the health care workforce (27.3% of participants in 2021 had been working in health care for more than 10 years, compared with 52.4% in 2018). Comparisons between results from each survey round should therefore be interpreted cautiously.

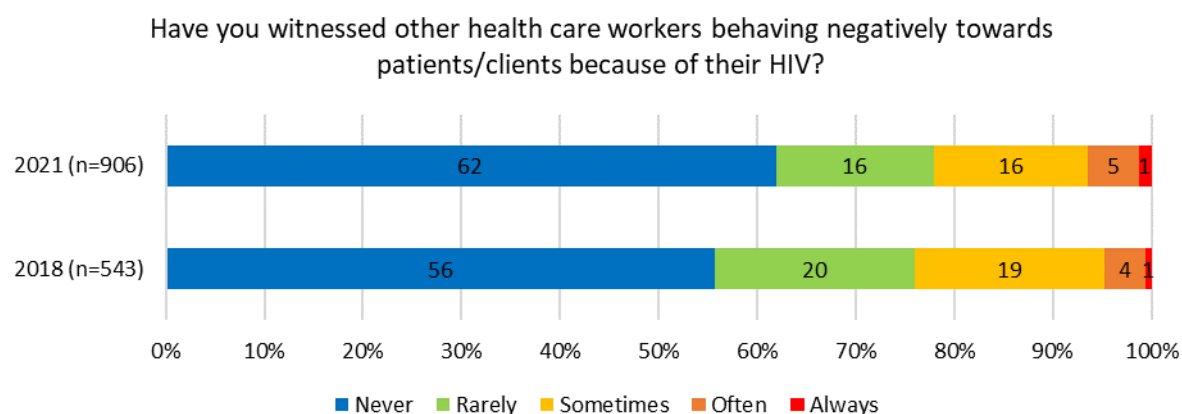
Figure Stigma 1. Self-reported likelihood of health care workers behaving negatively towards other people because of their HIV, 2018-2021



In 2021, 37% of health care workers surveyed indicated that they would behave negatively towards other people because of their HIV, including 6% who would 'often' or 'always' do so. This was a larger proportion than the 22% who reported they would behave negatively towards PLHIV in 2018.

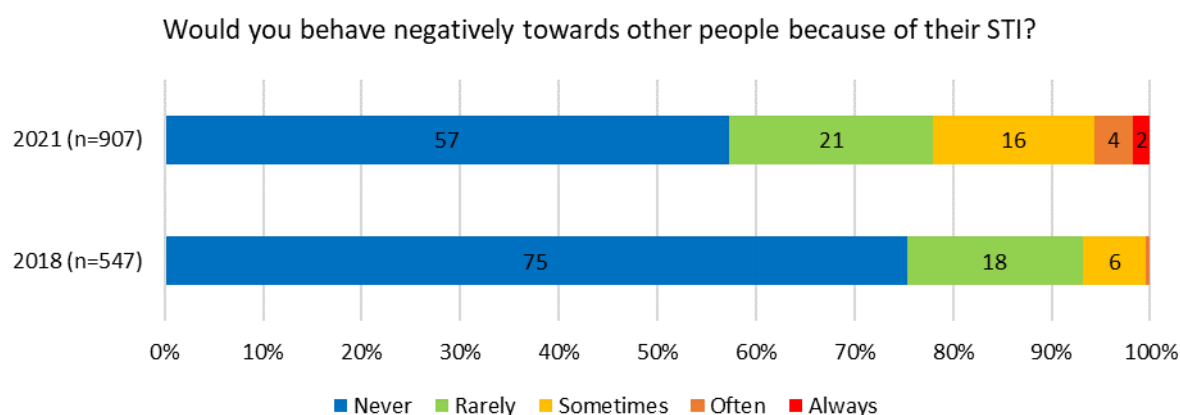
Participants were also asked how often they had witnessed other health care workers behaving negatively towards PLHIV in the past 12 months.

Figure Stigma 2. Past-year witnessing other health care workers behaving negatively towards clients because of their HIV, 2018-2021



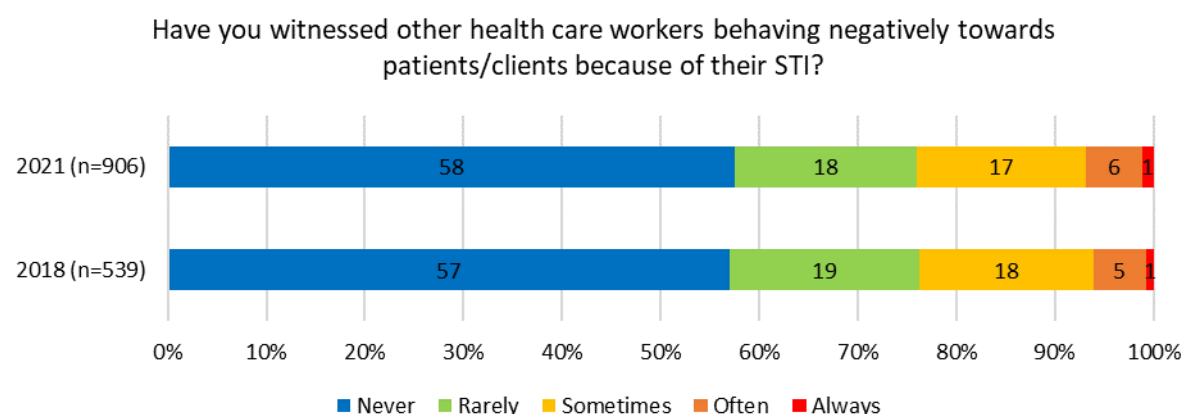
In 2021, 38% of participants reported witnessing any negative behaviour from other health care workers towards clients living with HIV in the past 12 months. This was a slightly smaller proportion than reported witnessing such behaviour in 2018 (44%).

Figure Stigma 3. Self-reported likelihood of health care workers behaving negatively towards other people because of their STI, 2018-2021



In 2021, 43% of health care workers indicated that they would behave negatively towards other people because of their STI (other than HIV), including 6% who reported this would 'often' or 'always' be the case. This was a larger proportion than reported they would behave in this way in 2018 (25%).

Figure Stigma 4. Past-year witnessing other health care workers behaving negatively towards clients because of their STI, 2018-2021



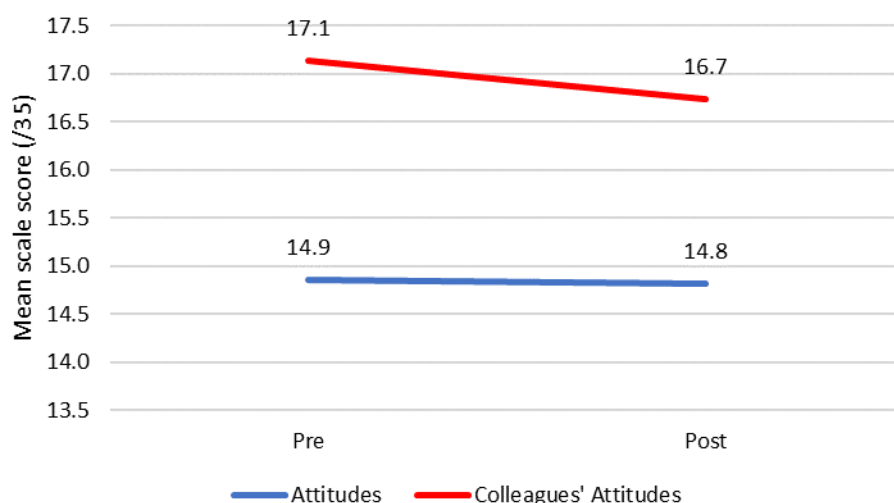
Reports of witnessing other health care workers behaving negatively towards patients/clients because of their STI were very similar between 2018 and 2021. In 2021, 42% of participants reported witnessing colleagues' negative behaviour (compared with 43% in 2018).

Results from the Stigma Indicators Monitoring Project highlight that stigma and discrimination towards PLHIV and people with STIs other than HIV continue to exist within health care settings. The proportion of health care workers who reported witnessing their colleagues behave negatively towards PLHIV or people with STIs was similar (or decreased slightly) between 2018 and 2021, however, the proportion who reported that they would behave negatively towards these groups themselves both increased. Some differences between the two survey rounds are likely due to the different approaches to recruitment and resulting differences in participant profiles, however, it is clear that wide-ranging interventions are warranted to address stigmatising attitudes and negative behaviour identified in this project. Ongoing monitoring (using consistent recruitment methods) will enable any progress in stigma reduction to be meaningfully measured.

The 2021 survey of health care workers also included a brief online intervention, based on social norms theory. A total of 332 participants were randomly allocated to an HIV intervention group and 321 were allocated to an injecting drug use intervention group. Participants completed baseline measures of their attitudes towards PLHIV or people who inject drugs (PWID) and their perceptions of their colleagues' attitudes towards PLHIV/PWID. They were then presented with a short video depicting an experienced health care worker describing research findings to suggest that their colleagues were likely to hold more positive views towards PLHIV/PWID than they might think.

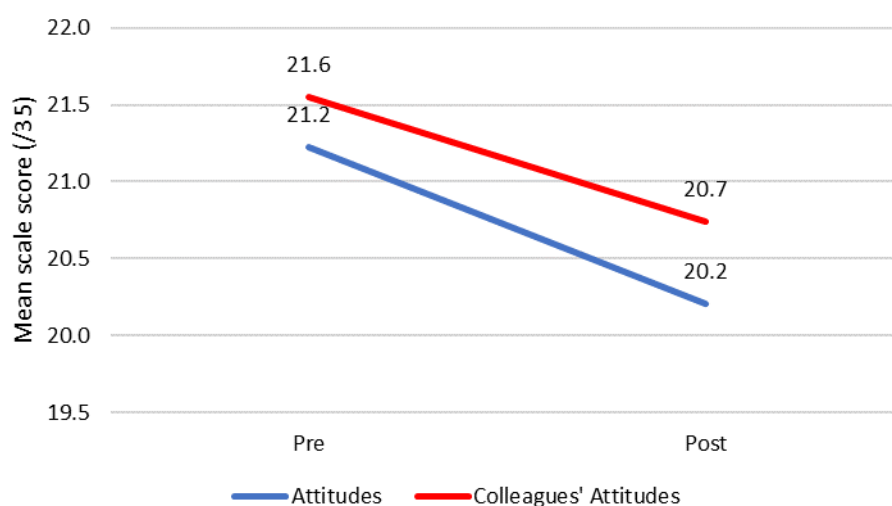
Following the video, participants completed the same measures of their own attitudes and perceptions of their colleagues' attitudes. Higher scores on all measures represented more stigmatising attitudes.

Figure Stigma 5. Mean HIV Attitudes scale scores from pre-intervention to post-intervention



The mean score on the Colleagues' Attitudes scale was higher than on the participants' HIV Attitudes scale, indicating that participants believed their colleagues held more stigmatising attitudes towards PLHIV than they personally did. After watching the intervention video, participants' attitudes did not change (and remained relatively positive). The perceptions of their colleagues' attitudes did change, however, with participants reporting that colleagues held more positive views towards PLHIV than they initially believed.

Figure Stigma 6. Mean Injecting Drug Use Attitudes scale scores from pre-intervention to post-intervention



As with the HIV Attitudes scales, participants perceived that their colleagues held more stigmatising attitudes towards PWID than they personally did. After watching the video, participants reported that their colleagues held more positive attitudes towards PWID than they initially believed. In addition, participants reported less stigmatising attitudes towards PWID themselves after watching the video.

Findings from this study indicate the potential benefit of short, online interventions based on social norms theory in challenging health care workers' perceptions of their colleagues' attitudes and their own attitudes towards stigmatised population groups. Flexible and adaptable interventions such as these have the potential to contribute to a wider body of initiatives that is needed to effectively address stigma experienced in health care settings by population groups affected by blood borne viruses and STIs.

Commentaries based on publications in 2021

Broady, T. R., Brener, L., Vuong, T., Cama, E., & Treloar, C. (2021). Online interventions to reduce stigma towards population groups affected by blood borne viruses in Australia. *International Journal of Drug Policy*, 96. doi:10.1016/j.drugpo.2021.103292

Reducing stigma is a goal of several current Australian health strategies, however, there is a lack of evidence regarding effective interventions to achieve this goal. Drawing on Allport's intergroup contact theory, this study aimed to evaluate the effectiveness of an online stigma reduction intervention implemented with the Australian public. Participants were recruited via Facebook advertising and randomly allocated to a control group (n=316) or one of five intervention groups: HIV (n=320), hepatitis C (n=347), hepatitis B (n=333), injecting drug use (n=316), or sex work (n=296). Participants viewed a short video depicting lived experiences of their assigned group and completed attitudinal measures about that group before and immediately after the video, and again at the three-month follow-up. Measures included: overall attitudes towards the group, controllability of the condition/behaviour, desire to maintain personal distance, and opinions regarding health and public policy. Reductions in negative attitudes were found immediately after watching the video on almost all outcome measures across each of the intervention groups. At three-month follow-up, the HIV intervention group maintained improvements in relation to personal distance compared to the control group, and the hepatitis B intervention group maintained improvements in relation to attitudes and personal distance compared to the control group. Across intervention and control groups, long-term reductions in negative attitudes were found in relation to HIV controllability, hepatitis B controllability and opinions, hepatitis C controllability and opinions, and injecting drug use attitudes and opinions. Online contact interventions have the potential to be scaled up and rolled out across jurisdictions at national and international levels. Findings suggest that these interventions could be an effective way to contribute to reducing stigma and discrimination towards affected population groups.

Treloar, C., Hopwood, M., Drysdale, K., Lea, T., Holt, M., Dowsett, G. W., . . . Bryant, J. (2021). Stigma as understood by key informants: A social ecological approach to gay and bisexual men's use of crystal methamphetamine for sex. *International Journal of Drug Policy*, 94. doi:10.1016/j.drugpo.2021.103229

This paper explores the perceptions of 35 key informants (KIs) in a range of relevant health and community sectors in NSW, Victoria, South Australia and Western Australia regarding the stigmatisation of GBM's crystal methamphetamine use and sexual practice with view to informing stigma reduction efforts. The analysis looked at KIs understandings and perceptions of stigma at four levels: individual; in social sexual networks; in the operation of services and organisations; and, in public policy – and inter-connections between these levels. These data strongly suggest that effective stigma reduction interventions must address each of these levels and be underpinned by understandings of sex, sexuality, drug use, HIV and hepatitis status and sexual minorities in broader social terms. Taken together, KIs emphasised that reducing stigma requires going well beyond the delivery of services in respectful and non-judgemental ways; effective stigma reduction interventions require engaging with power as it operates in and around the social processes that stigmatise. The incorporation of perspectives which foreground the forces and products of social power is of central importance for stigma reduction interventions for GBM who use crystal. The ways in which messages about sexuality, HIV and drug use are cast in social structures and institutions (including in media campaigns as described in our data) must inform future understandings of the operation and effects of stigma.

Treloar, C., Stardust, Z., Cama, E., & Kim, J. (2021). Rethinking the relationship between sex work, mental health and stigma: a qualitative study of sex workers in Australia. *Social Science and Medicine*, 268. doi:10.1016/j.socscimed.2020.113468

Stardust, Z., Treloar, C., Cama, E., & Kim, J. (2021). 'I wouldn't call the cops if i was being bashed to death': Sex work, whore stigma and the criminal legal system. *International Journal for Crime, Justice and Social Democracy*, 10(2). doi:10.5204/IJCJSD.1894

These papers were the result of collaboration between CSRH researchers and Scarlet Alliance as part of the National Stigma Indicators Monitoring Project. We decided that before we progressed to a survey of the experiences of sex workers in relation to stigma, we should conduct qualitative research to explore the issues most relevant to sex workers. These papers were written from focus group data. The focus groups were co-moderated by CSRH and Scarlet Alliance researchers. Thirty-one sex workers participated in the focus groups. The majority of participants (n = 21) identified as female and 19 had female sex recorded at birth. One participant identified as Aboriginal or Torres Strait Islander. Most participants were born in Australia (n = 15) with nine born in South East or North East Asia. Participants had performed a range of sex work with the most common type of work being private escort or in call (n = 19 each). Participants had worked across a range of jurisdictions, with all Australian states and territories represented. The majority of participants spoke English at work (n = 28).

The papers analyse two specific aspects of the data. First, we explored the relationship between sex work, mental health and stigma. The need to manage risks through selective disclosure of sex work was a pervasive experience. Management of mental health and the stigma associated with sex work was described as a responsibility primarily of the individual through self-care activities and occasional access to mental health services. Participants reported poor treatment from mental health practitioners who saw sex workers as victims lacking agency, imposed beliefs that sex work was the pathological root cause of mental health issues, or approached the issue with fascination or voyeurism. Other presenting issues (especially mental health) were lost or obscured in therapeutic encounters resulting in suboptimal care. The prevalence and impact of sex work stigma on mental health suggest that mental health services are an imperative site of support for sex workers. However, the pervasive stigma associated with sex work also means that the use of any services can be predominantly an unhelpful (and potentially re-stigmatising) experience for sex workers.

In relation to policing and criminal justice systems, the analysis brought to light a range of ways in which sex workers experienced interactions with police and the risks that these brought about for sex workers. Participants perceived that sex workers were seen by police as unworthy, expendable, untrustworthy, corruptible, disposable, responsible for crimes perpetrated upon them, and as taking on the role of educator. These positions brought about risks of inaction by police, being identified in negative or harmful ways, being disbelieved, experiencing entrapment and risk of prosecution. Sex workers consistently indicated a reluctance to seek police assistance or to pursue cases using criminal legal mechanisms, reporting a lack of trust in police, lack of faith in the system and little to no perceived likelihood of a just outcome in court. Consequently, many took steps to avoid re-traumatisation, stigmatisation and discrimination by opting out of the system itself.

These papers suggest that while decriminalisation of sex work should be the first legal and policy step, it will not be sufficient on its own without broader cultural and social change in attitudes to bring about positive changes in access to mental health services and to justice.

Spotlight 2: National Debrief surveys: youth sexual health promotion

A preliminary assessment of the impact of COVID-19 and associated restrictions

The prevalence of STIs was increasing among young adults in Australia before the COVID-19 pandemic due to a high frequency of condomless intercourse and suboptimal testing for STIs. The extent to which COVID-19 has affected young people's sexual health-related behaviours and STIs, has not been well documented. We compared data from the last two Debrief national surveys among young adults to assess changes in sexual activity, partnerships, condomless intercourse, and STI testing.

Debrief is a repeated cross-sectional survey of sexual health behaviours among youth aged 18-29 years across Australia. Participants in the first and second Debrief surveys were recruited in early 2018 and early 2021 using paid social media advertisements targeting different age and gender groups in each jurisdiction. A total of 1177 respondents in the first survey and 2051 respondents in the second survey provided complete (valid) data for these analyses.

Respondents reported their number and types of sex partners in the 12 months prior to the survey, including those with whom they had condomless intercourse. Respondents also indicated whether they had been tested for STIs or HIV, including ever and in the past 12 months.

The analyses consisted of a between-survey comparison for each indicator estimate. We calculated a percentage of relative increase or decrease in the indicator estimate when a difference was found. The samples collected as part of the first and the second round were not entirely representative of the population of young people in Australia, and between-survey differences in respondents' characteristics also existed. Data from each survey were consequently weighted per jurisdiction to reflect the age and gender composition of the Australian population and produce more robust national estimates.

Significant changes in the number of sex partners reported in the past 12 months occurred between the first and second surveys. Increases were observed in the proportions of respondents with no partner in the past 12 months (+17% relative change, from 16.9% in 2018 to 19.8% in 2021) and with only one partner (+53%, from 42.2% in 2018 to 64.4% in 2021). Conversely, the proportion of respondents with two or more partners decreased (-13%, from 41.0% in 2018 to 35.7% in 2021).

Changes also occurred in the types of partners respondents had sex with in the past 12 months. While the proportion of respondents with regular sex partners only slightly increased over time (+3%, from 73.8% in 2018 to 76.2% in 2021), the proportion of respondents reporting sex with casual partners drastically declined (-34%, from 41.0% in 2018 to 26.9% in 2021).

The changes in the proportion of young people reporting condomless intercourse in the past 12 months aligned with the abovementioned patterns of change in the level of sexual activity and types of partners. Between the first and the second surveys, the overall proportion of respondents reporting condomless intercourse with any partner decreased (-9%, from 66.2% in 2018 to 60.2% in 2021), primarily because of a substantial reduction in the proportion of respondents who had condomless intercourse with casual partners (-31%, from 22.2% in 2018 to 15.3% in 2021).

Lastly, we observed a substantial decrease in the proportion of respondents who had tested for STIs in the past 12 months (-23%, from 35.9% in 2018 to 27.6% in 2021). This reduction in testing likely resulted from the combined effect of a reduction in sexual activity and risk, disruptions in testing services during lockdowns, and, for some individuals, the avoidance of testing services due to concerns about COVID-19 exposure.

This comparison of data between the last two Debrief surveys allows a preliminary assessment of the impact of COVID-19 and associated restrictions on the sexual health-related behaviours of young adults in Australia. We observed substantial COVID-19-related reductions among young people in the number of sex partners and CI with casual partners between the last two Debrief surveys. These declines may have resulted from several factors, similar to what we have been discussing in the ARTB since the onset of the COVID-19 pandemic. The lockdowns typically restricted people's movement and prevented them from meeting casual sex partners, and concerns about COVID-19 infection may also have motivated some individuals to avoid casual sex, including in times with fewer restrictions. To reduce the risk of COVID-19 transmission during the first year of the pandemic, many young people may have decided to have sex with a steady partner or in a smaller network of known and trusted sex partners.

Another finding was that the reduction in the proportion of young people who tested for STIs in the past 12 months was substantial. It likely resulted from the combined effect of a reduction in sexual activity and STI risk, disruptions in testing services during lockdowns in the first phases of the pandemic, and, in some individuals, the deliberate avoidance of testing services due to concerns regarding possible COVID-19 transmission.

The observed reductions in levels of sexual activity and STI risk in 2021 may have compensated for reduced STI testing. The future dynamic of the STI epidemic will depend on the extent of reengagement in sex, STI risk and testing during periods of eased or lifted restrictions. A remaining question for behavioural surveillance and sexual health programs is whether the disruptions in STI testing observed in this study will be resolved with time. The 2022 National Debrief Survey will contribute to answering this question.

Commentaries based on publications about sexual health promotion among various priority populations in 2021

Janssen, M., Okeke, S., Murray, C., Ewing, M., Lu, H., Bourne, C., & Mao, L. (2021). STI testing among young people attending music festivals in New South Wales, Australia: Exploring the client segmentation concept in the 'Down to Test' program. *Sexual Health*, 18(5), 405-412. doi:10.1071/SH21101

The multi award-winning 'Down to Test' music festival program was implemented in 14 music festivals across NSW between 2017 and 2020, screening over 10,044 young people aged 15-29 years for chlamydia. Close to 3% (n=261) tested positive for chlamydia.

Evaluation was conducted among 1,776 participants through an online survey after the program. These young people were, on average, 22 years old, with 73% being female. The vast majority were born in Australia (90%) and identified as heterosexual (83%). The key findings show that young people with more sexual experience, who perceived themselves as at a higher risk of STIs, and who held positive attitudes towards sex were more likely to engage with the tailored sexual health messages and onsite STI screening in the program.

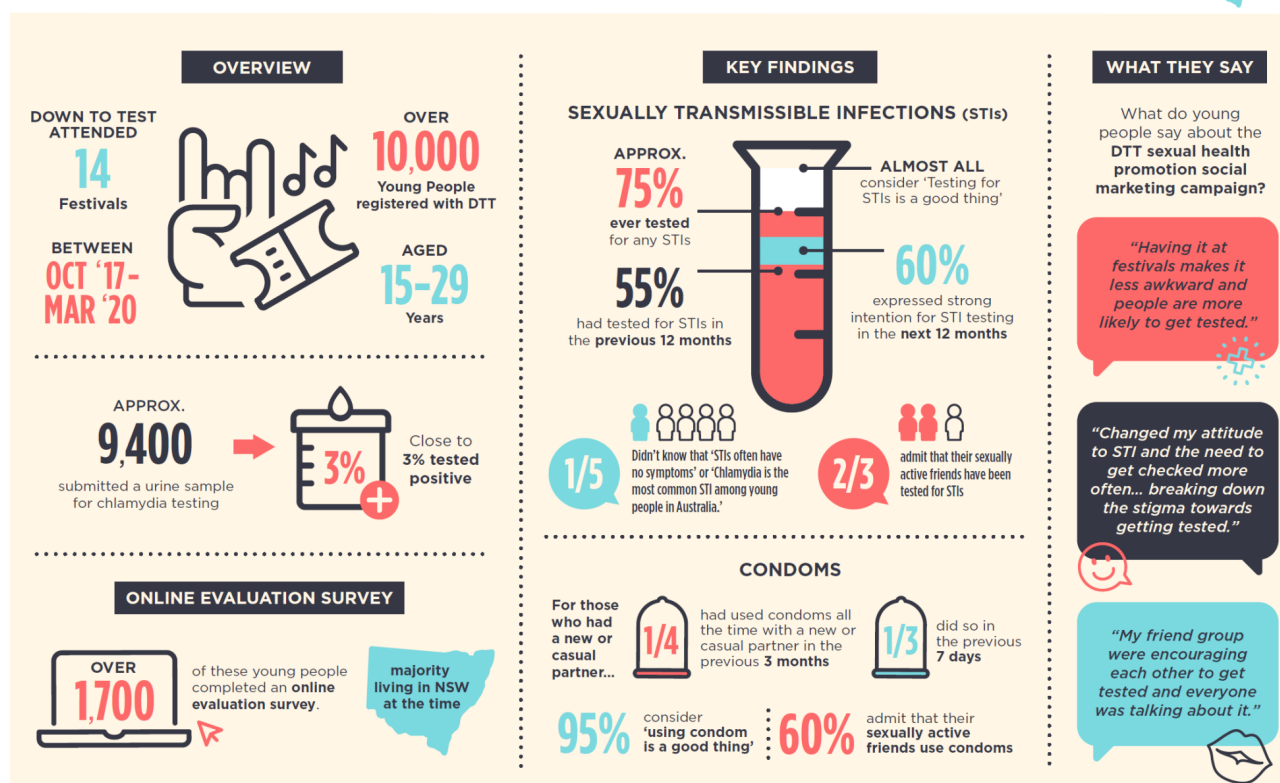
Young people enjoy having fun with their friends and are willing to undertake simple STI screening through self-collected urine samples in a music festival environment, as evident by this unique and innovative program delivered by NSW Health. While music festivals have been used for sexual health promotion targeting young people in Australia, this program was the first to combine STI health promotion and onsite screening within a convenient, confidential, free-of-charge and peer-facilitated environment. Guided by effective social marketing approaches, it set an exemplary service engagement model, an effective complement to sexual health clinic and primary care practice settings.



Social
Marketing
Campaign



PROMOTING STI SCREENING IN MUSIC FESTIVALS ACROSS NSW



Lafferty, L., Smith, K., Causer, L., Andrewartha, K., Whiley, D., Badman, S. G., . . . TTANGO2 Collaboration. (2021). Scaling up sexually transmissible infections point-of-care testing in remote Aboriginal and Torres Strait Islander communities: healthcare workers' perceptions of the barriers and facilitators. *Implementation Science Communications*, 2(1), 127. doi:10.1186/s43058-021-00232-8

Despite the high prevalence of STIs in remote Aboriginal and Torres Strait Islander communities in Australia, barriers to testing and treatment remain. For example, distance to standard pathology services can result in lengthy delays in receiving test results, which can result in patient loss to follow up. STI point-of-care testing enables same-day results and treatment, thereby reducing the geographic barriers to STI testing and treatment in remote settings. The Test Treat AND GO (TTANGO2) program operated molecular point-of-care STI testing in 31 regional or remote primary health care clinic sites. Situated within TTANGO2, this qualitative study sought to identify barriers and facilitators to further scaling up point-of-care STI testing in remote Aboriginal and Torres Strait Islander communities within Australia. Fifteen healthcare workers (including nurses and Aboriginal health practitioners) and five managers (including clinic coordinators and practice managers) from seven remote health services involved in the TTANGO2 program were invited to participate in semi-structured in-depth interviews. Clinics were purposively selected to include those with high (three clinics) or low (four clinics) point of care STI testing (high: >150 point-of-care tests over the previous year and consistently reported >10 point-of-care tests per month; low: <150 point-of-care tests over the previous year and consistently reported <10 point-of-care tests per month). A scaling up guide informed the coding framework and analysis. Three key components from the guide were apparent in the data: acceptability, compatibility, and reach. Personnel acceptability of point-of-care STI testing technology was predominantly influenced by self-efficacy (i.e., confidence/competence in conducting point-of-care testing), perceived effectiveness (perceptions of effectiveness of point-of-care STI testing compared with standard pathology/existing STI test-and-treat pathways), and burden (depictions of workload burden associated with point-of-care STI testing). Barriers to integration of point-of-care STI testing included retention of trained staff to conduct point-of-care testing. Patient reach, focusing on patient engagement, was broadly considered an enabler for STI testing scale up using point-of-care technology.

Bryant, J., Bolt, R., Botfield, J. R., Martin, K., Doyle, M., Murphy, D., . . . Aggleton, P. (2021). Beyond deficit: 'strengths-based approaches' in Indigenous health research. *Sociology of Health and Illness*, 43(6), 1405-1421. doi:10.1111/1467-9566.13311

BBV and STI research and policy concerning Aboriginal peoples in Australia has been characterised by deficit discourses, or an excessive focus on risk behaviours and problems. Strengths-based approaches ostensibly offer a different perspective by promoting a set of values that recognises the capacities and capabilities of people, including Aboriginal peoples. Attention to these approaches is growing in research and policy settings; yet these approaches are not well-conceptualised and evidence regarding how they are understood and applied in practice is very limited despite their widespread use. In this paper, we sought to understand the conceptual basis of strengths-based approaches as currently presented in health research literature.

Our interest in better understanding strengths-based approaches comes from our own research with Aboriginal young people in Australia in which we are mapping the strengths and resources they draw upon to build sexual health and well-being. In developing this project, important questions have arisen including: what is meant by the term 'strengths', and how are strengths 'made' or 'developed' in the life worlds of young people? These questions are not readily answered in the available literature, signalling gaps in the intellectual work that underpins these approaches. Our analysis found that three main framings exist in the current literature: 'resilience' approaches concerned with the personal skills of individuals; 'social ecological' approaches which focus on the individual, community and structural aspects of a person's environment; and 'socio-cultural' approaches which view 'strengths' as social relations, collective identities and practices.

We suggest that neither 'resilience' nor 'social ecological' approaches sufficiently problematise deficit discourse because they remain largely informed by Western concepts of individualised rationality and, as a result, rest on logics that support notions of absence and deficit. In contrast, socio-cultural approaches tend to view 'strengths' not as qualities possessed by individuals, but as the structure and character of social relations, collective

practices and identities. As such, they are better able to capture Indigenous ways of knowing and being and provide a stronger basis on which to build meaningful interventions.

Newman, C. E., Smith, A. K. J., Duck-Chong, E., Vivienne, S., Davies, C., Robinson, K. H., & Aggleton, P. (2021). Waiting to be seen: social perspectives on trans health. *Health Sociology Review*, 30(1), 1-8. doi:10.1080/14461242.2020.1868900

Trans and gender diverse people were first identified as a priority population in the Australian government strategic response to HIV and STIs in 2018, in the Eighth National HIV Strategy. Before that, the particular HIV prevention and care needs of those with trans (e.g., trans man, trans woman, non-binary person) or gender diverse (e.g., gender fluid, gender queer) experiences were hidden among other priority populations, and in some cases still are. However, there remains relatively little attention to understanding the specific issues that can impact on the engagement of these diverse populations with health care services and information.

In 2021, we published an editorial introduction to a special issue exploring social aspects of trans health, which provided a brief overview of sociological concepts which help to frame key structural issues impacting on the health of trans and gender diverse people. These structural issues are directly relevant to HIV and STI prevention and care, including the underlying ideology of 'cisgenderism' which permeates health care systems, and delegitimises the needs and rights of trans and gender diverse people.

Too often, trans people report encounters with clinicians who are unprepared for providing the care that is needed or ask unnecessary questions about gender when the consultation is about something entirely unrelated. Many trans people describe being hyper conscious of what they should fear, and how they must perform, in seeking to access the health care they need, which can further discourage them from seeking care until their health has been significantly compromised.

We argue that there is a pressing need for greater recognition of the precarious social, legal, and economic position of many trans people which impacts profoundly on health and wellbeing. Achieving health equity for trans people will require an ambitious combination of political will, community support and robust health systems, and this applies to the HIV and STI sectors also.

Vujcich, D., Roberts, M., Gu, Z., Kao, S-C., Lobo, R., Mao, L., Oudih, E., Phoo, N.N.N., Wong, H., Reid, A. (2021) Translating best practice into real practice: methods, results and lessons from a project to translate an English sexual health survey into four Asian languages. *PLOS ONE* 16 (12): e0261074. doi: 10.1371/journal.pone.0261074

To increase migrant representations in population health surveys, the most common practice is to provide translated versions of the survey instruments, using multi-step, team-based translation approaches as the best practice. This paper explores the TRAPD (Translation, Review, Adjudication, Pretesting and Documentation) model, as recommended by the Guidelines for Best Practice in Cross-Cultural Surveys, through a process involving multiple personnel in iterative rounds. An English-language questionnaire, containing 51 knowledge, attitudes and practice questions regarding blood-borne viruses and sexually transmissible infections (BBV & STI), was sent to at least two accredited, independent translators per language (four in Khmer; three in Karen; three in Traditional Chinese; and 20 in Vietnamese). Only nine out of the total 51 questions achieved the identical translated versions in at least one language.

For a modestly resourced, national BBV & STI population health survey in Australia, this paper demonstrates the value and identifies further complexities to assess and resolve discrepancies in population health survey questionnaire translation, following the TRAPD model. Making mainstream population health survey question items in multiple language versions publicly available could enhance transparency and enable critical appraisal in order to improve translation quality.

Vujcich, D., Roberts, M., Brown, G., Durham, J., Gu, Z., Hartley, L., Lobo, R., Mao, L., Moro, P., Mullens, AB., Offord, B., Oudih, E., Reid, A. (2021) Are sexual health survey items understood as intended by African and Asian migrants to Australia? Methods, results and recommendations for qualitative pretesting. *BMJ Open*, 11: e049010. doi:10.1136/ bmjopen-2021-049010

An iterative 'test-revise-repeat' approach was adopted to pretest a 'Knowledge, Attitudes and Practice (KAP)' style population health survey of blood-borne viruses and sexually transmitted infections (BBV & STIs). A total of 62 participants, who were born in Sub-Saharan Africa (n=25), South-East Asia (n=17) or North-East Asia (n=20), proficient in reading and speaking English and living in Australia at the time of recruitment, were invited to take part in three consecutive rounds of questionnaire revisions. Content analysis was applied to the qualitative data, emerged from a combination of focus group panels and interviews.

For the initial version of the questionnaire, key issues were identified both in the newly created items in this study and those borrowed from existing instruments all of which were considered already validated or culturally adapted. They were largely about the problematic use of vague or undefined terms (e.g., 'regular', 'effective'), specific medical terms (e.g., 'pre-exposure prophylaxis (PrEP)', 'infertility'), or unfamiliar concepts (e.g., 'gender', 'condomless', 'oral sex'). For the final revised questionnaire, out of the 77 valid responses to the statement 'I found it hard to understand some questions/words', close to one-quarter either strongly agreed or agreed. This suggests that even in the final round of the pretesting, it was still beyond the reach for everyone to understand fully and properly the final revised questionnaire.

To maintain research rigour, it is essential to conduct proper cultural and linguistic examinations to ascertain to what extent a shared understanding of the survey instrument has reached between the survey designers and its targeted culturally and linguistically diverse (CALD) respondents. For BBV & STI behavioural surveillance among CALD populations, pretesting KAP-style survey instruments amongst diverse sub-populations and over multiple rounds is highly recommended. Survey data, even those collected after proper questionnaire pretesting, should not be taken merely at their face value. Building the capacities of bilingual and bicultural workers should also be prioritised.

Wong, H.T.H., Mao, L., Aggleton, P. (2021) 'You can reject me; I can also reject you': Intersections of migration, race/ethnicity, and sexuality among Chinese diasporic gay men in Australia. Zhou, YR., Sinding, C. and Goellnicht, D. (Eds). *Sexualities, transnationalism and globalization: new perspectives*. p 32-45. New York: Routledge, Talyor & Francis.

While a substantial body of literature exists about the historical, economic and sociocultural impact of migration on individual Chinese migrants, analyses regarding sex, sexuality and sexual practice in relation to migration are rare. Based on one-to-one, in-depth, longitudinal interviews with 22 Chinese gay-identified men living in Sydney, this chapter fills the gap by portraying a range of experiences of Chinese same-sex attracted male migrants. It demonstrates how globalisation has afforded opportunities of diversified experiences of being Chinese and of being gay beyond national borders. Although racial politics remain critical, the emerging transnational understandings of race suggests Asian men do not necessarily place themselves merely as the passive victims of racism, rather they can transgress existing racial and national boundaries.

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Tables

Table 1: Recruitment summary by state or territory: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Total n (%)
Adelaide	10.1		12.5		9.4		10.7		8.4		4,226 (5.2)
Canberra		2.8		3.8		4.3		5.9		5.7	1,832 (2.2)
Melbourne	26.2	38.0	25.2	37.6	29.6	31.5	32.0	32.7	35.1	29.3	25,992 (31.6)
Perth	10.4		9.2		9.3	6.5		8.1		14.3	4,779 (5.8)
Queensland ¹	17.0	17.9	20.4	23.0	18.7	22.2	21.3	19.1	14.7	18.2	15,824 (19.3)
Sydney	36.3	41.3	29.9	35.6	31.0	35.5	33.4	34.2	39.4	32.5	28,463 (34.7)
Tasmania			2.8		2.0	-	2.7		2.5		854 (1.0)
Total n	7,841	6,161	7,426	7,997	9,743	9,383	8,574	9,271	8,479	7,065	81,940 (100)

¹ Includes men recruited from Brisbane, Cairns and the Gold Coast.

Table 2: Recruitment summary by type of venue or event: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Total n (%)
Gay community events/festivals	49.3	52.2	43.0	35.4	38.2	38.9	37.9	39.0	37.5	4.0	30,799 (37.6)
Gay social venues ¹	32.4	28.5	26.6	29.0	27.1	27.9	23.7	23.3	16.1	6.3	19,853 (24.2)
Sex-on-premises venues	13.1	13.1	11.4	10.2	8.6	8.6	6.2	5.1	5.5	0.8	660 (8.1)
Clinics and general practices	5.2	6.2	4.5	4.8	4.5	6.7	6.2	8.1	3.6	0.8	4,220 (5.2)
Online			14.4	20.6	21.6	18.0	26.0	24.5	37.3	88.1	20,398 (24.9)
Total n	7,841	6,161	7,426	7,997	9,743	9,383	8,574	9,271	8,479	7,065	81,940 (100)

¹ Includes bars, clubs, gyms, small events, HIV-related community organisations and networks.

Table 3: Recruitment summary by participant characteristics: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Gay-identified	87.0	87.8	89.1	89.9	88.6	89.0	87.7	86.9	83.9	80.1	↓	↓
Anglo-Australian	68.5	66.8	69.2	67.5	67.7	66.7	66.5	66.2	66.1	67.2	↓	ns
Overseas born	30.3	31.2	28.1	27.7	28.5	29.6	29.2	31.0	30.5	28.3	ns	ns
<25 years old	17.9	15.2	20.2	20.0	19.4	17.5	16.4	15.8	13.8	13.4	↓	↓
30-39 years old	27.7	29.0	26.5	27.6	28.6	30.0	29.1	29.7	31.3	27.2	↑	↓
>50 years old	15.1	15.7	15.5	14.9	14.7	15.8	18.0	19.3	20.7	27.7	↑	↑
Mean age (SD)	36.5 (12.4)	36.9 (12.2)	35.8 (12.5)	35.4 (12.5)	35.5 (12.4)	36.0 (12.6)	36.9 (12.9)	37.2 (13.2)	38.0 (13.7)	40.3 (14.5)	↑	↑
HIV-positive	8.1	9.3	8.9	8.0	7.3	7.9	8.1	8.2	7.3	9.2	ns	↑

Table 4: Men who reported more than 10 male sex partners in the six months prior to the survey: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Adelaide	20.6		21.7		18.6		17.6		23.3		ns	-
Canberra		18.7		19.6		15.7		32.9		19.4	↑	↓
Melbourne	24.8	26.6	28.5	30.0	30.6	32.7	28.5	29.4	25.7	18.4	↓	↓
Perth	18.0		18.1		29.4	23.1		31.4		25.1	↑	-
Queensland	26.0	21.6	24.8	22.7	22.0	25.7	26.4	28.1	9.5	21.9	↓	↓
Sydney	25.4	24.1	24.0	24.7	28.2	23.0	32.1	28.4	28.4	23.8	↑	↓
Tasmania			6.8		10.1		8.8		4.8		ns	-
All states/ territories	24.0	24.5	24.9	26.2	26.7	26.4	28.3	29.5	25.8	24.0	ns	↓

Table 5: Men who engaged in any CLAIC — frequent use of risk reduction strategies in the six months prior to the survey: GCPS, 2012-2021 (unadjusted data)

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
HIV-positive men (All states/ territories)												
Ensured partners were seroconcordant before CLAIC (serosorting)	59.0	55.4	61.3	54.9	46.1	42.7	34.1	27.5	25.9	28.5	decreased	ns
Took receptive position during CLAIC that was not concordant	15.4	21.0	17.2	23.7	23.7	19.0	20.1	17.6	12.9	16.5	ns	ns
Withdrew before ejaculation during insertive CLAIC	11.5	14.6	11.7	9.0	11.6	9.0	10.4	6.3	6.9	8.5	decreased	ns
Had an undetectable viral load		58.4	73.7	75.4	74.1	82.2	84.7	77.5	76.0	89.9	increased	increased
Partner was on PrEP						34.6	44.0	36.6	41.6	50.0	increased	increased
Total n (not mutually exclusive)	305	267	274	333	371	410	393	426	317	316		
HIV-negative men (All states/ territories)												
Ensured partners were seroconcordant before CLAIC (serosorting)	44.9	46.9	52.4	54.7	51.8	49.6	49.7	49.7	46.1	47.5	ns	ns
Took insertive position during CLAIC that was not concordant	25.0	23.5	22.3	22.5	21.7	20.6	18.1	17.9	17.6	14.7	decreased	decreased
Partner withdrew before ejaculation during receptive CLAIC	17.2	16.8	15.8	12.7	13.9	11.4	8.9	8.1	7.1	5.7	decreased	decreased
Ensured HIV-positive partner had an undetectable viral load		11.5	10.6	13.2	15.7	21.1	23.0	20.2	19.6	25.8	increased	increased
Took PrEP before sex		3.8	2.9	5.0	15.4	40.5	50.0	57.2	59.9	63.5	increased	Increased
Partner was on PrEP						35.6	47.8	52.8	54.4	53.0	increased	ns
Total n (not mutually exclusive)	1,162	933	1,193	1,390	1,928	2,446	2,457	2,984	2,579	2,130		

This table only includes data from men who reported having CLAIC in the six months prior to the survey.

Table 6: Men with casual partners —HIV prevention in the six months prior to the survey: GCPS 2013-2021 (all states and territories, unadjusted data)

	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
No anal intercourse	20.1	18.0	19.1	17.8	17.2	17.4	14.7	16.7	17.3	decreased	increased
Consistent condom use	44.3	44.6	42.1	39.8	30.2	26.3	22.9	22.0	17.0	decreased	decreased
Any CLAI by HIV-positive men on ART with an undetectable viral load	5.3	4.8	5.7	5.5	6.5	6.6	5.8	5.4	6.9	increased	increased
Any CLAI by HIV-negative men on prescribed PrEP	0.9	0.7	1.2	4.5	15.6	21.0	30.8	34.5	34.0	increased	increased
Net prevention coverage (sub-total)	70.6	68.1	68.1	67.7	69.5	71.3	74.1	78.6	75.2	increased	ns
Any CLAI by HIV-positive men not on ART or with a detectable viral load	1.8	1.4	1.1	0.8	0.5	0.7	0.6	1.0	1.0	decreased	increased
Insertive only CLAI by HIV-negative not on prescribed PrEP or HIV status unknown men	8.4	9.5	10.1	9.8	9.2	8.6	7.3	6.7	7.4	decreased	ns
Any receptive CLAI by HIV-negative not on prescribed PrEP or HIV status unknown men	19.3	21.0	20.7	21.7	20.8	19.4	16.9	13.7	16.4	decreased	ns
Total n	3,780	4,476	4,851	5,879	5,863	5,356	5,734	5,030	3,982		

Table 7: PrEP cascade for non-HIV-positive men in the Gay Community Periodic Surveys, 2014-2021 (unadjusted data)

	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Eligible for PrEP*	27.8	27.9	29.3	35.4	36.7	39.6	37.4	39.8	increased	ns
Eligible and aware of PrEP**	8.2	11.4	15.4	28.6	32.0	36.8	34.6	38.6	increased	ns
Eligible, aware and used prescribed PrEP in the previous 6 months***	0.3	0.6	2.4	10.6	14.7	21.0	21.3	20.1	increased	ns
Non-HIV-positive men (total)	6,762 (100)	7,359 (100)	9,032 (100)	8,638 (100)	7,878 (100)	8,510 (100)	7,860 (100)	6,413 (100)		

Note: PrEP clinical eligibility/suitability has changed over time, 2014, 2018 and the latest 2021 version: ASHM-National-PrEP-Guidelines.pdf (prepguidelines.com.au)

* For this table, the eligibility criteria were operationalised as follows:

- Any receptive condomless anal intercourse (CLAI) with casual male partners in the previous six months
- Any CLAI with a HIV-positive regular male partner who did not have an undetectable viral load in the previous six months
- Tested and diagnosed with any sexually transmissible infection (STI) other than HIV in the previous 12 months
- Any use of crystal methamphetamine in the previous six months

** Awareness of PrEP, for the 2014-20 period, was assessed with the question, "What do you know about pre-exposure prophylaxis (PrEP)?". Participants who answered "It's available now." were classified as aware of PrEP. In 2021, the question was "Have you heard about pre-exposure prophylaxis (PrEP)?". Answers "Yes, I've heard about it" were included.

*** For the 2014-18 period, those who answered "Yes, I was prescribed anti-HIV medication to take every day." were classified as using PrEP. For the 2019-20 period, answers included "Yes, I took it daily / most days" (i.e., regular users) and "Yes, I took it around the time of sex (but not daily)" (i.e., on-demand users). In 2021, answers included "daily/most days"; "around the time of sex (on demand, 2-1-1)"; "daily for a limited period of time, e.g., a month"; and "another way".

Table 8: Men who had ever tested for HIV: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Adelaide	85.9		86.9		83.9		88.8		85.3		ns	-
Canberra		80.0		80.4		92.4		94.1		90.0	↑	↓
Melbourne	89.3	85.3	89.9	89.3	89.6	90.1	91.4	92.4	91.8	88.5	↑	↓
Perth	78.4		85.9		90.6	90.5		93.1		87.9	↑	↓
Queensland	90.8	89.1	87.7	89.4	89.9	88.2	91.8	95.0	84.6	91.4	ns	↓
Sydney	85.7	87.9	88.5	90.6	89.3	87.2	92.1	92.1	92.2	78.5	ns	↓
Tasmania			82.4		85.7		81.7		69.6		↓	-
All states/territories	86.4	87.0	88.2	89.5	88.9	88.9	91.4	93.2	90.9	85.7	↑	↓

Table 9: Non-HIV-positive men — Tested for HIV in the 12 months prior to the survey: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Adelaide	59.4		40.6		56.2		63.5		58.0		↑	-
Canberra		62.5		54.5		62.5		74.3		51.3	ns	↓
Melbourne	68.2	64.1	71.2	61.4	67.8	69.1	71.4	75.3	69.5	62.4	ns	↓
Perth	48.7		57.9		72.0	63.5		72.4		69.5	↑	ns
Queensland	63.4	60.6	60.7	71.4	72.2	68.6	74.7	75.4	50.4	70.9	↑	↓
Sydney	58.2	58.4	65.4	67.5	69.7	63.9	70.2	72.4	71.7	64.9	↑	↓
Tasmania			41.9		46.7		48.8		37.5		ns	-
All states/territories	60.5	60.7	62.4	65.6	68.2	66.8	70.9	74.3	68.4	66.3	↑	↓

This table includes all men whose HIV status was not reported as positive, regardless of being tested for HIV or not in the past 12 months.

Table 10: Non-HIV-positive men tested for HIV in the 12 months prior to the survey — at least three HIV tests: GCPS, 2013–2021

	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Adelaide		17.5		22.8		32.4		42.0		↑	-
Canberra	22.1		30.4		40.1		54.7		29.1	↑	↓
Melbourne	23.0	23.2	27.6	39.4	44.9	44.8	54.2	54.5	43.2	↑	↓
Perth		17.6		30.2	29.5		57.6		40.6	↑	↓
Queensland	25.0	20.2	27.1	31.6	43.0	57.5	51.0	37.2	39.8	↑	↓
Sydney	19.8	23.6	28.6	30.9	44.9	46.5	46.5	49.9	52.4	↑	↑
Tasmania		14.5		20.5		37.9		29.4		↑	-
All states/territories	21.9	21.8	27.9	32.9	43.2	47.4	50.9	50.9	47.6	↑	ns

This table includes men whose HIV status was not reported as positive and who had been tested for HIV in the past 12 months.

Table 11: Men tested for STIs in the 12 months prior to the survey — comprehensive STI testing: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Adelaide	41.9		28.2		31.7		42.8		36.9		ns	-
Canberra		47.1		39.4		57.5		54.2		56.9	↑	ns
Melbourne	38.2	40.9	41.4	44.5	45.5	54.2	51.1	57.2	59.1	42.7	↑	↓
Perth	36.7		39.7		47.2	46.8		61.1		59.4	↑	ns
Queensland	30.8	37.3	35.6	42.1	45.6	49.7	57.5	59.6	33.4	46.9	↑	↓
Sydney	38.2	39.1	41.9	44.5	49.9	48.8	55.2	54.9	59.8	39.5	↑	↓
Tasmania			28.4		21.8		31.3		24.4		ns	-
All states/territories	37.1	39.5	38.1	43.8	45.5	51.2	53.1	57.1	56.2	47.1	↑	↓

Comprehensive STI testing defined as self-reported as having been tested at more than three different anatomic sites, including blood test.

Table 12: Any STI diagnosis in the 12 months prior to the survey: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
HIV-negative men (All states/territories)	11.6	13.1	12.4	14.5	17.9	23.2	26.2	28.3	27.5	14.3	↑	↓
HIV-positive men (All states/territories)	24.5	25.7	28.3	34.5	34.6	41.9	44.4	43.6	42.0	29.3	↑	↓

Table 13: HIV-positive men — Being on antiretroviral treatment: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Melbourne	77.7	65.7	81.6	87.7	90.9	94.4	87.2	95.2	85.1	93.5	↑	ns
Queensland	69.8	86.3	85.9	90.1	89.1	93.2	96.5	89.9	95.6	90.6	↑	ns
Sydney	80.2	76.6	83.0	81.8	85.4	89.0	91.1	91.2	89.4	84.6	↑	↓
All states/territories	77.9	76.4	83.5	86.5	88.5	92.1	89.9	90.0	86.9	83.1	↑	↓

Table 14: HIV-positive men — Having an undetectable viral load: GCPS, 2012–2021

	2012 %	2013 %	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
Melbourne	74.3	64.3	76.6	85.7	88.6	90.7	91.5	91.8	85.9	93.6	↑	ns
Queensland	70.3	82.7	81.7	95.6	93.3	93.5	96.1	93.2	95.5	88.9	↑	↓
Sydney	81.6	73.4	80.8	85.6	84.7	91.8	92.2	89.3	87.6	82.3	↑	↓
All states/territories	78.5	73.1	76.7	87.9	88.8	91.4	91.6	91.6	87.1	81.9	↑	↓

This table includes all HIV-positive men, regardless of being on antiretroviral treatment for HIV or not.

Table 15: HIV-positive men — number of HIV-related clinical visits in the previous 12 months: GCPS, 2014–2021 (all states and territories, unadjusted data)

	2014 %	2015 %	2016 %	2017 %	2018 %	2019 %	2020 %	2021 %	Overall trend	Trend in last 3 years
None/DK	9.2	10.0	8.2	8.6	7.3	8.5	11.0	13.8	increased	increased
Once/twice	19.0	21.3	22.5	26.4	26.2	35.0	32.5	45.3	increased	increased
3-4 times	45.9	42.3	44.2	40.3	45.4	40.8	41.8	31.4	decreased	decreased
5 or more times	25.9	26.3	25.2	24.7	21.1	15.7	14.7	9.5	decreased	decreased
Total n	664	638	711	745	696	630	619	652		

This table includes all HIV-positive men, regardless of being on antiretroviral treatment for HIV or not.

Figures

Figure 1: Men who reported more than 10 male sex partners in the six months prior to the survey: GCPS, 2012–2021

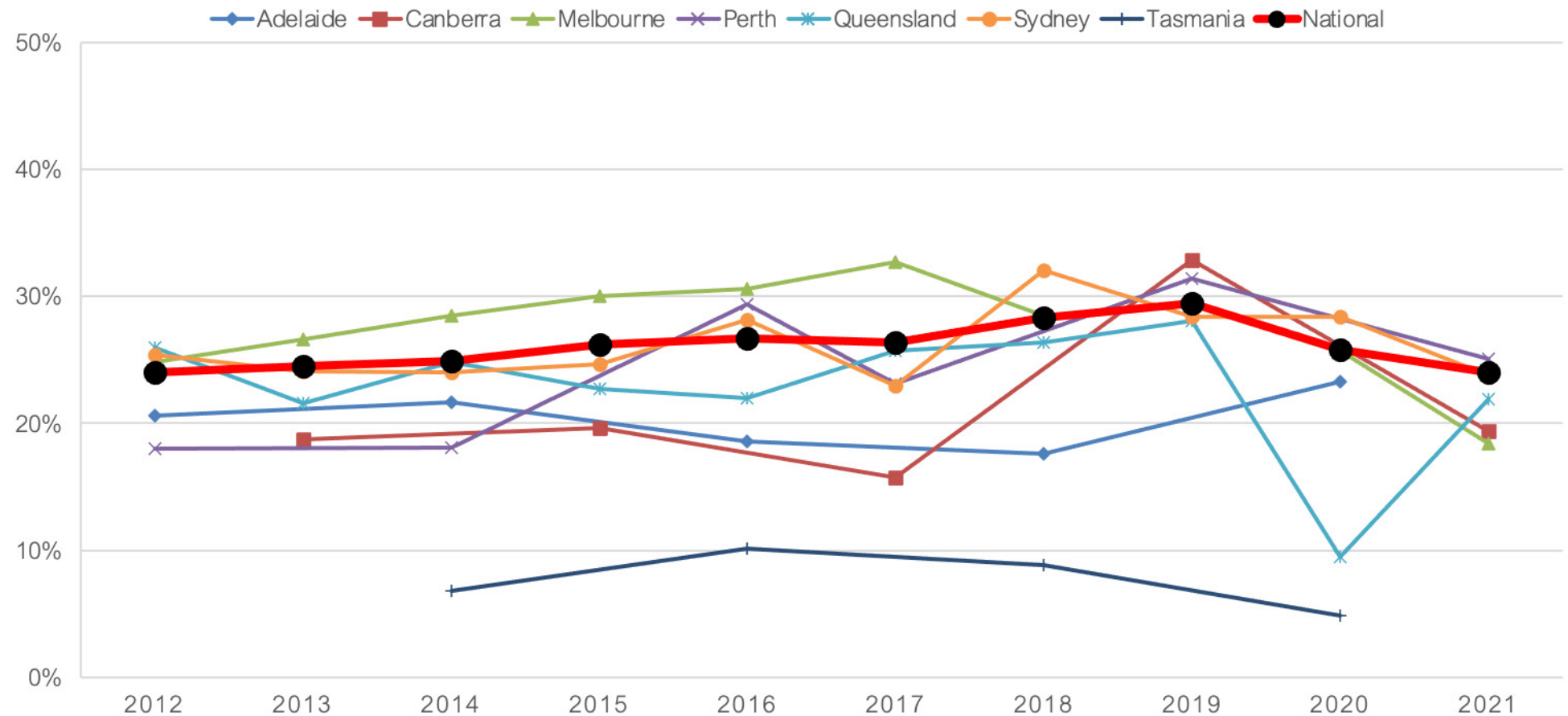


Figure 2: Anal intercourse, condom use and condomless anal intercourse with casual partners by HIV treatment, viral load and prescribed PrEP status, 2013-2021 (unadjusted data)

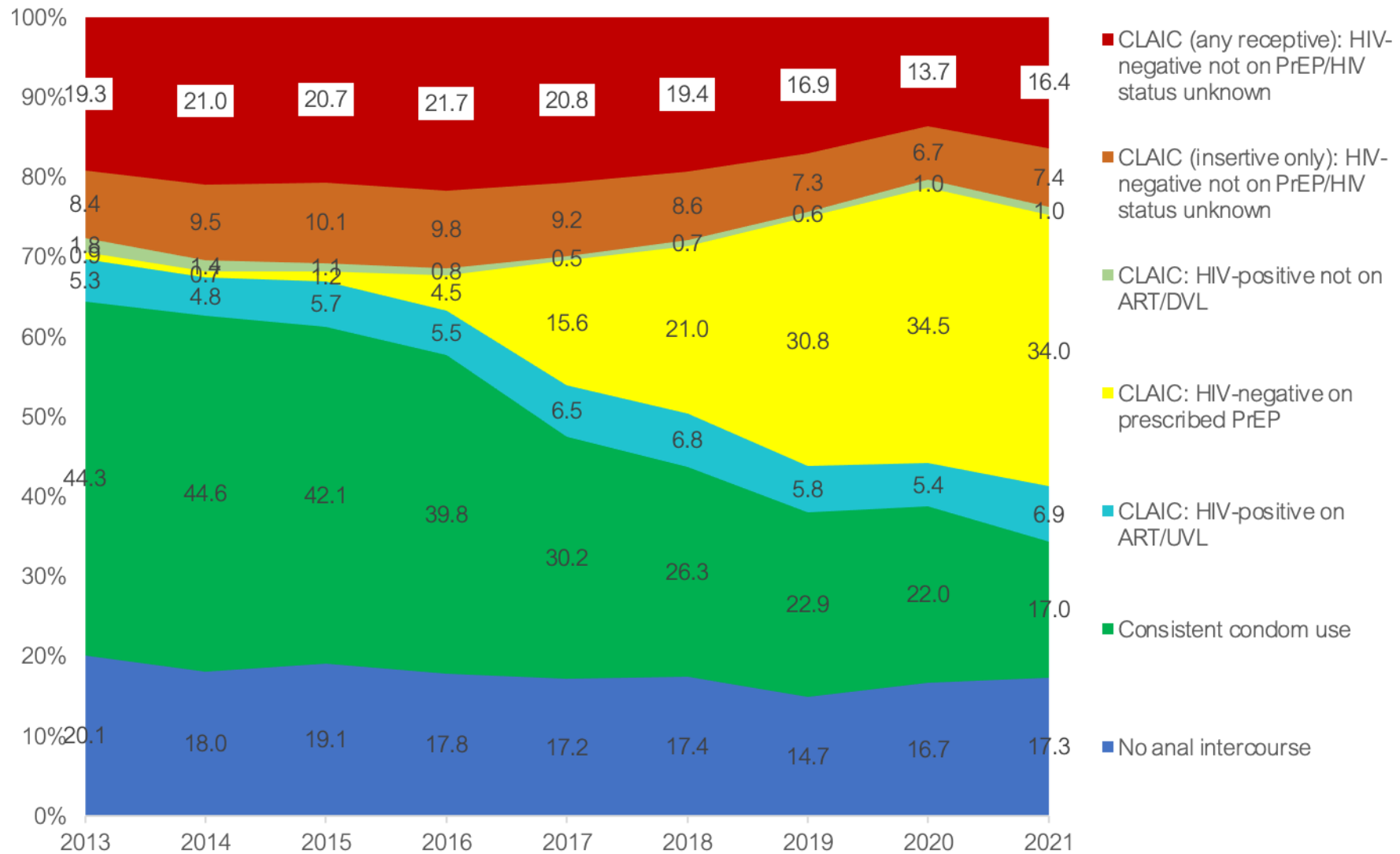


Figure 3: Non-HIV-positive men — PrEP cascade GCPS, 2014-2021 (unadjusted data)

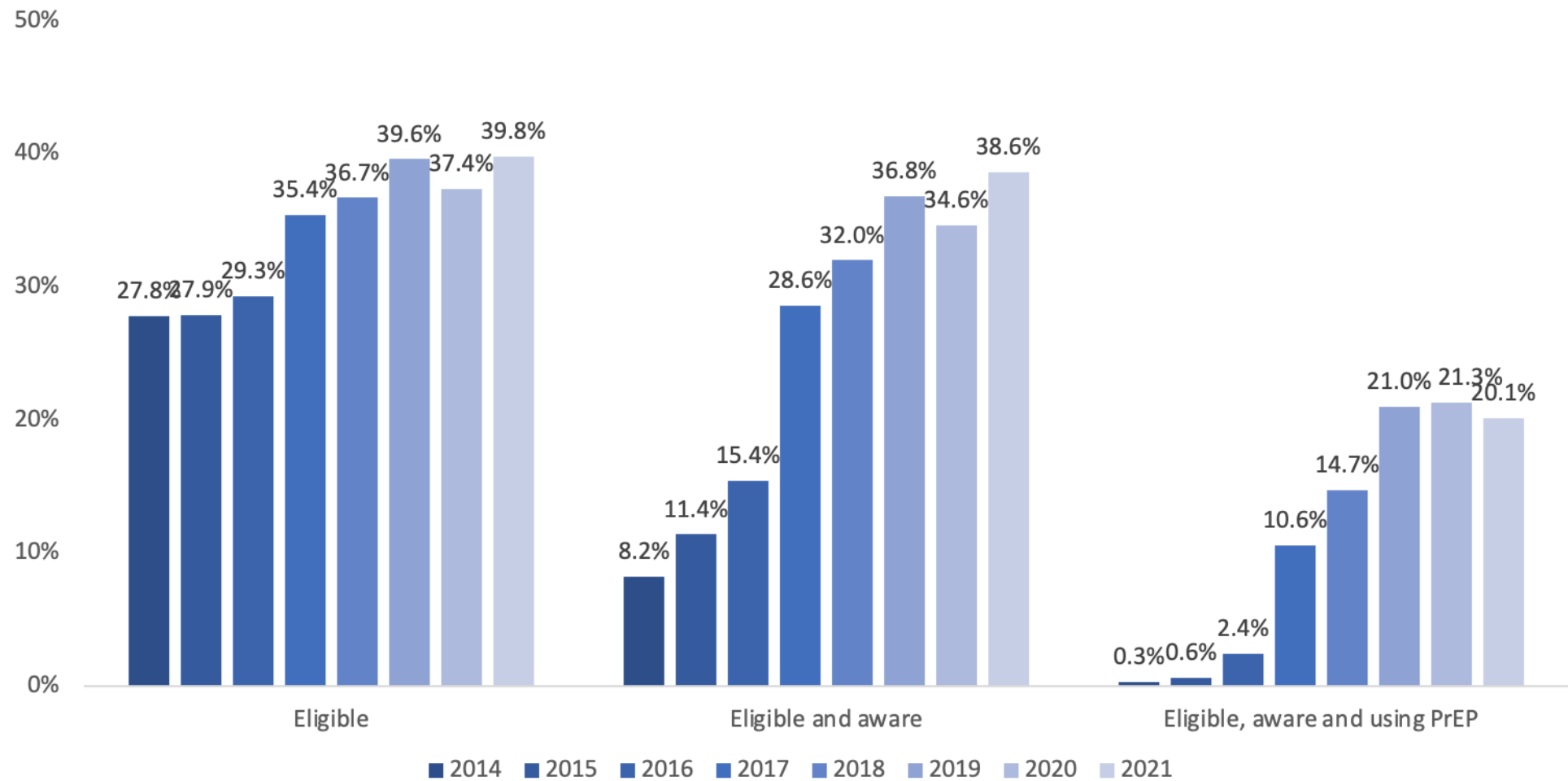


Figure 4: Men who had ever been tested for HIV: GCPS, 2012-2021

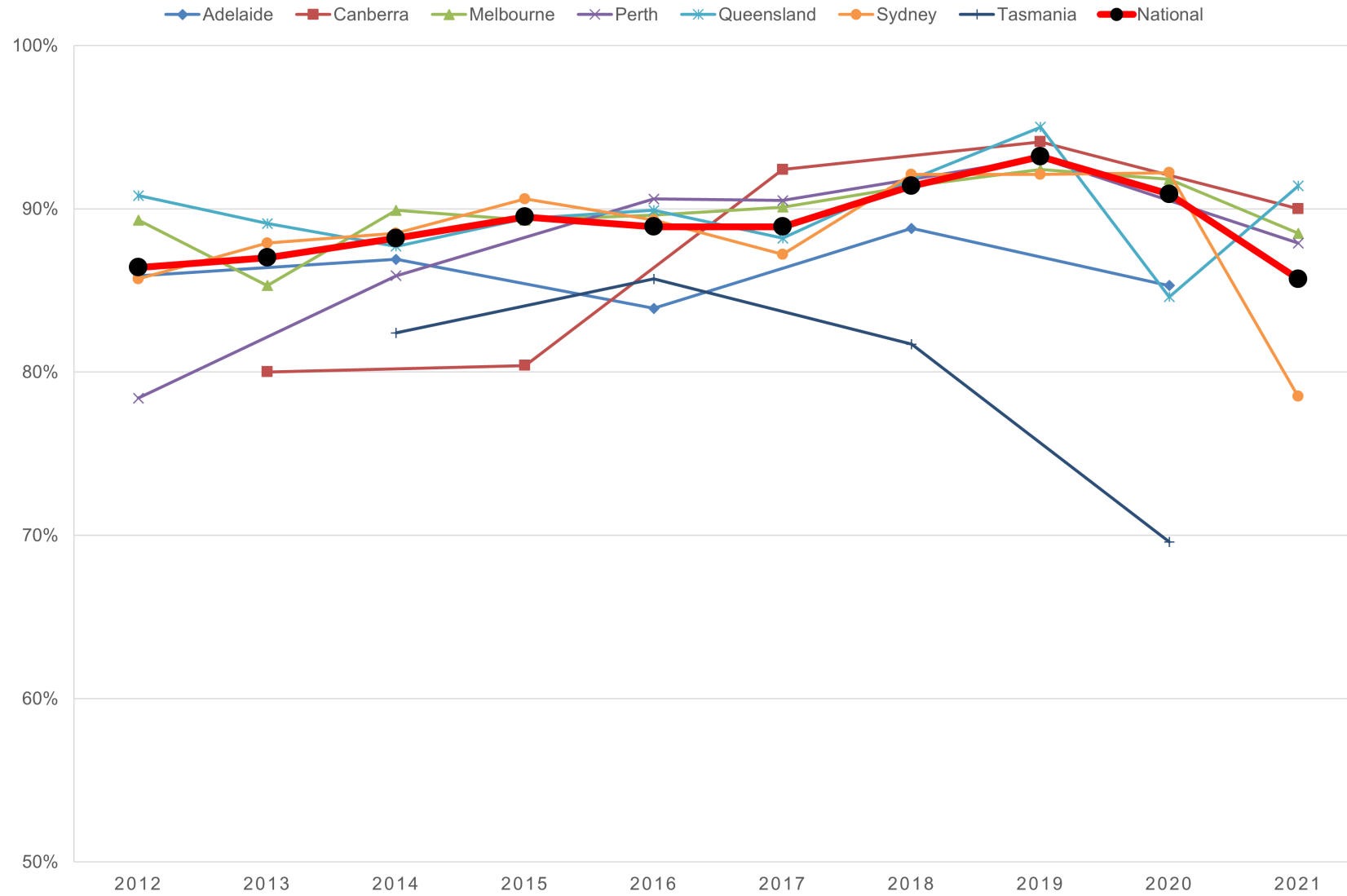


Figure 5: Non-HIV-positive men — Tested for HIV in the 12 months prior to the survey: GCPS, 2012-2021

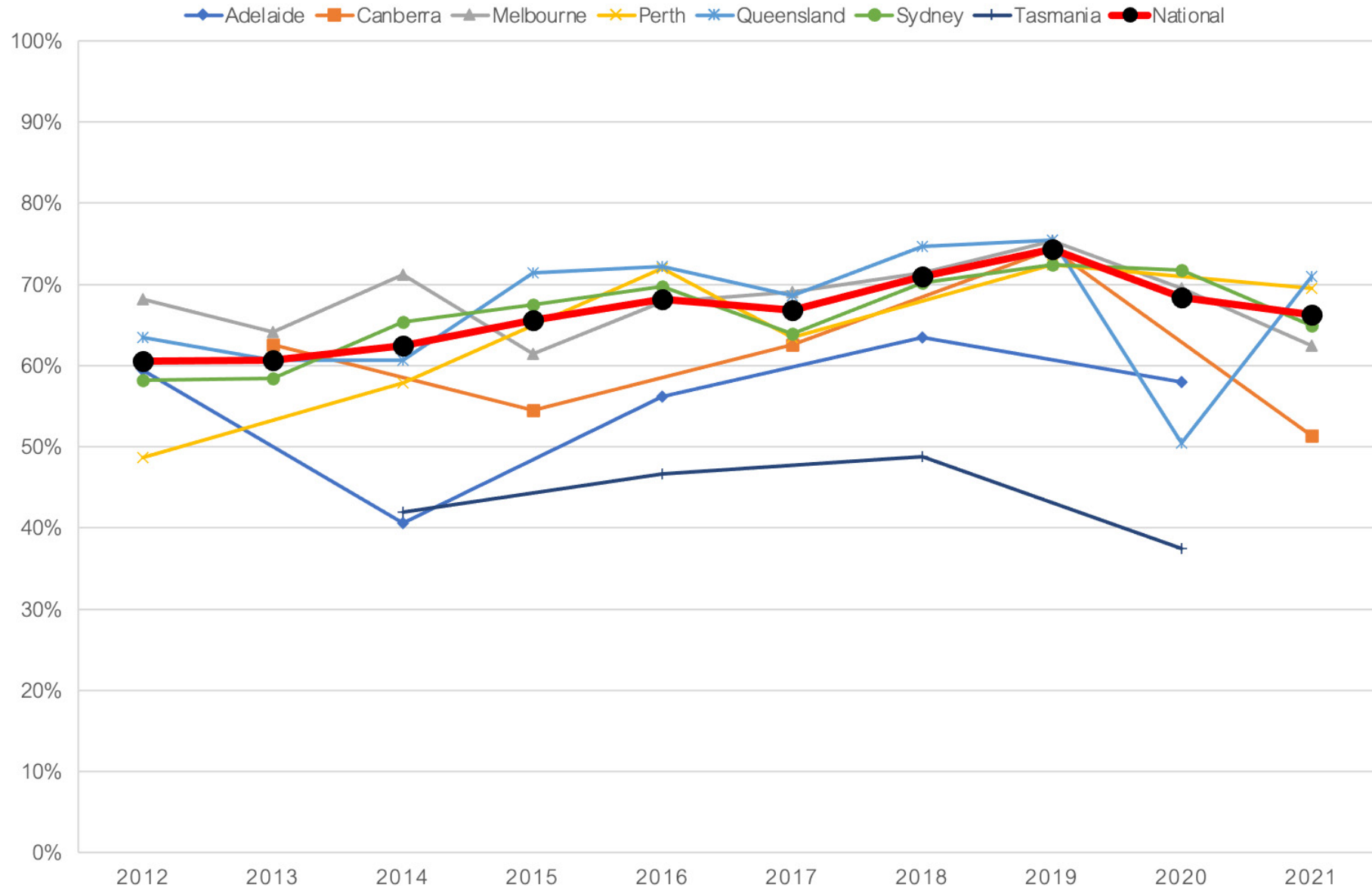


Figure 6: Non-HIV-positive men tested for HIV more than twice in the 12 months prior to the survey: GCPS, 2013-2021

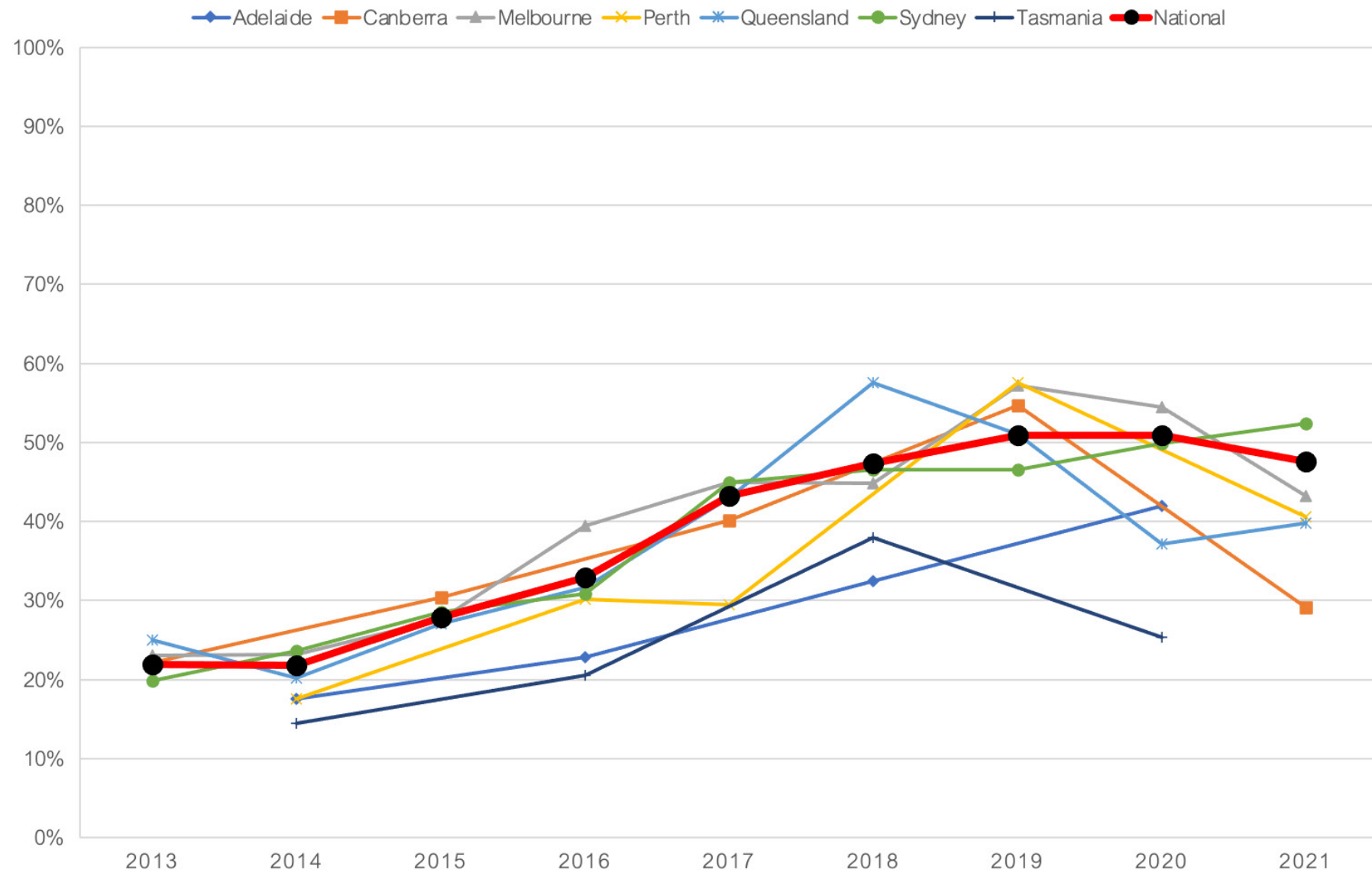


Figure 7: Men tested for STIs at more than three different anatomic sites (comprehensive STI testing) in the 12 months prior to the survey: GCPS, 2012-2021

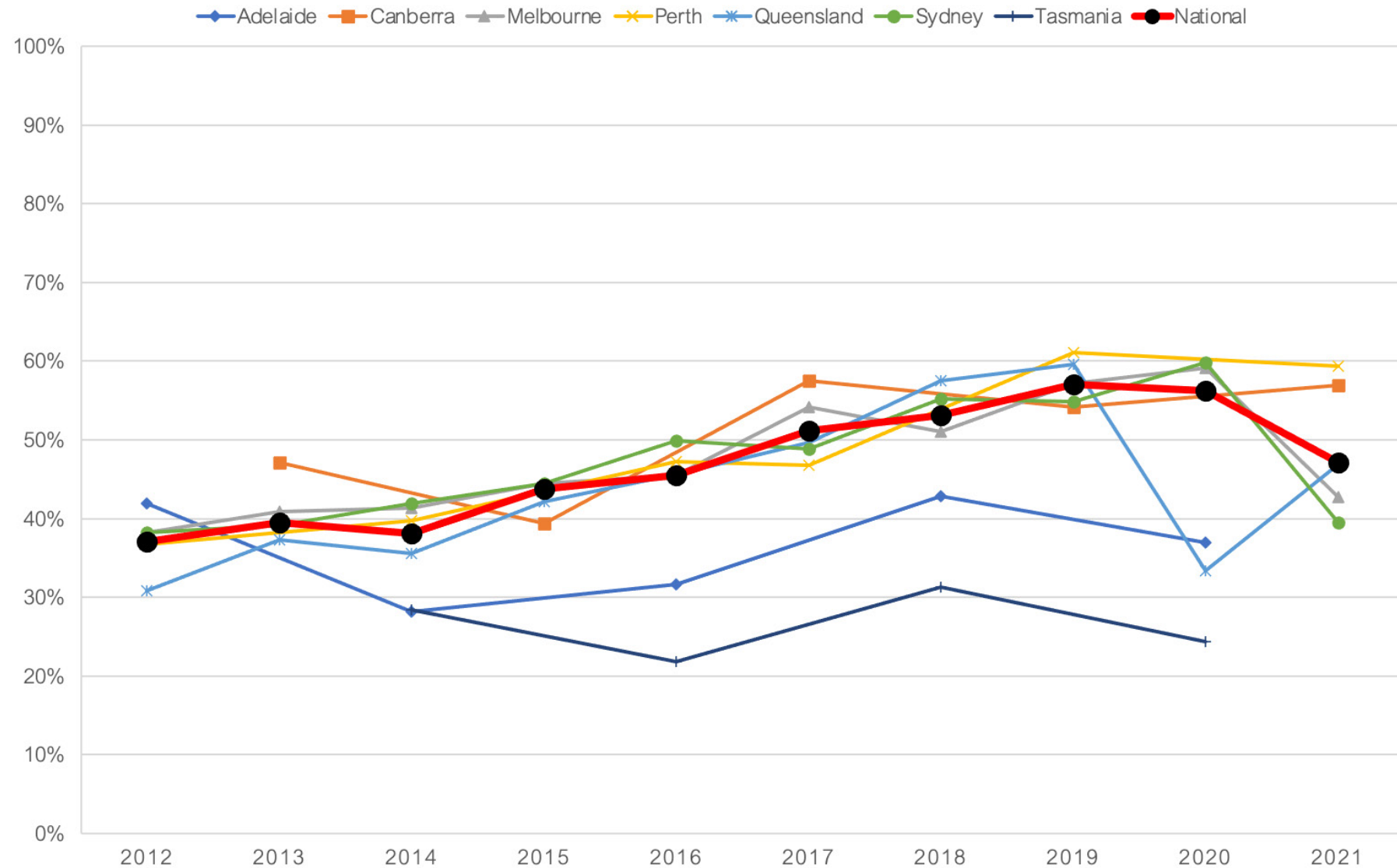


Figure 8: Any STI diagnosis in the 12 months prior to the survey: GCPS, 2012-2021

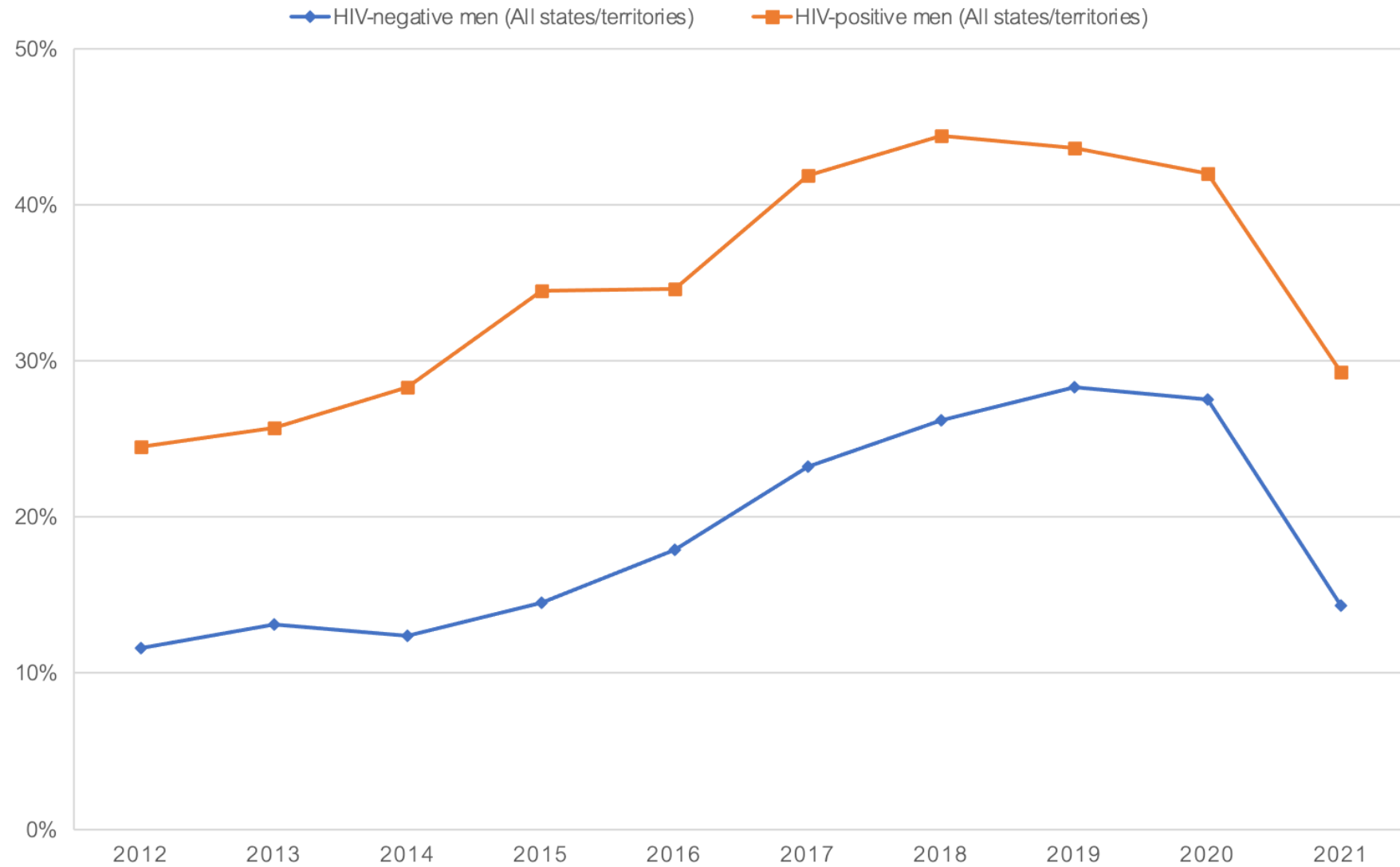


Figure 9: HIV-positive men — Being on antiretroviral treatment: GCPS, 2012-2021

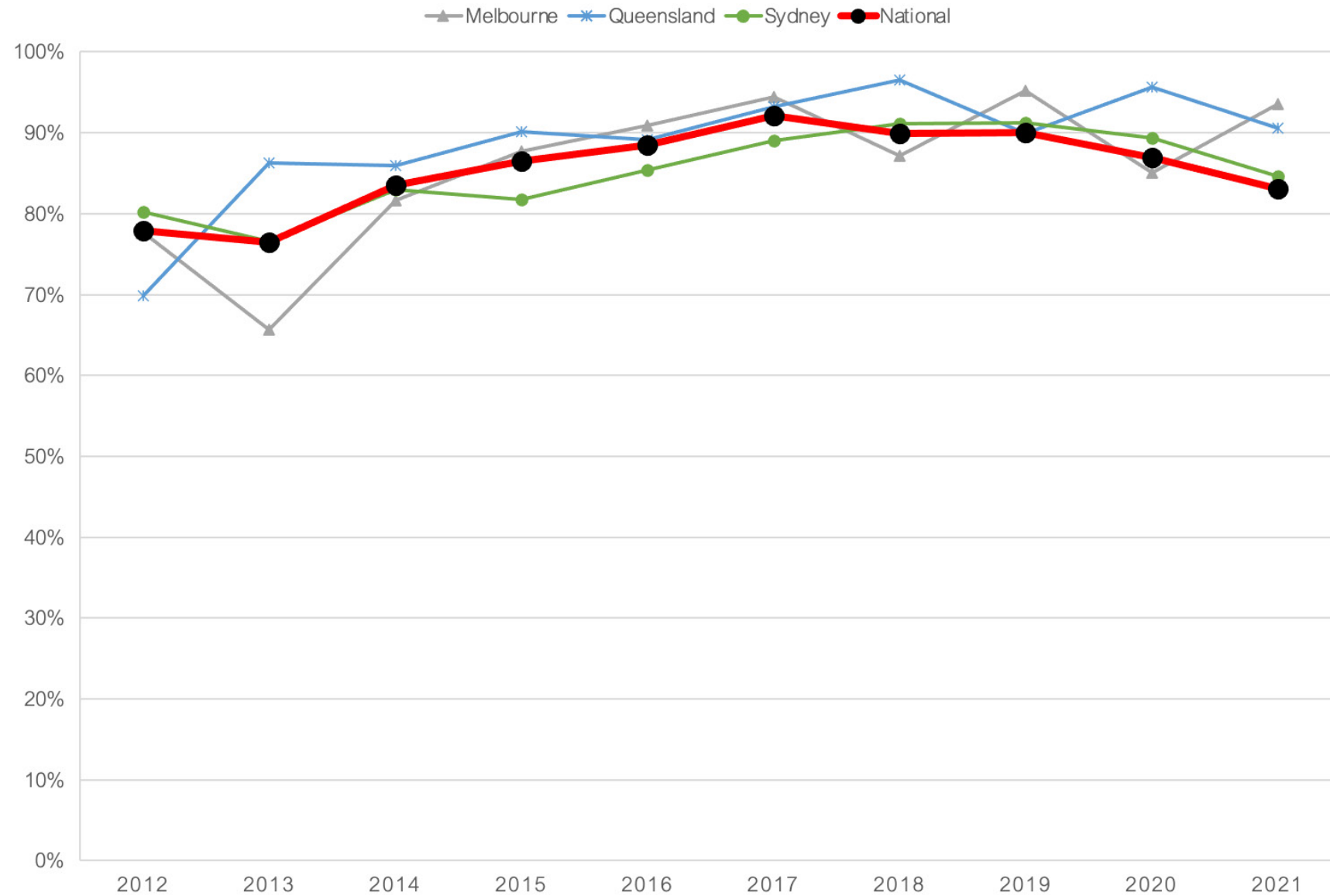


Figure 10: HIV-positive men — Having an undetectable viral load: GCPS, 2012-2021

