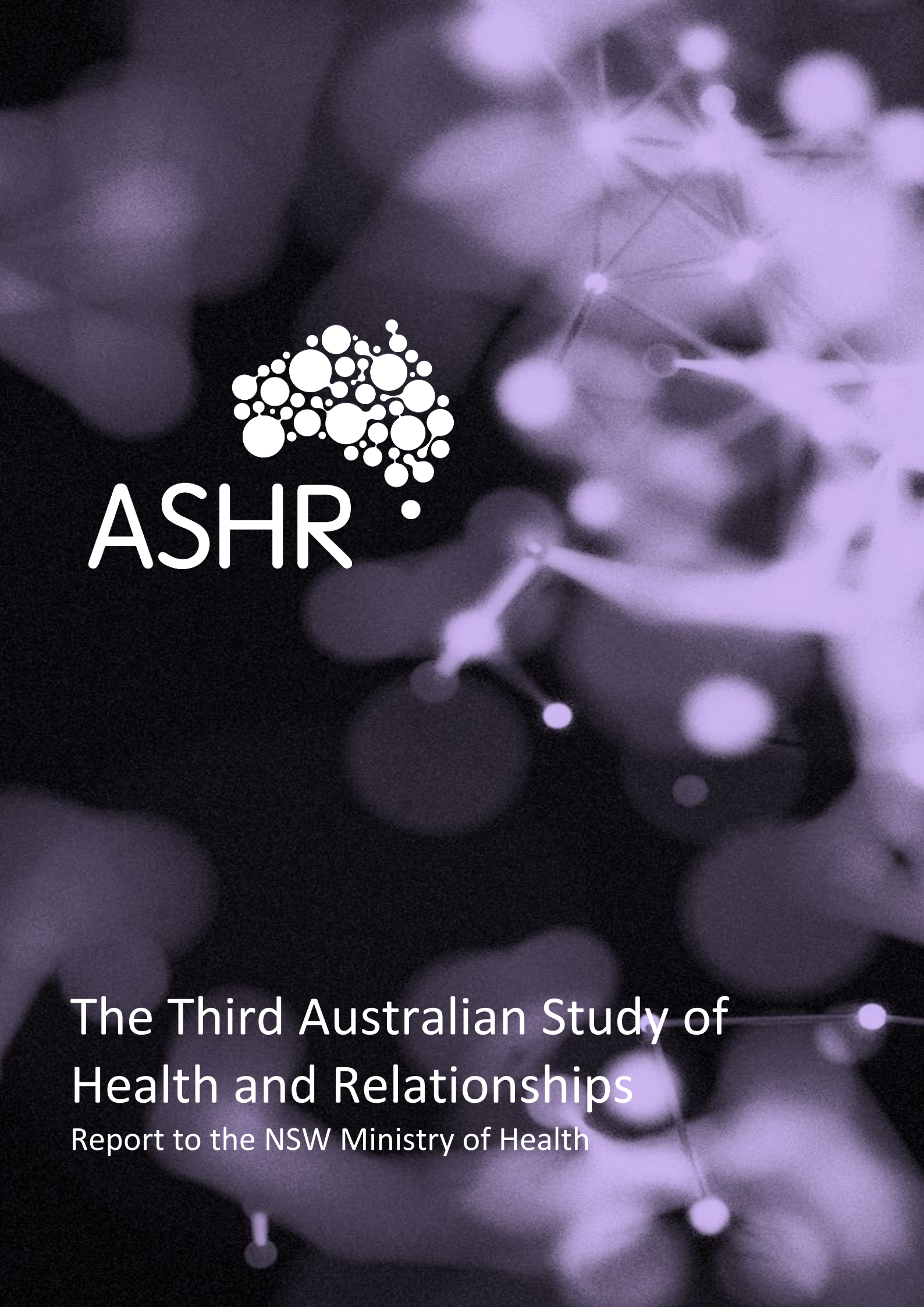
The Third Australian Study of Health and Relationships: Report to the NSW Ministry of Health

Author:
Ogilvie, Erin; McManus, Hamish; Callander, Denton; Guy, Rebecca; Basheer, Eliza; Sullivan, Erin; Walker, Elizabeth; Power, Cherie; Gordon, Tina; ... Bateson, Deborah

Publication Date:
2025-05-06

DOI:
https://doi.org/10.26190/unsworks/31055



The Third Australian Study of Health and Relationships

Report to the NSW Ministry of Health

Prepared by

Erin Ogilvie, Hamish McManus, Denton Callander, Rebecca Guy

Other contributors

NSW Health: Eliza Basheer, Erin Sullivan, Elizabeth Walker, Cherie Power, Tina Gordon

ASHR3: Andrew Grulich, Anna Yeung, Phillip Keen, Richard de Visser, Christopher Fisher, Praveena Gunaratnam, Mo Hammoud, Jane Hocking, Chris Rissel, Cathy Vaughan, Allison Carter, Deborah Bateson

Acknowledgments

This report received feedback from the following individuals and organisations: ACON, Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine, Australian Professional Association for Trans Health, Kirby Institute Aboriginal and Torres Strait Islander Reference Group, LGBTIQ+ Health Australia, NSW Users and AIDS Association (NUAA), and the Scarlet Alliance. We acknowledge their expert input with gratitude.

The Third Australian Study of Health and Relationships (ASHR3) was funded by the National Health and Medical Research Council (project grant APP1160721). Additional follow-up questions and the production of a specific New South Wales report was funded by a grant from NSW Health. We are indebted to the staff of the Social Research Centre for undertaking the interviews and data collection. Expert advice was provided by the transgender team of ACON. We thank especially all ASHR3 study participants who shared the intimate aspects of their lives. We would also like to acknowledge the contributions of Professor Juliet Richters, with thanks for her commitment to making ASHR what it is today.

Acronyms

AAPOR	American Association for Public Opinion Research
ABS	Australian Bureau of Statistics
ACON	ACON
ASHR	Australian Study of Health and Relationships
ASHR1	First Australian Study of Health and Relationships
ASHR2	Second Australian Study of Health and Relationships
ASHR3	Third Australian Study of Health and Relationships
CASI	computer-assisted self-complete interview
CATI	computer-assisted telephone interview
GREG	generalised regression estimators
HIV	human immunodeficiency virus
LinA	Life in Australia™ [online probability panel]
PrEP	pre-exposure prophylaxis—antiretroviral drugs used to reduce the risk of HIV infection before a potential exposure
SRC	Social Research Centre
MSM	men who have sex with men
NSW	New South Wales
ORU	Online Research Unit [online non-probability panel]
RDD	random digit dialling
STI	sexually transmissible infection

CONTENTS

EXECUTIVE SUMMARY

This report is based on an analysis of data from participants recruited to the Third Australian Study of Health and Relationships (ASHR3). This report focuses on NSW, especially findings related to testing for, diagnoses of, related behaviours, and knowledge of HIV and other sexually transmissible infections (STIs). It also documents experiences of and knowledge around sexual health among people living in the state.

ASHR3 is a representative sample. All results are presented as proportions weighted to align with Australian Bureau of Statistics (ABS) data for age, jurisdiction, area of residence (urban, regional, remote), gender, country of birth, educational qualifications, and religious affiliation. The weighting is applicable nationally and for each jurisdiction, including NSW.

The overall sample from ASHR3 comprised 14,537 participants aged 16–69 years across all states and territories. The NSW sample total was 4,460 participants including 2,158 men, 2,258 women, and 44 non-binary people. As weighted proportions, the NSW sample was 48.6% men, 50.5% women, and 1.0% non-binary.

Participants in NSW primarily lived in major cities (76.9%) followed by regional areas (22.7%) and remote parts of the state (0.4%). The study also recruited subsamples of some 'priority populations' as defined by the NSW STI Strategy[1] and the NSW HIV Strategy[2], including Aboriginal and Torres Strait Islander people (4.5% of NSW sample), people of cultural and linguistic diversity (29.1%), active sex workers (0.9%), people who inject drugs (1.9%), and gay, bisexual, and other men who have sex with men (MSM; 4.1%). See Table 1.1.

SEXUALLY TRANSMISSIBLE INFECTIONS

Overall, 12.3% of men, 17.9% of women, and 16.0% of non-binary people in NSW had ever been diagnosed with an STI (Table 2.1). Chlamydia was the most commonly diagnosed (reported by 9.0% of people in the state) followed by genital herpes (4.1%) and genital warts (4.0%; Table 2.2). Regardless of gender and across priority populations, chlamydia was the most commonly reported STI in NSW (Tables 2.4 and 2.5).

Regarding testing, 16.1% of people aged 16-49 years in NSW had ever been tested for STIs, which was similar to the estimated 16.4% of people nationally. There were some differences in STI testing by sociodemographic characteristics, with women more likely than men to report any previous test (17.0% vs 15.5%) and non-binary people the most likely (20.3%; Table 3.3). Aboriginal and Torres Strait Islander people were more likely to have been tested than non-Indigenous people (26.5% vs 15.7%), and testing was higher overall among priority populations.

The majority of people in NSW were tested at general practice clinics, including 73.0% of women and 57.8% of men (Table 3.1). In the state, 52.9% of people had good knowledge of STIs (Table 4.1) while 62.9% had good knowledge of syphilis specifically (Table 4.2).

Among the 10.2% of people in NSW who reported more than one partner in the 12 months prior to participation, 43.7% said they had used a condom for their most recent experience of vaginal or anal sex

[1] NSW Health. (2022). *NSW Sexually Transmissible Infections Strategy: 2022-2026*. Sydney, NSW: NSW Health.
[2] NSW Health. (2020). *NSW HIV Strategy: 2021-2025.* Sydney, NSW: NSW Health.

(Table 5.1). Women were more likely than men to report condom use (53.4% vs 41.1%), while those aged 40-49 years were the least likely compared to other age groups (19.8%).

HIV

In total, 0.4% of people in NSW self-reported living with HIV, while two thirds were unaware of their HIV status (66.4.%). Excluding testing as part of blood donation, 34.9% of people in NSW had been tested for HIV while 7.5% had been tested in the past year (Table 7.1). As with testing for other STIs, HIV testing was predominantly conducted in general practice clinics (72.3% of women and 59.4% of men; Table 7.2).

Most people in NSW accessed HIV testing as a part of a routine check-up (61.2% of men and 50.1% of women; Table 7.3), while among those not tested, perception of 'low risk' was the most common explanation (64.5% of men and 69.6% of women; Figure 7.1). Only a minority of people had ever refused or been refused a test (3.0% and 3.8%, respectively; Table 7.4).

Among gay, bisexual, and other MSM, 68.8% in NSW were aware of HIV pre-exposure prophylaxis (PrEP) as a prevention option; 20.2% reported recent use (Table 8.1). In NSW, most men used PrEP episodically (55.1%) rather than daily (37.1%), which contrasted with national estimates (47.0% episodic and 49.5% daily). Bisexual and other MSM had lower knowledge of PrEP compared with gay-identified men (53.1% vs 84.9%) and were also less likely to report recent use (9.8% vs 25.8%; Table 8.2).

EXPERIENCES AND KNOWLEDGE

In NSW, 48.8% of people said they had ever discussed sexual health with a healthcare provider, which was similar to the national estimate of 49.0%. The majority of such discussions were reported as patient-initiated (83.2%). Nearly one third of people said they were uncomfortable with such discussions (31.7%; Table 9.1).

Regarding attitudes towards sexuality and sexual health, most people in NSW viewed sex-before-marriage, same-gender sex (i.e., sex between two men or two women), and abortion as acceptable (Table 10.1). Men – especially younger men – tended to view these issues as less acceptable than other groups (Table 10.2). Having sex outside of an existing committed relationship ('an affair') was viewed as unacceptable by three quarters of participants.

Sex education at school was very common among people in NSW, reported by 88.1% of men and 85.8% of women aged 16-39 years (Table 11.1). Sex education was less common among those from culturally or linguistically diverse backgrounds than other people in Australia (74.7% vs 93.9%). In terms of the content, the majority of people in NSW reported learning about condoms and contraception (88.3%) via sex education (Table 11.2). Less common, however, was sex education that involved issues of consent (reported by 57.1% of people in NSW). Sex education around consent was much more commonly reported by those aged 16-19 years compared to those aged 30-39 years (88.0% vs 51.1%).

CONCLUSIONS

People in NSW have practices, behaviours, and knowledge of sexual health (including HIV and STIs) that are largely similar to the overall Australian population. Although STI diagnoses are common (especially chlamydia), these results suggest that testing for STIs could be improved in NSW including among 'priority populations' with unique risks for these infections. Adopting an explicitly intersectional approach – including by looking at overlapping risks and opportunities among priority and other populations – could help enrich future research and intervention.

While knowledge of STIs among people in NSW is generally good, there remain opportunities for improvement, especially among priority populations. Condom use among those with multiple sexual partners was low, suggesting the need for ongoing emphasis on primary prevention in the state.

Only one third of people in NSW reported some previous test for HIV. While HIV testing rates were higher among priority populations, these results suggest there is still room for further development. As routine check-ups remain popular sites of both HIV and STI testing, enhanced capacity building for around offering tests – especially with general practitioners – may be warranted.

Although NSW has invested substantially in PrEP over the past five years, there is still a large proportion of gay, bisexual, and other MSM that could benefit from this option but remain unaware. Efforts to increase awareness and uptake of biomedical HIV prevention should be continued and expanded, especially among bisexual men and other MSM who do not identify as gay.

Sexual health occurs within a broader context of experiences and attitudes. Though most people in NSW have accepting attitudes towards diverse expressions of sexuality, many remain uncomfortable about seeking and discussing sexual healthcare. Young men in particular seem uncomfortable about issues of reproductive health. Further and targeted efforts to de-stigmatise sexual and reproductive health is vital towards establishing it as a recognised and respected part of overall health and well-being.

Also, while sex education in schools is commonly reported in NSW, it is less common among people of cultural and linguistically diverse backgrounds. These findings highlight an ongoing need to engage and inform these communities with culturally appropriate messages. Similarly, messages around consent should be reinforced via sex education not only in schools but across the lifespan.

Finally, the NSW LGBTQ+ Health Strategy indicates that "dissemination of data on the healthcare experiences of transgender and gender diverse people is vital to improving health outcomes" [3]. To that end, this report disaggregates key outcomes among transgender and non-binary people; results suggest these populations often have experiences unique to their cisgender peers, including in terms of testing and diagnoses. As Australia's most recent national HIV strategy incorporates transgender people as a priority population[4], future HIV and STI strategies in NSW should also consider how to best include these populations.

[3] NSW Health. (2022). *NSW LGBTQ+ Health Strategy 2022-2027.* Sydney, NSW: NSW Health.

[4] Australian Department of Health and Aged Care. (2024). *Ninth National HIV Strategy 2024-2030*. Canberra, ACT: Australian Department of Health.

INTRODUCTION

BRIEF HISTORY OF ASHR

In 1998, the National Health and Medical Research Council (NHMRC) funded the pilot study for the Australian Study of Health and Relationships (ASHR). This study was the first large national representative-sample survey of sexual behaviour ever conducted with the Australian population.

The main study (ASHR1) was conducted in 2001–2002 and recruited 19,307 participants aged 16–59 years, who were randomly selected from households across Australia. It was conducted by computer-assisted telephone interview using landline phone numbers only [5]. The Second Australian Study of Health and Relationships (ASHR2) was conducted 10 years later in 2011-2013 and recruited 20,094 people aged 16–69 years across Australia [6].

Development of the Third Australian Study of Health and Relationships (ASHR3) commenced in 2019, was implemented in 2023-2024, and recruited a total of 14,537 participants aged 16-69 years. ASHR3 was designed to maximise comparability both over time and with other national and international studies.

Spanning more than 20 years, ASHR is an important resource of representative data on holistically defined sexual and reproductive health. For the past two decades, findings from these studies have informed the work of national and international researchers, clinicians, health policymakers and education providers.

REPORT FOR NSW HEALTH

The NSW Ministry of Health commissioned this report to provide insight on HIV and other STIs among a representative sample of people living across the state. To that end, this report includes data on sexual health and sexual healthcare, including diagnoses, testing, and knowledge of HIV and other STIs.

[5] Smith, A. M. A., Rissel, C. E., Richters, J., Grulich, A. E., & de Visser, R. O. (2003). Sex in Australia: The rationale and methods of the Australian Study of Health and Relationships. *Australian and New Zealand Journal of Public Health, 27*, 106–117.
[6] Richters, J., Badcock, P. B., Simpson, J. M., Shellard, D., Rissel, C., de Visser, R. O., Grulich, A. E., & Smith, A. M. A. (2014). Design and methods of the Second Australian Study of Health and Relationships. *Sexual Health, 11*(5), 383–396.

METHODS

STUDY DESIGN & SAMPLE

ASHR is a repeated cross-sectional population survey, which uses mathematical weighting to achieve a 'representative sample'. Participation in the study was limited to people living in Australia at the time of participation who were aged 16-69 years. The survey was only offered in English, so participants had to be able to converse and offer consent in English.

DATA COLLECTION

ASHR3 comprised two separate but linked surveys. Data collection for the first survey (referred to in this report as the 'main survey') took place from 14 March 2023 to 22 January 2024. This timeline of data collection was adjusted with consideration for the COVID-19 pandemic, as recruitment was initially scheduled for during the main lockdown period.

The main survey had three separate modes of administration. The first mode was computer-assisted telephone interviews (CATI), during which an interviewer administered the survey over the telephone. Only mobile numbers were targeted, with 50% identified through random dialling and 50% through listed directories. Of the 30,181 numbers for which contact was established, 7,767 were identified as eligible. Of these, 7,227 completed the survey via CATI, representing a cooperation rate of 93.1% [7].

The second mode of administration for the main survey was via an existing online probability panel, established and maintained by the Social Research Centre of Australian National University [8]. This panel was designed to be representative of key sociodemographic features in Australian society. For this section, the survey was self-administered via an anonymous online instrument. Of the 7,902 panel members eligible to take part, 5,607 completed the main survey instrument (a completion rate of 66.5%).

The third mode of administration was via an existing non-probability online panel. Also managed by the Social Research Centre and self-administered online, this panel represented a stratified convenience sample designed to increase sociodemographic characteristics underrepresented in the other modes. For example, slightly fewer men than women participated in the CATI and online probability panel, resulting in more being included via this third option. In total, 1,704 people completed the main survey via this panel.

The second survey (referred to in this report as the 'follow-up survey') was an optional survey delivered after the main survey. It was sent to all participants who consented to further contact via email or text message, with a link directly to the survey instrument for self-administration. In total, 7,660 people completed the follow-up survey representing a completion rate of 53.7%. Responses to the main and follow-up survey were linked.

A summary of the samples for each survey and mode of administration is provided in Table i.1. To provide information on the underlying sample size, in this report each table indicates if a particular indicator was included in the main or follow-up survey.

[7] The American Association for Public Opinion Research. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. 7th ed. Deerfield, IL: AAPOR; 2011

[8] https://srcentre.com.au/lifeinaustralia/panel/

Table i.1 Sample size for ASHR3 in NSW and Australia, by survey and mode of administration

	Australia (n)	NSW (n)
Main survey	**14,537**	**4,460**
- CATI	7,226	2,219
- Probability panel	5,607	1,729
- Non-probability panel	1,704	512
Follow-up survey	**7,760**	**2,364**

SURVEY INSTRUMENTS

The main and follow-up surveys were developed in close collaboration with a range of experts and stakeholders on sexual health, reproductive health, and population health. The survey was redesigned from previous waves to maximise inclusion of Australia's diverse communities. At the same time, care was taken to ensure the instrument was sufficiently short so as to retain participants to the final item. The main survey tool underwent significant pilot testing and revision, which helped increase acceptability, feasibility, and data quality. The main and follow-up survey instruments can be accessed via the study website[9].

EVOLVING METHODS & DATA QUALITY

As a longitudinal study spanning more than 20 years, ASHR has and continues to evolve methodologically. While in the original study participants were identified through random dialling of landline telephones, in the second wave this method was updated to include 50% landline numbers and 50% mobile numbers. This historical change reflected the rising popularity of mobile phones, a change in telecommunications that the study had to recognise and incorporate.

Today, the need for flexibility and change is reflected in latest recruitment and sampling strategy. It was simply not feasible to recruit a large representative sample only by telephone, hence the introduction of additional panel-based recruitment. Reconciling the data between different modes of recruitment has been a major priority for ASHR3, with numerous post-hoc data quality and sensitivity analyses undertaken. Specifically, all study variables were compared between the modes of administration and any significant differences were investigated. In total, data were excluded for around 1.5% of participants in the non-probability panel for whom key outcome variables differed too significantly from the other more representative samples. No other irregularities have been uncovered.

Further, the Social Research Centre employed a range of data quality assurance processes aligned with best-practice consumer research guidelines and data governance standards. Some in-field quality monitoring techniques applied to ASHR included:

- Monitoring (by remote listening) of each interviewer within their first three shifts, whereby the supervisor listened in to at least 75 per cent of the interview and provided comprehensive feedback on data quality issues and respondent liaison technique
- Rigorous checking of the questionnaire in 'practice mode' by SRC project coordinators and supervisors, including checks of the on-screen "presentation" of questions and response frames on a range of devices
- Randomly allocating dummy data to each field in the questionnaire and examining the resultant frequency counts to check the structural integrity of the script
- Validation via remote monitoring covering the interviewer's approach and commitment gaining skills, as well as the conduct of the interview

[9] https://ashr.edu.au/ashr3/survey

- Field team de-briefing whenever there was important information to impart to the field team in relation to data quality, consistency of interview administration, techniques to avoid refusals, appointment making conventions or project performance
- Examination of verbatim responses to 'other specify' questions
- Monitoring the interview to refusal ratio by interviewer
- An end of survey de-briefing.

For the self-administered online survey, other common quality checks were applied. For example, time-to-completion was used to identify and remove unlikely responses (i.e., people who completed too quickly). Further checks of satisficing included invalid responses to verbatim responses, 'straight-lining' matrix questions, and others.

ANALYSES

As noted, all ASHR3 variables have been appropriately weighted against data from the 2021 Census conducted by the Australian Bureau of Statistics. This weighting process account for mode of administration alongside age, gender, region, level of education, religious affiliation, and other key sociodemographic features. Generally, post-hoc analyses of the weighting procedure found that it produced small but not significant changes to most variable outcomes, suggesting the initial sampling strategy was able to approach representation of the Australian population.

In this report, key outcome variables are reported as weighted proportions with 95% confidence intervals (95%CI). The confidence intervals consider the relative size of a sample or subsample along with the relative frequency of an outcome. Generally, all indicators are presented for the overall sample in Australia and for the sample specific to NSW. They have been presented using standardised strata developed in collaboration with key stakeholders, except where small subsample sizes would make this inappropriate or impossible.

INTERPRETATION

Any comparison of outcomes between subsamples should consider the 95% confidence intervals provided for each estimate. These intervals incorporate the uncertainty of any estimate relative to a range of factors, most notably subsample size. If the intervals between two subsamples overlap, it is difficult to say if there is a 'difference' between the estimated proportional outcomes. This consideration is especially important for subsamples with a small number of participants, including priority populations. Thus, ***any reliable interpretation must incorporate the weighted proportions and the associated confidence intervals.***

SAMPLE DETAILS

The study recruited a diverse sample of people living in Australia, including from every state and territory. Mathematical weighting was applied to align key sociodemographic variables with the overall Australian population. This process created a 'representative sample' to which we apply standard strata for organising all primary outcome variables. The study comprises 14,537 participants total, including 4,460 in NSW.

The strata detailed in this report were decided collaboratively and in consultation with sexual health experts and organisations representing the interests of groups including LGBTQ+ people, Aboriginal and Torres Strait Islanders, people who use drugs, people living with HIV, sex workers, racial and ethnic minorities, and others.

The sample details for ASHR3 across Australia and in NSW are detailed in Table 1.1. Considerations for some population strata are as follows:

- *Age* is grouped by decade and as self-reported at the time of participation. The overall ASHR3 sample was aged 16-69 years, but some items were restricted just to those aged 16-49 years. Where any restrictions are applied, this is noted in the table footnotes.
- *Gender* is stratified into three categories, namely men, women, and non-binary. Men and women included both cisgender and transgender people, while non-binary included those who self-identified as non-binary, agender, genderfluid, or some other form of gender diversity [10]. Experiences of gender are further defined as cisgender (i.e., the sex presumed at birth was the same as reported gender) or transgender (i.e., the sex presumed at birth was different than reported gender).
- *Location* is stratified using Accessibility and Remoteness Index of Australia (ARIA+) [11], which used participant postcodes to assign area of residence as a major city, regional area (including inner and outer regional), or remote area (including remote and very remote).
- *Indigenous status* is stratified dichotomously, which includes those who identified as Aboriginal, Torres Strait Islanded, or both. This simplified grouping was done to reflect the small subpopulation sizes between each of the three possible combinations.
- *Priority populations* defined as those with unique sexual health considerations, including:
    - *Culturally and linguistically diverse (CALD) people*, which per the Australian Bureau of Statistics [12] comprises those born in a non-English majority country and/or those who report speaking a language other than English at home,
    - *Sex workers* refers to those who report this practice in the 12 months prior to participation,
    - *People who inject drugs* refers to those who report this practice at least once in the 12 months prior to participation, and
    - *Gay, bisexual, and other men who have sex with men (MSM),* which is men who self-identified as gay or bisexual or reported sex with another man in the 12 months prior to participation.

In NSW, the sample included 920 CALD participants (29.1% weighted proportion). Among CALD participants, the most common countries of birth were India (12.1% of CALD participants) and China (9.0%), while by region most born outside Australia came from Asia/South Pacific (33.7%), Europe (10.3%), Africa/Middle East (5.2%), North America (3.6%), and South America (1.1%). Other than English, the most common languages spoken at home were Cantonese 10.0%), Arabic (4.3%), and Bengali (3.7%).

[10] Callander D, et al. *The complexities of categorising gender: A hierarchical clustering analysis of data from the First Australian Trans & Gender Diverse Sexual Health Survey.* Trans Health, 2021; 6(2).
[11] https://www.abs.gov.au/statistics/standards/australian-statistical-geography-standard-asgs-edition-3/jul2021-jun2026/remoteness-structure/remoteness-areas
[12] https://www.abs.gov.au/statistics/standards/standards-statistics-cultural-and-language-diversity/latest-release

In NSW, data were collected from 30 sex workers (0.9% weighted), 83 people who inject drugs (1.9% weighted), and 224 gay, bisexual and other MSM (4.1% weighted). More specifically, 123 men identified as gay, 90 as bisexual, and 11 as neither but reported sex with other men. There were also 71 transgender-identified participants from NSW (1.4% weighted) and 207 Aboriginal and/or Torres Strait Islander people (4.5% weighted). While there are other populations for whom sexual and reproductive health are pressing issues, this report focuses on these groups with consideration of sample size, infection risk, and study scope.

It is important to note that priority populations are not mutually exclusive categories. Indeed, there was considerable overlap between groups. For example, among sampled sex workers in NSW, 47.7% were CALD, 37.0% were gay, bisexual or other MSM, and 26.5% were people who inject drugs. Given this overlap and the small sample sizes for some groups, ***results should be interpreted with caution and with consideration for the confidence intervals.***

Table 1.1 Sociodemographic and other sample characteristics of ASHR3 in NSW and Australia

	Weighted proportion (95%CI)	
	Australia	NSW
Age category		
16-19 years	4.6 (4.2-5.1)	5.1 (4.3-6.1)
20-29 years	19.3 (18.5-20.1)	19.3 (17.9-20.9)
30-39 years	22.4 (21.6-23.3)	22.5 (21.0-24.0)
40-49 years	18.5 (17.8-19.4)	18.5 (17.1-19.9)
50-59 years	17.8 (17.1-18.6)	16.8 (15.5-18.2)
60-69 years	17.2 (16.5-18.0)	17.9 (16.6-19.3)
Gender		
Man	48.6 (47.6-49.7)	48.6 (46.7-50.4)
Woman	50.2 (49.2-51.2)	50.5 (48.6-52.3)
Non-binary	1.1 (0.9-1.4)	1.0 (0.7-1.4)
Gender experience		
Cisgender	98.3 (98.0-98.5)	98.6 (98.1-98.9)
Transgender	1.7 (1.5-2.0)	1.4 (1.1-1.9)
Location		
Major City	72.4 (71.4-73.3)	76.9 (75.3-78.3)
Regional	24.9 (24.0-25.8)	22.7 (21.3-24.3)
Remote	1.4 (1.2-1.7)	0.4 (0.2-0.7)
Indigenous status		
Non-Indigenous	95.8 (95.4-96.2)	95.1 (94.3-95.8)
Aboriginal / Torres Strait Islander	3.8 (3.5-4.2)	4.5 (3.9-5.3)
Priority populations		
CALD	26.2 (25.2-27.2)	29.1 (27.3-30.9)
Sex work	0.7 (0.6-0.9)	0.9 (0.6-1.3)
Injecting drug use	1.9 (1.7-2.2)	1.9 (1.5-2.4)
Gay, bisexual, other MSM	3.7 (3.3-4.0)	4.1 (3.5-4.7)

SEXUALLY TRANSMISSIBLE INFECTIONS

DIAGNOSES

Overall, 15.0% of people in NSW had ever been diagnosed with an STI (95%CI: 13.4-16.7) while 2.0% reported a diagnosis 'recently' within the 12 months prior to participation (95%CI: 1.4-2.8). STI diagnoses were similar nationally, with 15.2% of people in Australia reporting any in their lifetime (95%CI: 14.3-16.2) and 1.8% reporting one recently (95%CI: 1.5-2.2). Table 2.1 provides further detail.

In NSW, recent STI diagnoses were most common among those aged 20-29 years (3.3%) and least common among those aged 16-19 years (1.4%). By gender, recent diagnoses were higher among men than women (2.4% vs 1.7%), but women were more likely to report a lifetime STI diagnosis (17.4% vs 13.1%). No transgender people in NSW reported a recent STI, although lifetime diagnoses among this population were 11.3% (compared with 15.1% among cisgender people in the state).

Priority populations in NSW had higher prevalences of recent STIs than the overall sample. While 2.0% of people in NSW reported a recent STI, this was the case for 32.6% of sex workers, 22.9% of people who inject drugs, and 16.1% of gay, bisexual, and other MSM. As noted, the small subsample sizes for these groups means that all proportions should be interpreted with caution and with consideration for the confidence intervals provided in Table 2.1.

Chlamydia was the most reported STI in NSW, with a lifetime prevalence of 8.6% among men and 9.7% among women. For priority populations, chlamydia and public lice were the most common reported by sex workers (28.8% and 29.9% lifetime prevalence, respectively). Among people who inject drugs, chlamydia and gonorrhoea were the most common (15.4% each lifetime prevalence), while chlamydia was the most common among gay, bisexual, and other MSM (10.2% lifetime prevalence).

Figure 2.1 Lifetime and recent diagnoses of bacterial STIs in NSW (see Table 2.2 for full details)

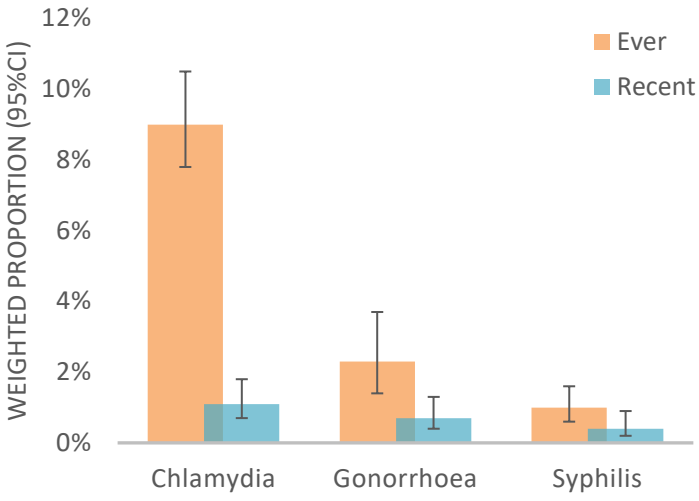


Table 2.1 Lifetime and recent diagnoses of STIs in NSW and Australia, by sociodemographic characteristics [a b]

	Weighted proportion (95%CI)			
	Ever had an STI		Recent (prior 12m)	
	Australia	NSW	Australia	NSW
Age category				
16-19 years	5.0 (3.1-8.1)	1.4 (0.4-5.6)	2.8 (1.4-5.4)	1.4 (0.4-5.6)
20-29 years	12.6 (11.0-14.4)	12.5 (9.7-16.0)	2.6 (1.9-3.5)	3.3 (2.0-5.6)
30-39 years	17.1 (15.6-18.7)	17.3 (14.6-20.4)	1.6 (1.1-2.4)	1.6 (0.8-3.1)
40-49 years [b]	17.2 (15.5-19.1)	17.0 (14.2-20.3)	1.2 (0.8-1.8)	1.5 (0.8-2.8)
Gender				
Man	13.1 (11.9-14.4)	12.3 (10.3-14.6)	1.9 (1.4-2.5)	2.4 (1.6-3.7)
Woman	17.4 (16.0-18.8)	17.9 (15.5-20.7)	1.6 (1.2-2.2)	1.7 (1.0-2.9)
Non-binary	20.6 (13.2-30.8)	16.0 (6.1-35.8)	1.6 (0.4-6.5)	--
Gender experience				
Cisgender	15.3 (14.4-16.2)	15.1 (13.5-16.9)	1.8 (1.4-2.2)	2.1 (1.5-2.9)
Transgender	17.4 (11.8-24.8)	11.3 (4.3-26.3)	3.3 (1.4-7.4)	--
Location				
Major City	14.8 (13.8-15.9)	14.5 (12.7-16.4)	1.7 (1.4-2.2)	1.9 (1.3-2.9)
Regional	17.0 (14.9-19.3)	18.0 (14.3-22.5)	2.1 (1.4-3.2)	2.4 (1.3-4.6)
Remote	18.3 (11.5-27.8)	8.8 (1.2-44.4)	2.3 (0.7-7.1)	--
Indigenous status				
Non-Indigenous	15.1 (14.2-16.1)	15.2 (13.6-17.0)	1.8 (1.5-2.2)	2.1 (1.5-3.0)
Aboriginal / Torres Strait Islander	20.0 (15.5-25.4)	12.0 (6.7-20.7)	1.7 (0.8-3.8)	--
Priority populations				
CALD	11.1 (9.5-13.0)	9.6 (7.2-12.7)	1.9 (1.3-2.9)	1.4 (0.5-3.4)
Sex workers	44.8 (33.0-57.2)	48.8 (29.3-68.7)	26.2 (16.7-38.6)	32.6 (16.0-55.0)
People who inject drugs	49.4 (41.5-57.4)	37.5 (24.7-52.3)	16.1 (10.9-23.3)	22.9 (12.5-38.1)
Gay, bisexual, other MSM	34.4 (29.3-39.9)	35.5 (26.9-45.2)	10.3 (7.2-14.6)	16.1 (9.7-25.5)

a. Included in main survey
b. Asked only of participants aged 16-49 years

Table 2.2 Lifetime and recent diagnoses of STIs and related complications in NSW and Australia [a b]

	Weighted proportion (95% CI)			
	Lifetime		Recent (prior 12m)	
	Australia	NSW	Australia	NSW
Any STI	15.2 (14.3-16.2)	15.0 (13.4-16.7)	1.8 (1.5-2.2)	2.0 (1.4-2.8)
Pubic lice	3.4 (3.0-3.9)	3.1 (2.4-4.1)	0.6 (0.4-0.9)	0.7 (0.4-1.4)
Genital warts	4.4 (3.9-5.0)	4.0 (3.2-5.0)	0.7 (0.5-1.0)	0.8 (0.4-1.4)
Chlamydia	9.2 (8.5-9.9)	9.0 (7.8-10.5)	0.9 (0.7-1.2)	1.1 (0.7-1.8)
Gonorrhoea	2.1 (1.7-2.5)	2.3 (1.6-3.1)	0.4 (0.3-0.6)	0.7 (0.4-1.3)
Syphilis	1.0 (0.7-1.3)	1.0 (0.6-1.6)	0.3 (0.1-0.5)	0.4 (0.2-0.9)
Pelvic inflammatory disease [c]	2.0 (1.5-2.6)	2.3 (1.4-3.7)	0.5 (0.3-1.0)	0.7 (0.3-1.9)
Genital herpes [d]	3.5 (3.1-4.0)	4.1 (3.2-5.1)	-	-

a. Included in main survey
b. Asked only of participants aged 16-49 years
c. Asked only of cisgender women
d. Asked about lifetime diagnosis only

Table 2.3 Lifetime and recent diagnoses of STIs and related complications in NSW, by gender [a b]

	Weighted proportion (95% CI)			
	Lifetime		Recent (prior 12m)	
	Men	Women	Men	Women
Any STI	12.1 (10.2-14.4)	17.8 (15.4-20.5)	2.4 (1.5-3.7)	1.7 (1.0-2.9)
Pubic lice	4.0 (2.9-5.5)	2.3 (1.5-3.7)	0.9 (0.4-1.9)	0.6 (0.2-1.8)
Genital warts	2.9 (2.1-4.2)	5.2 (3.9-6.9)	0.6 (0.3-1.5)	1.0 (0.4-2.2)
Chlamydia	8.6 (6.9-10.6)	9.7 (7.9-11.9)	1.4 (0.8-2.5)	0.9 (0.4-2.0)
Gonorrhoea	3.2 (2.2-4.6)	1.2 (0.6-2.3)	1.0 (0.5-1.9)	0.4 (0.1-1.8)
Syphilis	1.5 (0.9-2.4)	0.5 (0.1-1.7)	0.3 (0.1-0.9)	0.4 (0.1-1.8)
Pelvic inflammatory disease [c]	--	2.1 (1.3-3.5)	--	0.7 (0.3-1.9)
Genital herpes [d]	1.7 (1.0-2.7)	6.5 (5.0-8.4)	--	--

a. Included in main survey
b. Asked only of participants aged 16-49 years
c. Asked only of women
d. Asked about lifetime diagnosis only

Table 2.4 Lifetime diagnoses of STIs and related complications in NSW, by priority population [a b]

	Weighted proportion (95%CI)				
	CALD [c]	Sex workers	People who inject drugs	Gay, bisexual, other MSM	Others [d]
Any STI	9.6 (7.2-12.7)	48.8 (29.3-68.7)	37.5 (24.7-52.3)	35.3 (26.7-45.1)	2.0 (1.4-2.8)
Pubic lice	2.5 (1.4-4.4)	39.1 (21.1-60.7)	20.0 (10.4-35.1)	19.5 (13.3-27.7)	0.7 (0.4-1.4)
Genital warts	2.1 (1.1-3.9)	29.6 (13.5-53.0)	19.7 (10.2-34.8)	10.7 (5.9-18.7)	0.8 (0.4-1.4)
Chlamydia	6.8 (4.8-9.7)	39.1 (21.1-60.6)	29.4 (17.5-44.8)	27.7 (19.7-37.3)	1.1 (0.7-1.8)
Gonorrhoea	1.9 (1.0-3.9)	37.7 (20.0-59.4)	15.4 (6.9-30.8)	22.8 (15.6-32.1)	0.7 (0.4-1.3)
Syphilis	1.1 (0.4-2.9)	31.6 (15.1-54.5)	14.3 (6.1-30.0)	11.1 (6.5-18.3)	0.4 (0.2-0.9)
Pelvic inflammatory disease [e]	3.4 (1.6-7.3)	50.4 (15.8-84.6)	17.6 (4.5-49.3)	-	0.7 (0.3-1.9)

a. Included in main survey
b. Asked only of participants aged 16-49 years
c. Includes Aboriginal and Torres Strait Islander people
d. Includes all other participants not identified as one or more of the priority populations included in this table
e. Asked only of cisgender women

Table 2.5 Recent diagnoses of STIs [a b] and related complications in NSW, by priority population

	Weighted proportion (95%CI)				
	CALD [c]	Sex workers	People who inject drugs	Gay, bisexual, other MSM	Others [d]
Any STI	1.4 (0.5-3.3)	32.6 (16.1-55.0)	22.9 (12.5-38.1)	16.1 (9.7-25.5)	2.0 (1.4-2.8)
Pubic lice	1.0 (0.3-2.8)	29.2 (13.3-52.7)	15.3 (6.7-31.2)	3.9 (1.5-9.6)	0.7 (0.4-1.4)
Genital warts	0.8 (0.3-2.7)	22.5 (8.4-47.7)	13.9 (5.7-30.2)	3.9 (1.3-10.8)	0.8 (0.4-1.4)
Chlamydia	0.8 (0.3-2.7)	28.8 (12.8-52.8)	15.4 (6.7-31.5)	10.2 (5.5-18.1)	1.1 (0.7-1.8)
Gonorrhoea	1.0 (0.3-3.1)	27.5 (12.1-51.1)	15.4 (6.9-30.8)	9.1 (4.5-17.7)	0.7 (0.4-1.3)
Syphilis	0.6 (0.2-2.6)	20.9 (7.5-46.3)	12.3 (4.7-28.3)	2.6 (0.8-7.8)	0.4 (0.2-0.9)
Pelvic inflammatory disease [e]	1.3 (0.3-5.2)	50.4 (15.8-84.6)	17.6 (4.5-49.3)	--	0.7 (0.3-1.9)

a. Included in main survey
b. Asked only of participants aged 16-49 years
c. Includes Aboriginal and Torres Strait Islander people
d. Includes all other participants not identified as one or more of the priority populations included in this table
e. Asked only of women

TESTING

In NSW, 16.1% of those aged 16-49 years reported ever being tested for STIs (95%CI: 14.5-17.9), which was very similar to the overall Australian sample (16.4%, 95%CI: 15.5-17.4).

In NSW, ever having a STI test was more commonly reported by women than men (17.0% vs 15.5%) but most common among non-binary people (20.3%). Transgender people were slightly less likely that cisgender people to report any previous STI test (14.3% vs 16.2%).

STI testing was generally higher among priority populations when compared overall in NSW. Lifetime testing uptake was 16.1% among the entire NSW sample; among cisgender heterosexual people, 12.8% of men and 15.4% of women reported ever being tested for STIs (Figure 3.1). By comparison, STI testing was reported by 54.4% of sex workers, 38.8% of gay, bisexual, and other MSM, and 36.1% of people who inject drugs.

The majority of people in NSW received their most recent STI test from a general practice clinic, including 57.8% of men and 73.0% of women (Table 3.1). Sexual health clinics were the second most popular testing location (27.7% of men and 8.2% of women).

Nearly all people tested for STIs reported providing a urogenital sample (91.9%) but less reported both blood and urogenital samples (73.4%). See Table 3.2 for more details.

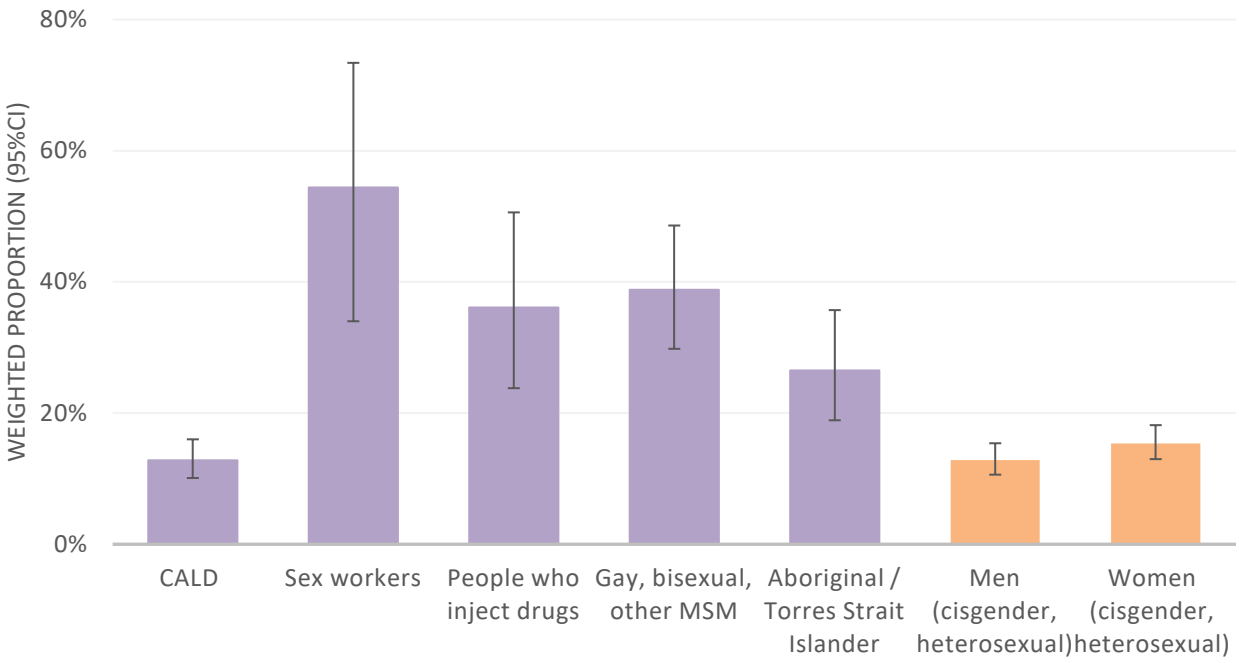


Figure 3.1 Lifetime testing for STIs in NSW, by priority and general populations (see Table 3.3 for full details)

Table 3.1 Location [a] of most recent STI testing in NSW, by gender [b c]

	Weighted proportion (95%CI)	
	Men	Women
General practice clinic	57.8 (42.9-71.3)	73.0 (59.0-83.5)
Sexual health clinic	27.7 (16.7-42.2)	8.2 (3.3-18.6)
Family planning clinic	--	2.0 (0.3-12.9)
Community clinic	5.8 (1.6-18.7)	5.8 (1.1-26.0)
Antenatal clinic	--	2.2 (0.7-6.6)
Gynaecologist		3.7 (1.1-11.2)
Hospital-based clinic	1.8 (0.2-11.5)	--
School-based clinic	1.1 (0.2-7.4)	2.7 (0.6-10.8)
Virtual / telehealth with pathology lab	--	0.9 (0.1-4.0)
Self-administered test	3.7 (0.5-21.9)	--
Somewhere else [d]	2.2 (0.3-14.2)	1.0 (0.3-3.5)

a. No participants in NSW reported STI testing in 'other' clinic types (e.g., drug & alcohol) or non-healthcare settings
b. Asked only of participants aged 16-49 years who reported any testing in the 12 months prior to participation
c. Included in follow-up survey
d. Only one participant indicated STI testing at an Aboriginal Community Controlled Health Organisation

Table 3.2 Samples and anatomical sites [a,b] tested during most recent STI testing in NSW, by gender [c]

	Weighted proportion (95%CI)	
	Men	Women
Blood sample	83.1 (75.8-88.5)	78.9 (72.0-84.4)
Urogenital sample	88.7 (82.9-92.7)	94.6 (90.8-96.9)
Anorectal sample	23.7 (17.3-31.6)	6.0 (3.3-10.8)
Pharyngeal sample	34.0 (26.4-42.5)	14.9 (9.9-21.7)
Blood and urogenital samples	74.4 (66.6-80.9)	71.7 (64.4-78.1)
All four anatomical sites and samples	17.5 (12.1-24.6)	2.7 (10.6-6.7)

a. Sample types were non-exclusive categories, meaning participants could select more than one
b. Asked only of participants aged 16-49 years who reported any testing in the 12 months prior to participation
c. Included in main survey

Table 3.3 Lifetime STI testing in NSW and Australia, by sociodemographic characteristics [a b]

	Weighted proportion (95%CI)	
	Ever tested for STIs	
	Australia	NSW
Age category		
16-19 years	17.5 (13.5-22.3)	12.2 (7.3-19.9)
20-29 years	23.7 (21.6-25.8)	21.8 (18.4-25.7)
30-39 years	15.6 (14.1-17.1)	16.9 (14.2-20.0)
40-49 years	10.8 (9.4-12.4)	11.0 (8.7-13.9)
Gender		
Man	14.0 (12.8-15.3)	15.5 (13.2-18.0)
Woman	18.3 (16.9-19.7)	17.0 (14.7-19.6)
Non-binary	33.7 (24.1-44.9)	20.3 (8.3-41.9)
Gender experience		
Cisgender	16.2 (15.3-17.2)	16.2 (14.6-18.0)
Transgender	28.5 (21.1-37.3)	14.3 (5.8-31.2)
Location		
Major City	16.2 (15.1-17.3)	15.4 (13.7-17.4)
Regional	17.0 (15.0-19.2)	19.8 (16.0-24.3)
Remote	20.8 (13.5-30.6)	12.0 (1.6-53.1)
Indigenous status		
Non-Indigenous	16.0 (15.0-16.9)	15.7 (14.0-17.5)
Aboriginal and/or Torres Strait Islander	27.0 (22.2-32.5)	26.5 (18.9-35.7)
Priority populations		
CALD	13.6 (11.8-15.5)	12.8 (10.1-16.0)
Sex workers	54.0 (41.4-66.1)	54.4 (34.0-73.4)
People who inject drugs	41.3 (33.5-49.5)	36.1 (23.8-50.6)
Gay, bisexual, other MSM	36.3 (31.2-41.7)	38.8 (29.8-48.6)

a. Asked in main survey
b. Asked only of participants aged 16-49 years

KNOWLEDGE

Knowledge of STIs was assessed through two true-or-false quizzes. The first quiz encompassed STIs generally, while the second was specific to syphilis. Items are detailed in Tables 4.1 and 4.2.

Generally, people in NSW had very similar levels of STI knowledge compared to Australia overall, with 52.9% and 52.1%, respectively, answering at least three quarters of items correctly. In NSW, the proportion of correct responses per item ranged from 66.6% to 86.9%.

There was no difference in the overall knowledge of syphilis between NSW (62.9% answered three quarters of the items correctly) and Australia overall (63.6%). Of note, only 77.1% of people in NSW thought 'pregnant women with syphilis can pass infection on to their baby' was a correct statement, similarly to 76.7% Australia overall (Table 4.1). While knowledge of syphilis was better than general STI knowledge, there was a wider range of correct responses per item (18.6% to 92.0%).

Differences in STI knowledge by sociodemographic characteristics are detailed in Table 4.3. Generally, older people were more knowledgeable about STIs than young people, and women tended to be more knowledgeable than men. Transgender people also scored higher on both knowledge quizzes than their cisgender peers.

As shown in Figure 4.1, STI knowledge among priority populations in NSW was varied. Gay, bisexual, and other MSM had the highest scores overall and they were the only population to have higher knowledge than the overall sample on both STIs generally and syphilis. These proportions, however, should be interpreted with caution and with consideration for the provided confidence intervals, as some priority populations within NSW had small sample sizes.

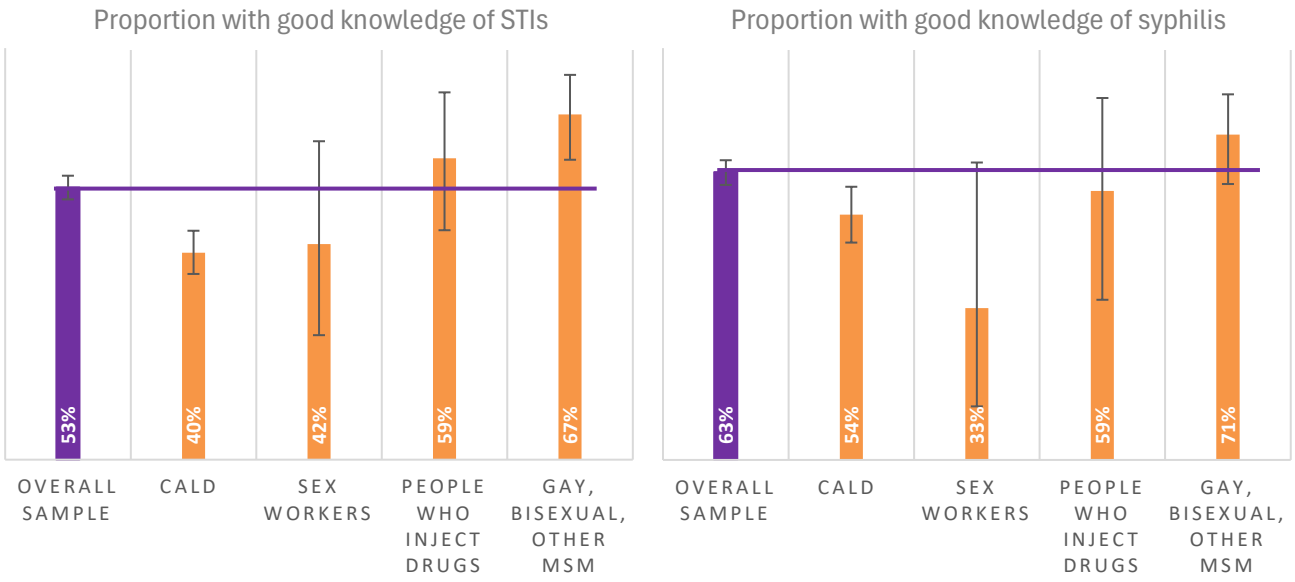


Figure 4.1. Knowledge of STIs and syphilis among people in NSW, overall and by priority population (see Table 4.3 for full details)

Table 4.1 Knowledge of STIs among people in NSW and Australia [a,b]

	Weighted proportion (95%CI)	
	Answered correctly	
Item [correct answer]	Australia	NSW
Chlamydia affects only women [F]	81.9 (80.8-82.9)	81.5 (79.5-83.3)
Chlamydia can lead to infertility in women [T]	69.4 (68.2-70.6)	70.6 (68.4-72.7)
Once a person has caught genital herpes, they will always have the virus [T]	66.3 (65.0-67.5)	66.6 (64.4-68.8)
Hepatitis B can be transmitted sexually [T]	74.7 (73.6-75.9)	73.3 (71.2-75.4)
Gonorrhoea can be transmitted through oral sex [T]	71.7 (70.5-72.9)	71.7 (69.5-73.8)
Cold sores and genital herpes can be caused by the same virus [T]	72.7 (71.5-73.9)	72.6 (70.4-74.6)
You can have a sexually transmitted infection and not have any symptoms [T]	87.1 (86.2-88.1)	86.9 (85.1-88.5)
Pregnant women with syphilis can pass infection on to their baby [T]	76.7 (75.6-77.8)	77.1 (75.1-79.1)
Overall 'good' knowledge of STIs [c]	52.1 (50.8-53.4)	52.9 (50.6-55.2)

a. Included in main survey
b. Asked only of participants aged 16-49 years
c. 'Good' score defined as answering ≥75% items correctly

Table 4.2 Knowledge of syphilis among people in NSW and Australia [a,b]

	Weighted proportion (95%CI)	
	Answered correctly	
Item [correct answer]	Australia	NSW
Cases of syphilis are decreasing in Australia [F]	37.0 (35.1-39.0)	36.6 (33.2-40.2)
A blood test is often used to test for syphilis [T]	82.4 (80.8-83.9)	82.8 (79.8-85.4)
A skin rash is a typical symptom of syphilis [T]	73.1 (71.3-74.8)	73.1 (69.8-76.1)
Syphilis is mainly spread through sexual contact [T]	91.5 (90.3-92.5)	91.0 (88.7-92.9)
Syphilis is curable [T]	78.8 (77.1-80.4)	79.9 (76.8-82.6)
Syphilis can be spread by sharing clothing [F]	21.1 (19.5-22.8)	22.5 (19.5-25.8)
Syphilis can be spread via oral sex [F]	83.2 (81.6-84.7)	84.0 (81.1-86.5)
In Australia, most cases of syphilis occur among women [F]	42.5 (40.6-44.6)	41.3 (37.8-44.9)
Pregnant women with syphilis can pass the infection to their baby [T]	88.0 (86.6-89.2)	88.6 (86.2-90.7)
Syphilis can cause miscarriage or stillbirth [T]	81.4 (79.8-83.0)	82.1 (79.1-84.7)
A baby with syphilis can experience serious health issues [T]	91.9 (90.7-93.0)	92.6 (90.4-94.4)
Overall 'good' knowledge of syphilis [c]	61.4 (59.4-63.4)	60.9 (57.3-64.4)

a. Included in follow-up survey
b. Asked only of participants aged 16-49 years
c. 'Good' score defined as answering ≥75% items correctly

Table 4.3 Knowledge of STIs among people in NSW, by sociodemographic characteristics [a]

	Weighted proportion (95%CI)	
	Overall 'good' knowledge [b]	
	General STIs [c]	Syphilis [d]
Age category		
16-19 years	37.7 (29.5-46.7)	50.5 (33.4-67.5)
20-29 years	51.2 (46.9-55.5)	61.2 (54.4-67.7)
30-39 years	57.1 (53.2-60.9)	58.2 (52.3-63.9)
40-49 years	54.6 (50.3-58.9)	66.3 (60.0-72.1)
Gender		
Man	46.9 (43.8-50.1)	58.1 (52.8-63.2)
Woman	59.1 (55.6-62.4)	63.0 (58.0-68.0)
Non-binary	55.0 (35.4-73.2)	63.8 (37.8-83.6)
Gender experience		
Cisgender	53.0 (50.7-55.4)	60.6 (56.9-64.1)
Transgender	57.5 (41.2-72.4)	74.9 (53.1-88.7)
Location		
Major City	51.3 (48.8-53.9)	60.3 (56.4-64.2)
Regional	62.5 (57.2-67.5)	63.7 (55.0-71.5)
Remote	42.7 (15.0-75.8)	63.0 (13.3-95.0)
Indigenous status		
Non-Indigenous	52.6 (50.2-55.0)	61.1 (57.4-64.6)
Aboriginal and/or Torres Strait Islander	62.6 (53.1-71.2)	53.6 (33.5-72.7)
Priority populations		
CALD	40.2 (36.1-44.5)	55.5 (48.4-62.3)
Sex workers	41.9 (24.2-61.9)	33.2 (11.7-65.0)
People who inject drugs	58.6 (44.6-71.4)	51.9 (27.7-75.3)
Gay, bisexual, other MSM	67.1(58.3-74.8)	69.9 (56.6-80.6)

a. Asked only of participants aged 16-49 years
b. 'Good' score defined as answering ≥75% items correctly
c. Included in main survey
d. Included in follow-up survey

CONDOMS

In total, 10.2% of people in NSW reported multiple sexual partners in the 12 months prior to participating in ASHR3 (95%CI: 9.2-11.2). This compared with 9.8% nationally (95%CI: 9.3-10.4). Among these people, 43.7% in NSW report using a condom at their most recent encounter involving anal and/or vaginal sex.

Table 9 provides a breakdown of condom use in NSW. Participants were simply asked if they had used a condom, with no distinction between male or female condoms. Women were more likely than men to report recent condom use (53.4% vs 41.1%), while younger people were more likely than their older peers to report condom use (55.3% among those aged 16-19 years vs 19.8% among those aged 40-49 years).

Among priority populations, recent condom use was reported by 74.9% of people who inject drugs, 53.5% of sex workers (noting the survey did not distinguish between clients and private partners), 51.9% of CALD people, and 26.7% of gay, bisexual, and other MSM. In recent years, the Sydney Gay Community Periodic Surveys have shown declining condom use towards greater uptake of biomedical of HIV prevention[13].

Table 5.1 Condom use at last sexual encounter [a] among people in NSW and Australia, by sociodemographic details [b,c]

	Weighted proportion (95%CI)	
	Condom use	
	Australia	NSW
Age category		
16-19 years	60.2 (42.1-75.8)	55.3 (27.8-79.8)
20-29 years	48.5 (42.3-54.8)	56.0 (44.7-66.7)
30-39 years	42.3 (35.9-48.9)	42.3 (31.1-54.3)
40-49 years	20.8 (14.9-28.3)	19.8 (11.1-32.9)
Gender		
Man	41.0 (36.7-45.5)	41.2 (33.8-48.9)
Woman	37.7 (30.1-46.0)	53.4 (38.3-67.9)
Non-binary	40.9 (32.2-51.1)	52.0 (47.6-60.3)
Gender experience		
Cisgender	40.3 (36.5-44.2)	43.6 (36.9-50.6)
Transgender	44.4 (42.0-48.9)	46.2 (41.1-49.3)
Location		
Major City	42.1 (37.9-46.4)	44.7 (37.3-52.4)
Regional	35.3 (26.4-45.2)	35.3 (21.0-52.7)
Remote	44.2 (12.7-81.2)	100
Indigenous status		
Non-Indigenous	40.2 (36.2-44.2)	42.9 (35.9-50.2)
Aboriginal and/or Torres Strait Islander	43.0 (29.1-58.0)	55.2 (32.0-76.3)
Priority populations		
CALD	49.0 (40.2-57.9)	51.9 (37.2-66.3)
Sex workers	52.6 (35.5-69.0)	53.5 (29.4-76.1)
People who inject drugs	57.0 (42.5-70.4)	74.9 (50.8-89.6)
Gay, bisexual, other MSM	37.9 (30.6-45.8)	26.7 (17.1-39.1)

a. Condom use considered for vaginal and/or anal sex
b. Restricted to participants aged 16-49 years reporting more than one sexual partner in the 12 months prior to participation
c. Included in main survey

[13] MacGibbon J, et al. GBQ+ Community Periodic Survey: Sydney 2024. Sydney, NSW: Centre for Social Research in Health, UNSW.

HIV

HIV STATUS

In total, 0.4% of people aged 16-69 years in NSW reported living with HIV (95%CI: 0.2-0.7). This prevalence estimate was very similar to the national sample, which was 0.3% (95%CI: 0.3-0.5). These prevalence estimates are slightly higher than is reported elsewhere, noting the restriction by age and other sociodemographic weighting is likely to have impacted the results [14].

It is notable that two thirds of ASHR3 participants were of unknown HIV status (66.4%) either because they had never been tested (66.0%) or had not received the results of their test (0.4%). Overall in NSW, 1.0% of people who had been tested were living with HIV (95%CI: 0.05-1.9).

Given small numbers, further stratification of HIV status among people living in NSW was not possible.

[14] King, J., Kwon J., McManus, H., Gray, R., & McGregor, S., 2024, HIV, viral hepatitis and sexually transmissible infections in Australia: Annual surveillance report 2024, The Kirby Institute, UNSW Sydney, Sydney, Australia.

TESTING

In NSW, 34.9% of those aged 16-69 years reported ever being tested for HIV (95%CI: 33.2-36.6), which was very similar to the overall Australian sample (34.2%, 95%CI: 33.3-35.2). This estimate excludes those who may have had an HIV test conducted as part of blood donation; 44.9% of people in NSW reported previously donating blood.

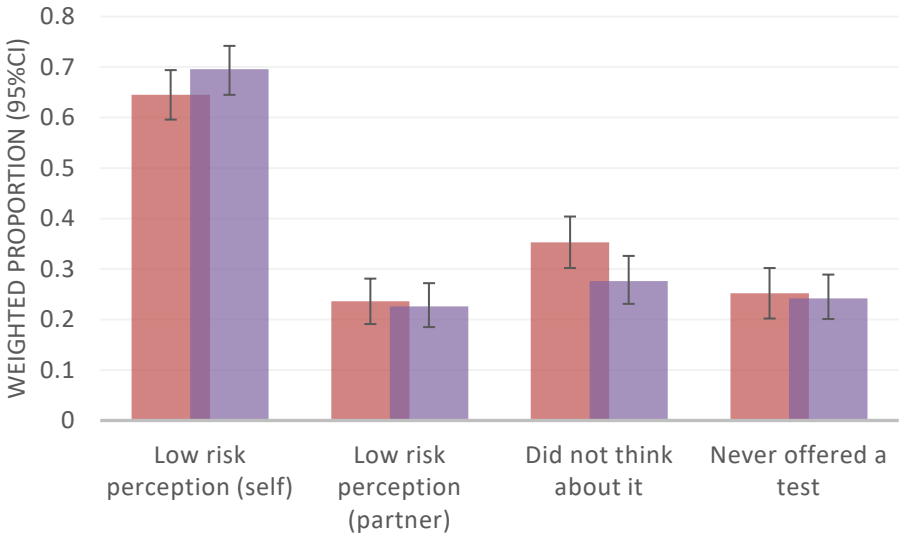
As shown in Table 7.1, recent HIV testing in NSW was highest among those aged 20-39 years (12.6%) and lowest among those aged 16-19 years (2.1%). By gender, recent testing was highest among non-binary people (10.1%) and lowest among women (6.1%), although there were no differences for lifetime testing. Aboriginal and Torres Strait Islander people were more likely than non-Indigenous people to report recent testing for HIV (12.9% vs 7.2%).

As with other STIs, general practice clinics were by far the most common sites for HIV testing (Table 7.2). In NSW, 57.8% of men and 73.0% of women reported receiving their most recent test from a general practitioner, followed by a sexual health clinic (27.7% of men and 8.2% of women). A small minority of men reported accessing HIV self-testing options, including 2.8% who bought a test from a pharmacy and 0.8% who participated in dried-blood-spot testing.

Among the 55.5% of people in NSW who had never been tested for HIV, the most common reason for non-testing was low-risk perception (64.5% of men and 69.6% of women; Figure 7.1). For priority populations, low-risk perception was also the most common reason for not testing, reported by 100% of sex workers, 68.6% of people who inject drugs, and 66.2% of gay, bisexual, and other MSM. Less common reasons for not testing included “not thinking about it" (35.3% of men and 27.6% of women), never being offered a test (25.2% of men and 24.2% of women), and partner perceived as low risk (23.6% of men and 22.6% of women).

People in NSW offered a range of reasons for their most recent HIV test (Table 7.3). The most common was HIV testing conducted as part of a general or sexual health check-up (61.2% of men and 50.1% of women), followed by meeting a new sexual partner (34.2% of men and 10.4% of women). Missed opportunities for HIV testing are shared in Table 7.4; only a small proportion of people in NSW reported ever being offered a test but declining (3.3% of men and 2.7% of women) or asking for a test but being refused (3.9% of men and 3.7% of women).

Figure 7.1 Reasons for never being test for HIV among people in NSW [a,b], by gender



a. Included in main survey
b. Only asked of those reporting no previous HIV test

Table 7.1 Lifetime and recent HIV testing in NSW and Australia, by sociodemographic characteristics [a]

	Weighted proportion (95%CI)			
	Lifetime		Recent (prior 12m)	
	Australia	NSW	Australia	NSW
Age category				
16-19 years	7.6 (5.4-10.5)	5.6 (2.9-10.4)	3.8 (2.4-5.7)	2.1 (0.9-5.1)
20-29 years	30.1 (28.0-32.3)	31.0 (27.2-35.1)	12.3 (10.9-13.9)	12.6 (10.0-15.6)
30-39 years	41.9 (39.8-44.0)	42.1 (38.3-45.9)	11.9 (10.6-13.2)	12.6 (10.4-15.2)
40-49 years	44.1 (41.7-46.5)	43.7 (39.6-48.0)	7.5 (6.4-8.7)	6.5 (4.9-8.7)
50-59 years	37.8 (35.6-40.1)	40.1 (35.9-44.4)	3.6 (2.8-4.5)	2.6 (1.7-3.9)
60-69 years	25.2 (23.2-27.2)	27.7 (24.2-31.5)	2.4 (1.8-3.2)	2.6 (1.6-4.3)
Gender				
Man	35.0 (33.6-36.4)	37.3 (34.9-39.9)	8.2 (7.5-9.0)	8.8 (7.5-10.3)
Woman	34.5 (33.2-35.9)	33.7 (31.3-36.2)	6.8 (6.1-7.5)	6.1 (5.1-7.4)
Non-binary	38.7 (30.0-48.2)	33.5 (18.7-52.4)	17.3 (11.8-24.8)	10.1 (3.3-26.7)
Gender experience				
Cisgender	34.8 (33.8-35.7)	35.5 (33.8-37.3)	7.5 (7.0-8.0)	7.4 (6.6-8.4)
Transgender	38.1 (30.9-45.7)	32.9 (20.8-47.8	15.8 (11.3-21.6)	11.5 (4.8-25.3)
Location				
Major City	34.8 (33.6-35.9)	35.3 (33.4-37.4)	8.0 (7.4-8.6)	7.8 (6.8-9.0)
Regional	34.1 (32.2-36.0)	35.6 (32.2-39.2)	6.7 (5.8-7.7)	6.4 (4.9-8.4)
Remote	47.8 (38.5-57.1)	48.2 (22.5-75.0)	8.3 (4.9-13.7)	--
Indigenous status				
Non-Indigenous	34.2 (33.3-35.2)	34.8 (33.0-36.6)	7.3 (6.8-7.9)	7.2 (6.3-8.2)
Aboriginal / Torres Strait Islander	47.5 (42.5-52.4)	47.7 (39.8-55.6)	14.9 (11.7-18.9)	12.9 (8.5-19.0)
Priority populations				
CALD	35.3 (33.1-37.5)	34.3 (30.7-37.9)	8.6 (7.4-9.8)	8.0 (6.3-10.0)
Sex workers	64.0 (51.3-75.0)	71.3 (52.0-85.0)	48.1 (36.5-59.9)	48.5 (29.7-67.8)
People who inject drugs	56.5 (49.2-63.5)	59.7 (47.0-71.3)	29.7 (23.2-37.1)	30.9 (19.9-44.6)
Gay, bisexual, other MSM	64.4 (59.8-68.7)	65.2 (57.5-72.2)	31.6 (27.5-36.1)	31.7 (24.8-39.5)

a. Included in main survey

Table 7.2 Location [a] of most recent HIV testing in NSW, by gender [b c]

	Weighted proportion (95%CI)	
	Men	Women
General practice clinic	59.4 (45.6-71.8)	72.3 (56.1-84.2)
Sexual health clinic	21.8 (12.7-34.8)	5.9 (1.9-16.7)
Family planning clinic	0.1 (0.0-0.9)	5.1 (0.7-27.9)
Community clinic	1.1 (0.2-4.9)	0.2 (0.0-1.3)
Antenatal clinic	2.4 (0.6-9.7)	6.7 (1.6-24.0)
School-based clinic	1.0 (0.1-6.6)	--
Other type of clinic	8.6 (3.1-21.7)	7.4 (2.6-19.4)
Telehealth + lab appointment	--	2.5 (0.8-7.1)
Self-test	3.7 (0.8-16.1)	--
Other not listed [d]	1.9 (0.3-12.7)	--

a. No participants in NSW reported recent HIV testing at a fertility/IVF clinic or at a blood bank/blood donation centre
b. Only asked of those reporting at least one HIV test in the 12 months prior to participation
c. Included in follow-up survey
d. No participants indicated HIV testing at an Aboriginal Community Controlled Health Organisation

Table 7.3 Reason for most recent HIV testing in NSW, by gender [a-c]

	Weighted proportion (95%CI)	
	Men	Women
Part of a general or sexual health check-up	61.2 (46.9-73.8)	50.1 (35.6-64.5)
I met a new sexual partner	34.2 (22.4-48.4)	10.4 (4.6-21.9)
I didn't use a condom with a new or casual partner	20.4 (11.9-32.8)	15.8 (7.0-31.7)
I had several casual partners	18.7 (10.9-30.3)	9.2 (3.5-22.0)
As part of a renewal for PrEP prescription	19.8 (11.4-32.0)	3.0 (0.7-12.1)
A healthcare provider suggested I have a test	15.1 (7.6-27.7)	12.9 (5.8-26.3)
I had some symptoms	16.4 (7.9-31.2)	3.1 (0.6-14.2)

a. Only asked of those reporting at least one HIV test in the 12 months prior to participation
b. Included in follow-up survey
c. Categories were non-exclusive, meaning participants could select more than one

Table 7.4 Experiences of being offered and requesting HIV tests in NSW, by gender [a]

	Weighted proportion (95%CI)	
	Men	Women
Have you ever been offered an HIV test but declined? (ever)	3.3 (2.2-5.0)	2.7 (1.6-4.5)
Have you ever been offered an HIV test but declined? (recent)	2.0 (1.1-3.4)	1.9 (1.1-3.3)
Have you asked for an HIV test but been refused? (ever)	3.9 (2.5-6.0)	3.7 (2.5-5.4)
Have you asked an HIV test but been refused? (recent)	3.5 (2.5-5.6)	3.0 (2.1-4.4)

a. Included in follow-up survey

PRE-EXPOSURE PROPHYLAXIS

In NSW, 96.3% of gay, bisexual, and other MSM were of negative or unknown HIV status. Among these men, 70.1% were aware of pre-exposure prophylaxis (PrEP), which was slightly higher than observed nationally (67.4%). Across the state, 20.2% of gay, bisexual, and other MSM reported PrEP use in the six months prior to participation (Table 8.1).

Episodic use was the most common mode of administration in NSW (46.5% of PrEP users) followed by daily use (37.1%). These modes were different than was observed nationally, with 36.7% and 49.5% of PrEP users using episodically or daily, respectively (Table 8.1).

There were some differences in PrEP awareness and use by self-reported sexual orientation (Table 8.2). Among the sample of men recruited in NSW, there were 123 who identified as gay (4.5% of men, weighted proportion) and 101 who were bisexual or other MSM (3.9%).

While 84.9% of gay men were aware of PrEP, this was the case for only 53.1% of bisexual and other MSM. Further, while 25.8% of gay men reported recent PrEP use, this was the case for only 9.8% of bisexual and other MSM. There were no observed differences between bisexual and other MSM.

While difficult to compare directly because the sub-sample of men who were using PrEP in NSW was very small, gay men were the most likely to report episodic or daily use, while bisexual and other MSM primarily reported other modes of administration (Table 8.2).

Table 8.1 PrEP awareness and use among gay, bisexual, and other MSM in NSW and Australia [a b]

	Weighted proportion (95%CI)	
	Australia	NSW
Aware of PrEP	67.4 (62.7-71.7)	70.1 (62.4-76.8)
Recent PrEP use	20.0 (16.0-24.6)	20.2 (13.8-28.6)
Daily	49.5 (37.6-61.5)	37.1 (20.0-58.3)
Episodic	36.7 (28.6-51.9)	46.5 (27.0-67.1)
Another way	10.8 (5.0-21.8)	16.4 (5.5-39.7)

a. Asked only of gay, bisexual, and other MSM of unknown or negative HIV status
b. Included in main survey

Table 8.2 PrEP awareness and use in NSW, stratified by self-reported sexual orientation [a b]

	Weighted proportion (95%CI)	
	Gay	Bisexual and other MSM
Aware of PrEP	84.9 (74.3-91.6)	53.1 (42.0-63.9)
Recent PrEP use	25.8 (17.1-36.9)	9.8 (3.3-25.4)
Daily	41.9 (22.2-64.6)	13.9 (2.1-55.2)
Episodic	50.8 (29.1-72.3)	25.3 (2.9-79.4)
Another way	7.3 (1.8-25.4)	60.9 (15.3-93.1)

a. Asked only of gay, bisexual, and other MSM of unknown or negative HIV status
b. Included in main survey

SEXUAL HEALTH ATTITUDES AND EXPERIENCES

SEXUAL HEALTH EXPERIENCES

In NSW, 48.8% of people said they had ever discussed sexual health with a healthcare provider (95%CI: 46.0-51.6), which was very similar to 49.0% nationally (95%CI: 47.5-50.6).

As shown in Figure 9.1 there were some differences by gender and age. Younger men aged 16-29 years were the least likely to say they had ever discussed sexual health with a provider followed by men aged 30 years and older. And while women were overall more likely to have had sexual health discussions, this was slightly more common among younger than older women.

The vast majority of sexual health discussions were patient-initiated regardless of age or gender (83.2% of people in NSW). Although the majority were comfortable during their last sexual health discussion with a provider (68.3%), it is notable that nearly one third (31.7%) were not comfortable. Most asked questions and provided with relevant information, while a minority reported feeling shamed or judged (Table 9.1).

Regarding other experiences related to sexual health, 21.8% of women in NSW and 20.5% nationally reported at least one previous abortion in their life (Table 9.2). Lifetime experience of sexual dysfunction (e.g., low desire, pain, erection difficulties) was reported by 31.9% of people in NSW, while sexual violence or coercion was reported by 21.8% (32.9% of women and 10.0% of men). By gender experience, sexual violence or coercion were reported by 21.6% of cisgender people in NSW (95%CI: 20.1-23.3) and 36.8% of transgender people (95%CI: 23.0-53.2).

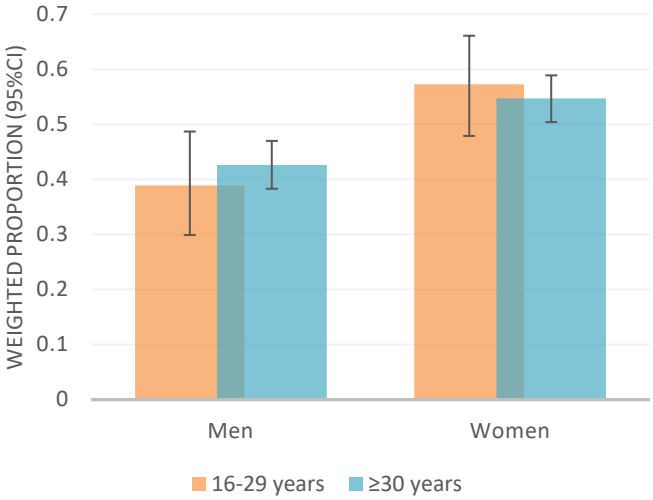


Figure 9.1 Proportion of people in NSW who have ever discussed sexual health with a healthcare provider, by age and gender (see Table 9.1 for full details)

Table 9.1 Experience of most recent sexual health discussion with healthcare provider in NSW and Australia [a]

	Weighted proportion (95%CI)	
	Australia	NSW
I felt comfortable	69.4 (67.4-71.4)	68.3 (64.5-71.8)
I felt judged by people in the waiting room	5.8 (4.8-6.9)	5.7 (4.1-8.1)
I felt judged by my healthcare provider	8.4 (7.2-9.7)	7.9 (5.9-10.5)
I had enough time to ask all the questions I wanted	76.5 (74.6-78.3)	76.5 (73.1-79.6)
I was worried that information wouldn't be kept private	10.2 (8.9-11.7)	11.0 (8.6-14.0)
I felt shame getting my test results	9.8 (8.5-11.3)	11.3 (8.7-14.5)
My healthcare provider gave me relevant information	85.1 (83.5-86.6)	84.6 (81.5-87.3)
I felt like I had to hide parts of my identity or experience	12.0 (10.6-13.5)	12.8 (10.2-15.8)

a. Included in follow-up survey

Table 9.2 Lifetime experiences and outcomes related to sexual health in NSW, by gender and age [a]

	Weighted proportion (95%CI)			
	Men		Women	
	16-29 years	≥30 years	16-29 years	≥30 years
Sexual violence or coercion	14.8 (11.0-19.7)	8.8 (7.3-10.6)	38.5 (32.5-45.0)	31.7 (28.9-34.4)
Sexual dysfunction	30.4 (17.2-47.9)	39.7 (33.4-46.4)	26.4 (17.2-38.3)	27.5 (22.7-32.8)
Ever had an abortion [b]	--	--	5.6 (2.8-11.1)	27.1 (23.4-31.1)

a. Included in main survey
b. Asked only of women; although a small subsample, 2.1% of transgender men in NSW (95%CI: 0.2-17.4) reported an abortion

ATTITUDES

Attitudes towards sex and sexuality were assessed using eight items detailed in Table 10.1. There were no observed differences in attitudes between people in NSW and Australia overall.

The majority of people in NSW found a range of practices and issues acceptable, including sex before marriage (76.9%), abortion (83.1%), sex between two adult men (81.9%), and sex between two adult women (80.2%). Indeed, only having 'an affair' was viewed as unacceptable by the majority of people in the state (77.1%). Further, only a minority of people (21.0%) thought that sex education increased the likelihood of early sexual activity (Table 10.1).

Although in the minority, it is notable that nearly one in five people in NSW thought sex between two adult men or two adult women was "always wrong". This proportion is essentially the same as was observed 10 years ago[15], which is notable given many advancements in this space in recent years (most notably the passage of marriage equality in 2017). Progress should not, therefore, be assumed, and it may be that ongoing efforts to encourage diversity, acceptance, and love are needed.

As shown in Table 10.2, however, there were some slight differences in acceptability in terms of gender and age. Notably, young men tended to be the most judgmental of issues related to reproductive health, especially regarding abortion and hormonal contraception. Men overall were less accepting than women of same-gender sexual relationships. Interestingly, men were also more likely than women to believe that sex education increases early sexual activity. Education campaigns targeted men – and especially young men – may help expand their appreciation for reproductive health and other key issues.

Table 10.1 Acceptability around sex, sexuality, and sexual health among people in NSW and Australia [a]

	Weighted proportion (95%CI) [b]	
	Australia	NSW
Sex before marriage is acceptable	77.3 (76.3-78.2)	76.9 (75.2-78.6)
An active sex life is important for my sense of well-being	75.2 (74.3-76.1)	74.3 (72.7-75.9)
Abortion is always wrong	17.0 (16.2-17.9)	16.9 (15.4-18.4)
If two people had oral sex, but not intercourse, you would still consider that they had had sex together	69.2 (68.2-70.2)	68.6 (66.8-70.3)
Hormonal contraception is harmful to a person's health	28.0 (27.1-29.0)	28.0 (26.3-29.7)
Having an affair when in a committed relationship is always wrong	77.6 (76.8-78.5)	77.1 (75.6-78.5)
Sex between two adult women is always wrong	20.5 (19.6-21.4)	19.8 (18.3-21.4)
Sex between two adult men is always wrong	18.3 (17.5-19.2)	18.1 (16.6-19.7)
Sexual health education for adolescents increases the likelihood of early sexual activity	21.2 (20.3-22.1)	21.0 (19.4-22.6)

a. Included in main survey
b. Those who 'agree' or 'strongly agree'

[15] Visser R.O., et al. (2014). Attitudes toward sex and relationships: the Second Australian Study of Health and Relationships. *Sexual Health,* 11(5): 397-405.

Table 10.2 Acceptability around sex, sexuality, and sexual health among people in NSW, by age and gender [a]

	Weighted proportion (95%CI) [b]			
	Men		Women	
	16-44 years	≥45 years	16-44 years	≥45 years
Sex before marriage is acceptable	75.4 (72.1-78.4)	78.9 (75.2-82.2)	75.7 (72.1-79.0)	79.6 (76.0-82.8)
An active sex life is important for my sense of well-being	78.1 (75.1-80.8)	83.7 (80.4-86.5)	68.7 (65.1-72.1)	70.6 (67.0-73.9)
Abortion is always wrong	20.8 (18.1-23.9)	17.6 (14.6-21.1)	16.1 (13.3-19.4)	13.5 (10.1-16.7)
If two people had oral sex, but not intercourse, you would still consider that they had had sex together	61.3 (57.9-64.6)	81.2 (77.9-84.1)	63.5 (59.9-67.0)	76.7 (73.2-79.9)
Hormonal contraception is harmful to a person's health	41.8 (38.4-45.3)	20.9 (17.7-24.4)	32.2 (28.7-35.8)	18.2 (15.2-21.6)
Having an affair when in a committed relationship is always wrong	78.1 (75.2-80.8)	73.6 (70.52-76.8)	83.6 (80.9-86.0)	74.9 (71.6-78.0)
Sex between two adult women is always wrong	21.3 (18.4-24.4)	23.4 (20.0-27.2)	14.0 (11.4-17.1)	15.9 (13.0-19.2)
Sex between two adult men is always wrong	23.1 (20.1-26.3)	27.8 (24.2-31.8)	14.6 (11.9-17.8)	16.4 (13.5-19.7)
Sexual health education for adolescents increases early sexual activity	31.3 (28.1-34.6)	24.9 (21.4-28.8)	16.8 (14.0-20.0)	12.6 (10.2-15.5)

a. Included in main survey
b. Those who 'agree' or 'strongly agree'

SEX EDUCATION

The ASHR3 survey included some high-level items on sex education received in school, which were asked just of the youngest cohort aged 16-39 years. The items asked if any sex education had been provided to them at school, and if that education included content on condoms, contraception, or consent. While recognising there are many important issues pertaining to sex education (e.g., LGBTQ+ issues), the survey only asked these two broad content-related items.

As shown in Table 11.1, 88.1% of men and 85.8% of women aged 16-39 years in NSW reported receiving some form of sex education in school. These estimates were slightly higher than observed nationally, where 84.5% of men and 84.8% of women had received sex education. Younger people aged 16-19 years were more likely to have received sex education than those aged 30-39 years (97.7% vs 81.7%, respectively). People of cultural and linguistic diversity in NSW had lower rates of sexual education compared with other people, with 74.7% and 93.9%, respectively, reporting.

Regarding content, the majority of people in NSW reported receiving education on condoms and contraception (90.0% of men and 84.4% of women). There were also no differences in receiving education on condoms and contraception by cultural and linguistic diversity (Table 11.2). In terms of sexual consent, however, a relatively lower proportion of people in NSW reported being educated on this topic (67.9% of men and 62.2% of women).

Table 11.1 Sex education among people in NSW and Australia, by select sociodemographic characteristics [a,b]

	Weighted proportion (95%CI)	
	Australia	NSW
Age category [a]		
16-19 years	88.3 (79.7-93.5)	97.7 (85.2-99.7)
20-29 years	87.7 (84.7-90.2)	92.1 (87.8-95.0)
30-39 years	82.0 (79.1-84.5)	81.7 (76.3-86.1)
Gender		
Men	84.5 (81.5-87.0)	88.1 (83.3-91.7)
Women	84.8 (82.0-87.2)	85.8 (80.8-89.7)
Non-binary	92.3 (82.4-96.8)	100.0
Location		
Major City	83.5 (81.2-85.5)	86.6 (83.0-89.6)
Regional	90.5 (86.3-93.5)	90.1 (80.6-95.2)
Remote	80.2 (54.2-93.3)	100.0
Cultural and linguistic diversity		
Not CALD	90.6 (88.8-92.1)	93.9 (91.3-95.8)
CALD	72.5 (67.8-76.7)	74.7 (67.0-81.2)

a. Included in follow-up survey
b. Asked of those aged 16-39 years

Table 11.2 Sex education material [a-c] among people in NSW and Australia, by select sociodemographic characteristics

	Weighted proportion (95%CI)			
	Sex education included contraception & condoms		Sex education included consent	
	Australia	NSW	Australia	NSW
Age category [a]				
16-19 years	88.7 (79.0-94.3)	91.6 (76.4-97.4)	85.5 (75.0-92.0)	88.0 (69.6-95.9)
20-29 years	86.0 (82.7-88.7)	86.0 (80.0-90.4)	70.3 (66.3-73.9)	76.4 (70.3-81.5)
30-39 years	86.2 (83.5-88.5)	87.8 (82.9-91.4)	52.7 (49.2-56.2)	51.1 (44.9-57.3)
Gender				
Men	88.2 (85.3-90.5)	90.0 (85.2-93.3)	68.3 (64.4-71.6)	67.9 (61.4-73.8)
Women	84.3 (81.4-86.8)	84.4 (78.9-88.8)	57.2 (53.6-60.8)	62.2 (56.0-68.1)
Non-binary	91.2 (79.7-96.4)	92.7 (65.0-98.9)	63.6 (48.1-76.7)	74.3 (41.6-92.1)
Location				
Major City	85.9 (83.7-87.9)	87.4 (83.5-90.4)	62.4 (59.5-65.2)	67.5 (62.8-71.9)
Regional	87.6 (83.0-91.1)	87.0 (77.2-93.0)	63.9 (58.0-69.4)	54.6 (43.4-65.5)
Remote	98.0 (86.7-99.7)	100.0	63.3 (37.9-83.0)	51.9 (6.3%-94.5)
Cultural and linguistic diversity				
Not CALD	87.8 (85.8-89.5)	88.7 (84.9-91.6)	60.6 (57.8-63.3)	62.1 (57.1-66.9)
CALD	82.3 (77.3-86.4)	84.3 (76.0-90.1)	68.2 (62.3-73.5)	72.8 (63.5-80.5)

a. Included in follow-up survey
b. Asked of those aged 16-39 years
c. Material items asked only of those who reported some previous sex education

APPENDIX

ADDITIONAL METHODOLOGICAL DETAIL

Cognitive and pilot testing

New ASHR3 questions were cognitively tested face-to-face with 20 purposively recruited participants (describe who they were) with an aim to obtaining an even spread across age, gender, sexuality, educational level, and cultural and linguistic background. Participants were encouraged to use the 'think aloud' method to provide insight into their underlying insight and to potentially identify problems related to comprehension, decision process and response process.

Results were used to assess whether the items were working as intended, and to improve the questionnaire. Interviews will be conducted by experienced qualitative researchers. 29 questions from the ASHR3 survey were tested. Questions centred around sexual behaviours, intimate partner violence, sexting, abortion, reproductive coercion, sexual coercion, and questions specific for those who may identify as gender non-binary or transgender.

Overall, participants thought the questions were clear and straightforward and appreciated the range of topics and inclusive language. Key recommendations and improvements from the testing included: inclusion of additional information about the survey, it's purposes and implications, and the Social Research Centre at the start of the interview.

The questionnaire was piloted over four weeks between September 5 and October 2, 2022. A total of 319 computer-assisted interviews were completed during the pilot phase. A debriefing session with interviewers was held following the pilot test and several changes were made to the questionnaire, including;

- Reducing length of introductory and consent scripts
- Adding interviewer notes and instructions; and
- Refining question wording and definitions to improve comprehension

Translation

ASHR2's study population was broadly representative of the Australian population when compared with the Australian Bureau of Statistics (ABS) Census in major demographic characteristics (age, sex, state). However, people born in non-English-speaking countries were also under-represented (13% ASHR2 vs 20% ABS). To address this, ASHR3 planned to conduct interviews in one of the three other languages most commonly spoken by non-English speakers: Mandarin, Arabic and Vietnamese.

We then conducted a pilot study to document the process of, and issues arising during, the translation of the ASHR2 questionnaire from English into one community language (Simplified Chinese). The findings suggested that survey translation is not a straightforward task and that sexual and reproductive health-related terminology and expression may lose the intended conceptual or linguistic significance during the translation process due to linguacultural differences between the source and target languages, compromises between professional and lay terminology, and the practicality of source questionnaire [16]design. Due to the conceptual

[16] Wong et. al (2023). Is sex lost in translation? Linguistic and conceptual issues in the translation of sexual and reproductive health surveys. *Culture, health & sexuality*, *25*(1), 1–17. https://doi.org/10.1080/13691058.2021.2016975

difficulties in this subject area and high cost of translation and interviewer training, ASHR3 interviews were not offered in languages other than English.

Data collection method

The CATI interviews were conducted by staff of a social research company with extensive experience in random digit-dialling (RDD) and CATI. When a selected number was answered, the interviewer introduced the study, stressing that it is anonymous and voluntary. The interviewer read a script from the computer screen and entered the responses directly into the database. Subsequent questions were tailored to the previous responses, e.g. referring to the partner as 'he' or 'she', and skipping inapplicable questions. Termination rates were regularly monitored, with introductory phrases associated with early termination reviewed to assess if they could be improved or delivered differently.

Computer Assisted-Telephone Interviewing (CATI)

The in-scope population for ASHR3 was persons aged 16-69 years residing in Australia. For the CATI sample, a dual frame methodology was used consisting of 50% randomly generated (RDD) mobile phone numbers and 50% listed mobile phone numbers. Fieldwork was conducted from 14 March until 27 July 2023. The response rate for the survey was 3.6% overall, and the average interview length was 33.6 minutes.
Table 1 summarises the CATI sample key statistics.

Weighting

Survey weighting was developed for both CATI and online panel components. A 2-step approach to weighting was implemented involving initial adjustment for potential bias associated with non-coverage and non-response using design weights, and then recalibration to Australian 2021 census benchmarks to align weighted sample estimates with the Australian population (Kalton and Flores-Cervantes, 2003).

Initial base weights for probability of enrolment at the time of recruitment sample selection were developed using standard methods for probability surveys (Valliant et al., 2018) with adjustment for probability of response using a propensity model (Rosenbaum and Rubin, 1984). Weights were recalibrated to Australian 2021 Census population benchmarks using generalised regression methods (Deville et al., 1993).

Primary study weights used a two-step approach to calibration, to account for non-binary gender which was not an available census benchmark. Initial generalised regression estimators (GREG) weights were developed based on calibration without gender as a benchmark variable, with these weights then being assigned to non-binary respondents. A second GREG weighting was then developed for binary gender respondents that took into account binary Census gender benchmarks as well as Age group, English speaking background, Highest educational attainment, Country of birth (person, mother, father), Religious affiliation, State, and Remoteness. Additional legacy weights were developed by recalibration for comparison to prior weighting schemes by only incorporating previously used weight benchmarks (age, binary-sex, state and remoteness ((Accessibility/Remoteness Index of Australia (ARIA) category of urban, regional or remote) but omitting the redundant telephony benchmark.

For the online portion, a blended weighting approach was applied to the probability and non-probability online panel samples. The two parallel surveys were combined and involved calibration or an adjustment of weights for the non-probability panel using a reference panel (LinA). This adjustment was made based on several demographic, lifestyle, and other outcome variables. The adjustment of these weights accounted for the non-random selection process in the non-probability panel.

Follow-up Survey

In addition to the main ASHR3 survey, an online follow-up questionnaire was developed to build on the results from the main ASHR3 survey and explore some of the topics in further detail. Data collection for the follow-up study was conducted online only. All three samples from the main ASHR3 survey were invited to the follow-up survey. These samples were: ASHR3 CATI participants who consented to being recontacted, ASHR3 Life in Australia™ panel participants and ASHR3 ORU participants.

The follow-up survey was designed to build on the topics covered in the main ASHR3 survey, and had a focus on the following areas:

- Cervical screening
- Sexual health services and information (including HIV and STI testing)
- Abortion
- Reproductive decision-making
- Sex, condoms, and consent
- Kink, fetish and BDSM
- Pornography
- Blood donation

All survey instruments can be accessed by visiting https://ashr.edu.au/ashr3/survey.

Follow-up sampling and response rates

The methodology for the CATI re-contact sample consisted of a pre-notification SMS, an invitation email and SMS, and subsequent email and SMS reminders. Those in the CATI re-contact sample received either SMS, email communications, or both, depending on what contact information they provided in the main ASHR3 survey. The LinA follow-up survey was sent email, SMS, and telephone reminders. For the ORU non-probability panel the approach consisted of an email invitation and email reminders.

The follow-up survey was conducted from 18th March to 18th April 2024.

For the online panels, the in-scope population was all those who completed the main online ASHR3 survey. The in-scope population for the main online ASHR3 survey was Australians aged 18 – 69. A total of 5,600 active LinA panel members were invited to take part in the survey and 5,043 (90.1%) completed the survey. For ORU, 1,704 panel members were invited to take part and 735 (43.1%) completed the survey.

The in-scope population for the CATI re-contact sample was those who completed the main ASHR3 CATI survey and consented to be re-contacted for follow-up research. The in-scope population for the main ASHR3 CATI survey was Australians aged 16 – 69. There were a total of 6,440 members in the CATI re-contact sample and 1,982 (30.8%) completed the survey.

Follow-up weighting

The CATI and Online components of the ASHR3 Main Study targeted different populations and had distinct considerations for the sample and weighting approach. CATI targeted Australians aged 16-69 years and used a probability sample with constant base weights and a two-step calibration process (non-binary gender treatment) to adjust weights. The Online component targeted Australians aged 18-69 years and used blending of probability (LinA) and non-probability (ORU) samples as the base weights and the same two-step calibration process to adjust weights. Given these crucial differences, the ASHR3 follow-up derived a set of weights for each CATI and Online component.