



**Migrant Blood-borne Virus  
& Sexual Health Survey  
2020-2021:  
South Australian results**

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Migrant Blood-borne Virus  
and Sexual Health Survey

**MiBSS**

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Note:

This report is part of a suite of state-specific reports on the MiBSS project. Some general content, including methodology, may be reproduced across the reports. All reports will be made available at [mibss.org/publications](http://mibss.org/publications)

# CONTENTS

|           |              |
|-----------|--------------|
| <b>01</b> | Introduction |
| <b>03</b> | Methods      |
| <b>05</b> | Results      |
| <b>51</b> | Discussion   |
| <b>59</b> | References   |

# INTRODUCTION

In Australia, there are significant health disparities between domestic- and overseas-born residents with respect to sexually transmissible infections (STIs) and blood-borne viruses (BBVs). For instance, in 2017 the HIV notification rate in Australia was over three times higher for people born in South-East Asia (14 per 100,000) and Sub-Saharan Africa (13.5 per 100,000) compared to Australian-born residents (4.0 per 100,000) [1]. Of the 27,545 people estimated to be living with HIV in Australia, 9.2% (2,529) were born in South-East Asia and 5.6% (1,553) were born in Sub-Saharan Africa [1]. With respect to people living with chronic hepatitis B in Australia (estimated prevalence = 233,957), 21.4% were born in North-East Asia and 17% were born in South-East Asia [1].

People from culturally and linguistically diverse (CaLD) backgrounds are recognised as priority populations in:

- the Third National Hepatitis B Strategy 2018-2022 [2];
- the Fourth National Sexually Transmissible Infections Strategy 2018-2022 [3];
- the Fifth National Hepatitis C Strategy 2018-2022 [4]; and
- the Eighth National HIV Strategy 2018-2022 [5].

Key areas for action under the Strategies include:

- Improving priority populations' knowledge and awareness of STIs and BBVs [2], [4], [5].
- Ensuring priority populations are able to access prevention methods, including condoms, pre-exposure prophylaxis, and relevant vaccinations [2], [4], [5].
- Addressing barriers affecting the health seeking behaviours of priority populations [2-5].

However, there is currently no systematic way to measure progress against these strategic actions over time. Efforts to understand STI and BBV knowledge, behaviour and access to services among CaLD populations in Australia have largely been in the form of "short-term, small-scale projects and research studies" [6].

The aim of the Migrant Blood-Borne Virus and Sexual Health Survey (MiBSS) is to investigate the feasibility of a periodic national survey of CaLD people's knowledge, attitudes, and practices with respect to STIs and BBVs, and to collect baseline data.



The project was funded as an Australian Research Council Linkage Project led by Curtin University to collect data in Western Australia, South Australia, and Victoria. Additional funding was provided to extend the project to Queensland.

This report presents the methods and findings of the South Australian sub-study, which received additional funding from the South Australian Department of Health and Shine SA. A national report with state-by-state comparisons of data will follow.

# METHODS

An English-language survey instrument was drafted incorporating items from existing instruments [7-12]. Whereas previous CaLD surveys in Australia focused on collecting information relevant to HIV or hepatitis B only, the draft MIBSS survey included questions to gauge knowledge about HIV, chlamydia, gonorrhoea, syphilis, hepatitis B, and hepatitis C.

The draft instrument was pretested using a hybrid qualitative method developed by Oresmus, Cosby and Wolfson [13]. Under the hybrid method, small groups of participants known as 'panels' are asked to complete the survey and a moderator then uses a script to gauge attitudes toward survey instructions, survey appearance, and the wording and relevance of questions and responses.

The pretesting process was led by peer researchers based in partner organisations in Queensland, South Australia, and Western Australia. Details of the pretesting methods adopted and the issues identified through pretesting are described elsewhere [14].

In summary, sixty-two respondents pretested the survey across three rounds. Issues were identified in all three rounds of pretesting, and included uncertainty

around; (1) subjective adjectives and concepts (e.g. "regular", "effective"), (2) defined technical/medical terms (e.g. "pre-exposure prophylaxis" and "infertility"); and (3) terms unfamiliar to people with low health literacy or from different cultural or linguistic backgrounds (e.g. "oral sex" and "gender"). The draft survey was revised to clarify terminology and enhance cultural appropriateness and relevance.

The finalised English-language survey was then translated into Vietnamese, Simplified Chinese, Traditional Chinese and Khmer, using the best practice TRAPD (Translation, Review, Adjudication, Pretesting and Documentation) method. The method involved obtaining two independent translations for each language, comparing the translations and selecting the best translation for each item, pretesting the draft translated survey with people fluent in each language, and undertaking relevant revisions [15].

The final English and translated surveys were made available online and in paper form. Recruitment in South Australia was led by peer researchers employed by Relationships Australia South Australia. Respondents were eligible for recruitment if they were 18 years of age or older and were born in South-East Asian, North-East Asia or Sub-Saharan Africa.



Methods of recruitment comprised direct invitation (by email, telephone, and using social media platforms), promotion through print and social media (e.g. newsletters, Facebook), and face-to-face approaches during community events and outreach activities. Recruitment attempts were documented to enable participation rates to be calculated. Data on participation rates will be presented and analysed in a separate paper.

The period of recruitment was September 2020 to May 2021, and necessary precautions were taken in response to the coinciding COVID-19 pandemic.

All respondents were provided with an information sheet. Respondents to the paper-based survey after February 2021 received an AUD 15 gratuity, as approved by the Curtin University Human Research Ethics Committee (HRE 2019-0395). Online respondents were provided the opportunity to enter a draw to win a voucher worth AUD 200.

STATA was used to conduct basic descriptive statistical analysis (e.g. frequencies and proportions). Unless otherwise indicated, chi-squared tests were used to determine whether differences observed between groups (e.g. by age, region of birth, gender, time in Australia) were statistically significant. Fisher's exact test was used where more than 20% of cells in a table had expected frequencies of less than five. For the purposes of this paper, a p-value of less than 0.05 is statistically significant.

# RESULTS

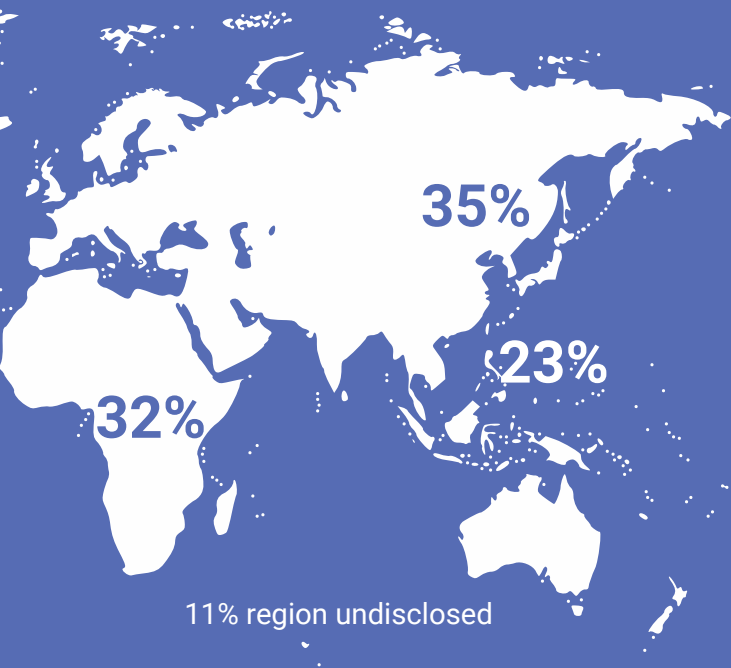
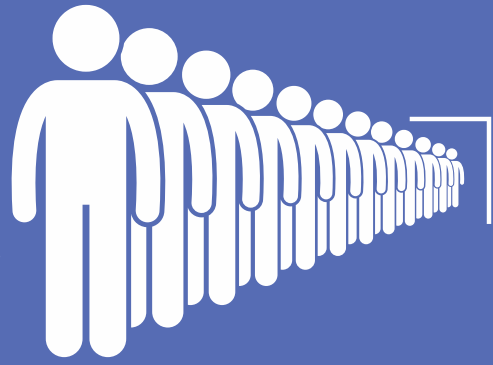
NOTE:

Percentages presented in infographics exclude missing data (i.e. respondents who skipped questions) and are rounded to nearest whole number



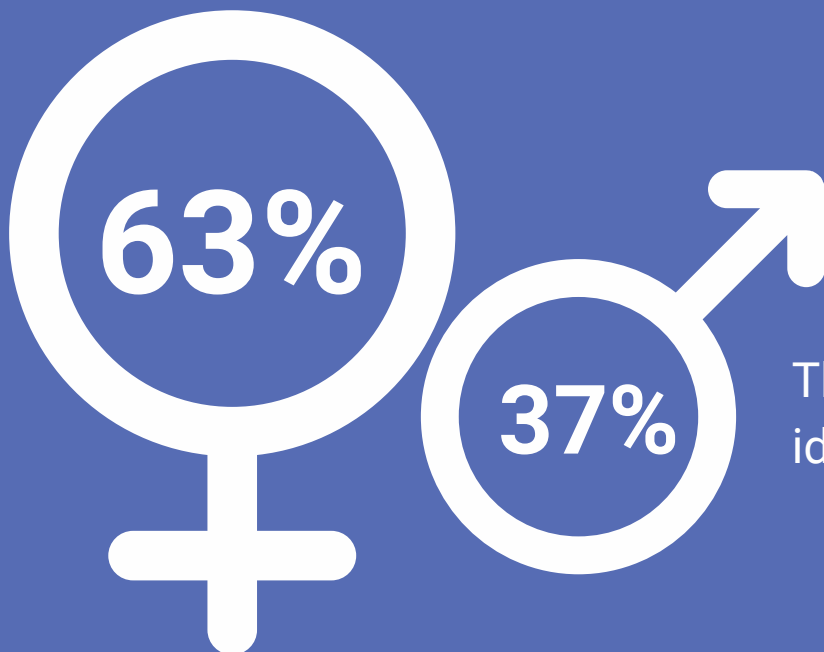
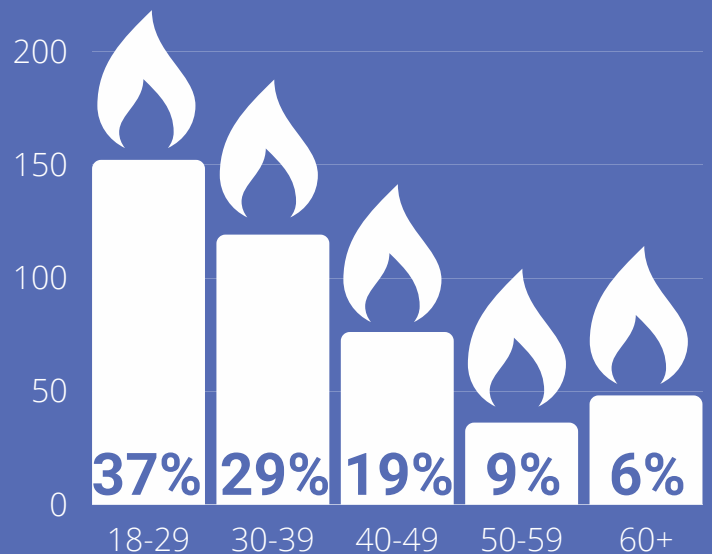
# Demographics at a glance

There were 417 included survey respondents from South Australia.



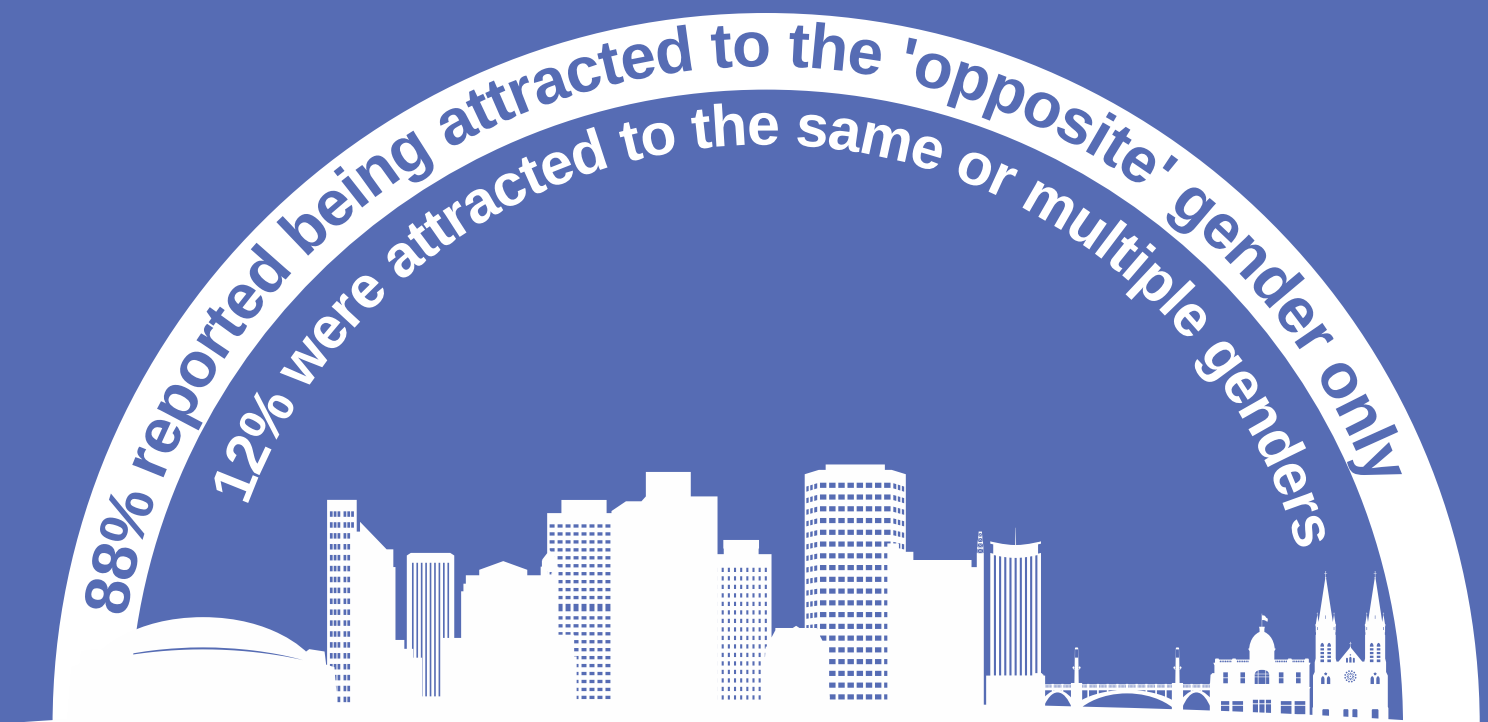
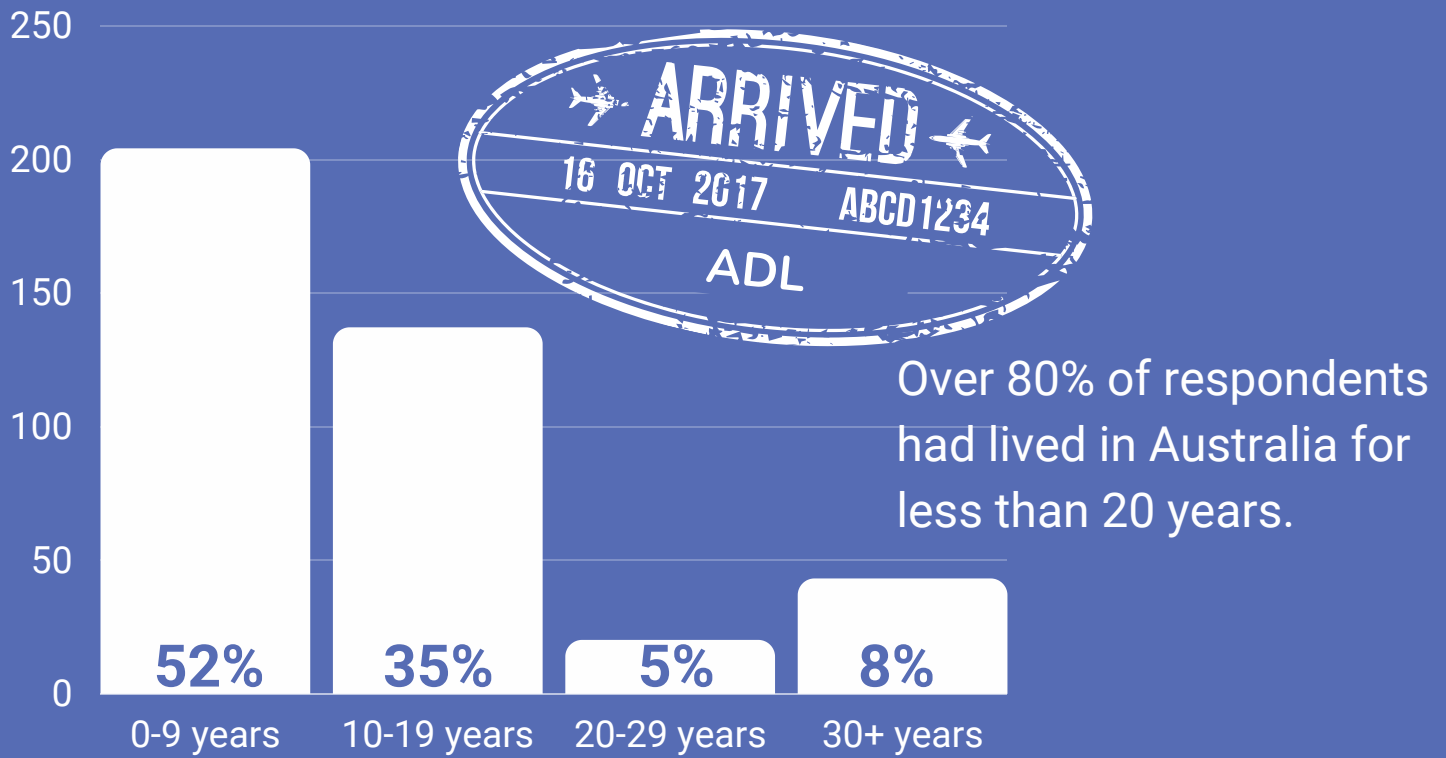
The largest proportion of the sample was born in North-East Asia, followed by Sub-Saharan Africa and South-East Asia.

The majority of survey respondents were between 18 and 39 years old.



The majority of respondents identified as female.

# Demographics at a glance



96% of respondents resided in Adelaide.

A total of 417 survey responses can be identified as originating from South Australia.\* As shown in Table 1, 31.65 percent (n=132) of all survey respondents reported being born in a Sub-Saharan African (SSA) country, 34.53 percent (n=144) were born in a North-East Asian (NEA) country and 22.78 percent (n=95) were born in a South-East Asian (SEA) country. Forty-six respondents (11.03%) did not disclose a country of birth.^

**Table 1: Number and proportion of respondents (n=417), by country and region of birth**

| Region                        | Country / UN sub-region^^   | Number of Respondents (%) |
|-------------------------------|---|---------------------------|
| Sub-Saharan Africa<br>(n=132) | Northern sub-region (Sudan)   | 4 (0.96)                  |
|                               | Eastern sub-region<br>(Burundi, Ethiopia, Kenya, Rwanda, Somalia, South Sudan, Tanzania, Uganda, Mauritius, Zimbabwe) | 84 (20.14)                |
|                               | Middle sub-region<br>(Dem. Rep. Congo, Rep. Congo)  | 10 (2.40)                 |
|                               | Southern sub-region<br>(South Africa)   | 4 (0.96)                  |
|                               | Western sub-region<br>(Ghana, Liberia, Nigeria, Sierra Leone, Togo, Ivory Coast)                                      | 30 (7.19)                 |
| North-East Asia<br>(n=144)    | China (includes Hong Kong and Macau)  | 80 (19.18)                |
|                               | Japan   | 16 (3.84)                 |
|                               | Korean Peninsula  | 37 (8.87)                 |
|                               | Taiwan  | 11 (2.64)                 |

**Table continued on next page**

\*A survey was deemed to originate from South Australia if it met one of the following conditions: (a) it was a paper survey sent from a South Australian partner; (b) it was an online survey and the answer to the postcode question was a South Australian postcode; (c) it was an online survey and the URL source indicated it had been disseminated by a South Australian partner.

^It is assumed that these surveys met the eligibility criteria as the eligible countries were clearly stated on the cover page of the survey and in associated participant information forms and promotional materials.

**Table 1 continued: Number and proportion of respondents (n=417), by country and region of birth**

| Region                    | Country / UN sub-region | Number of Respondents (%) |
|---------------------------|-------------------------|---------------------------|
| South-East Asia<br>(n=95) | Cambodia                | 23 (5.52)                 |
|                           | Indonesia               | 3 (0.72)                  |
|                           | Myanmar                 | 3 (0.72)                  |
|                           | Malaysia                | 7 (1.68)                  |
|                           | Philippines             | 40 (9.59)                 |
|                           | Singapore               | 2 (0.48)                  |
|                           | Thailand                | 2 (0.48)                  |
|                           | Vietnam                 | 15 (3.60)                 |
| UNSPECIFIED REGION        |                         | 46 (11.03)                |

As shown in Table 2 below, over half of the survey respondents who reported their age (66.42%; n=271) were between 18 and 39 years old. The North East Asian sub-sample had a larger proportion of people aged 18-29 years and the South-East Asian sub-sample had a larger proportion of respondents aged 60 years and over, compared to other birth regions.

**Table 2: Number and proportion of respondents (n=408)<sup>^</sup>, by age and region of birth**

| Region                 | 18-29 yrs<br>n (%)     | 30-39 yrs<br>n (%)     | 40-49 yrs<br>n (%)    | 50-59 yrs<br>n (%)   | 60 + yrs<br>n (%)    | p-value |
|------------------------|------------------------|------------------------|-----------------------|----------------------|----------------------|---------|
| SSA<br>(n=130)         | 48 (36.92)             | 34 (26.15)             | 28 (21.54)            | 15 (11.54)           | 5 (3.85)             | <0.000  |
| SEA<br>(n=94)          | 28 (29.79)             | 22 (23.40)             | 19 (20.21)            | 9 (9.57)             | 16 (17.02)           |         |
| NEA<br>(n=143)         | 63 (44.06)             | 47 (32.87)             | 26 (18.18)            | 5 (3.50)             | 2 (1.40)             |         |
| Unspecified<br>(n=41)* | 13 (31.71)             | 16 (39.02)             | 3 (7.32)              | 7 (17.07)            | 2 (4.88)             | NA*     |
| <b>ALL<br/>(n=408)</b> | <b>152<br/>(37.25)</b> | <b>119<br/>(29.17)</b> | <b>76<br/>(18.63)</b> | <b>36<br/>(8.82)</b> | <b>25<br/>(6.13)</b> |         |

<sup>^</sup>Excludes respondents who did not report age

\*Unspecified regions excluded from chi2 analysis

Of those who answered the gender question (n=407), 62.16% percent (n=253) identified as female only, compared to 36.61 percent (n=149) male only, and five respondents (1.23%) who identified as either non-binary or transgender (without specifying male/female). Table 3 shows that statistically significant differences were observed in gender distribution by region of birth. Most notably, among the North-East Asian sub-sample, over three quarters (76.39%; n=110) of respondents identified as female.

**Table 3: Number and proportion of respondents (n=402)^, by gender and region of birth**

| Region             | Male<br>n (%)      | Female<br>n (%)    | p-value |
|--------------------|--------------------|--------------------|---------|
| SSA (n=131)        | 61 (46.56)         | 70 (53.44)         | <0.000  |
| SEA (n=91)         | 37 (40.66)         | 54 (59.34)         |         |
| NEA (n=144)        | 34 (23.61)         | 110 (76.39)        |         |
| Unspecified (n=36) | 17 (47.22)         | 19 (52.78)         |         |
| <b>ALL (n=402)</b> | <b>149 (37.06)</b> | <b>253 (62.94)</b> | NA      |

^Excludes those who did not report gender, those who reported being non-binary or both male and female

The majority of respondents to the sexual attraction questions identified as heterosexual only (88.17%; n=343), with 12 (3.08%) being men attracted to other men or non-binary people, 26 (6.68%) being women attracted to women or non-binary people and eight people (2.06%) of other diverse sexualities.

Over four-fifths (86.55%; n=341) of respondents who reported length of stay had lived in Australia for less than 20 years as shown in Table 4; however, compared to other regions a larger proportion of respondents born in South-East Asia had lived in Australia for at least 30 years. The majority of respondents (63.30%; n=257) who answered the visa question were permanent residents/citizens, 24.14 percent (n=98) were on student visas and 8.13 percent (n=33) were on work visas.

**Table 4: Number and proportion of respondents (n=394)^, by time in Australia and region of birth**

| Region                 | 0-9 yrs<br>n (%)   | 10-19 yrs<br>n (%) | 20-29 yrs<br>n (%) | 30 + yrs<br>n (%) | p-value |
|------------------------|--------------------|--------------------|--------------------|-------------------|---------|
| SSA<br>(n=124)         | 50 (40.32)         | 68 (54.84)         | 5 (4.03)           | 1 (0.81)          | <0.000  |
| SEA<br>(n=93)          | 48 (51.61)         | 17 (18.28)         | 5 (5.38)           | 23 (24.73)        |         |
| NEA<br>(n=143)         | 95 (66.43)         | 35 (24.48)         | 8 (5.59)           | 5 (3.50)          |         |
| Unspecified<br>(n=34)* | 11 (32.35)         | 17 (50.00)         | 2 (5.88)           | 4 (11.76)         | NA*     |
| <b>ALL<br/>(n=394)</b> | <b>204 (51.78)</b> | <b>137 (34.77)</b> | <b>20 (5.08)</b>   | <b>33 (8.38)</b>  |         |

^Excludes those who did not report time in Australia

\*Unspecified regions excluded from chi2 analysis.

Respondents who provided a postcode predominately resided in Adelaide, as shown in Table 5.

**Table 5: Number and proportion of respondents (n=381)^, by local government area of residence\***

| SA region        | Local Government Area | n (%)       |
|------------------|-----------------------|-------------|
| ADELAIDE (n=366) | Eastern Adelaide      | 83 (21.78)  |
|                  | Western Adelaide      | 70 (18.37)  |
|                  | Southern Adelaide     | 88 (23.10)  |
|                  | Northern Adelaide     | 125 (32.81) |
| OTHER (n=15)     | Adelaide Hills        | 1 (0.26)    |
|                  | Murray and Mallee     | 10 (2.62)   |
|                  | Eyre and Western      | 4 (1.05)    |

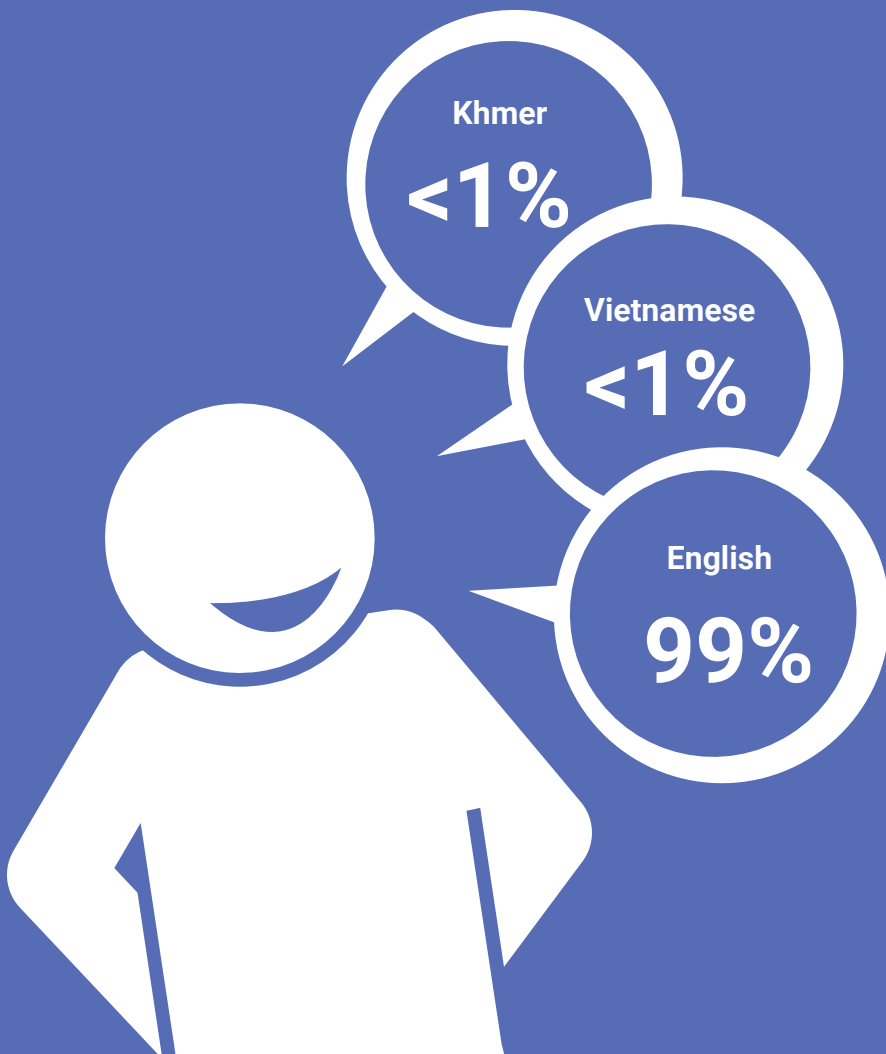
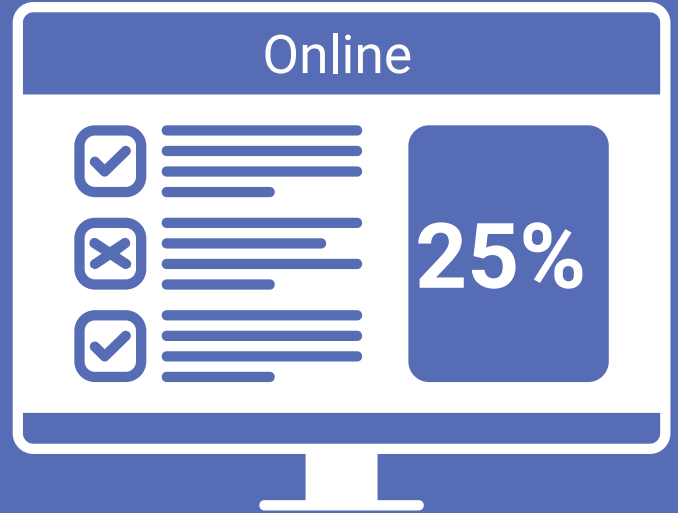
^Excludes those who did not report a valid postcode.

\*Local government areas determined by postcode. Some postcodes are shared by more than one local government area so may have been misclassified into an adjoining area. For the purposes of this table:

- Eastern Adelaide = 5000, 5001, 5005, 5006, 5034, 5063-5076, 5082
- Western Adelaide = 5007-5015, 5017, 5019, 5021-5023, 5025, 5031-5033
- Southern Adelaide = 5038, 5039, 5042-5052, 5062, 5158, 5159, 5162-5165
- Northern Adelaide = 5083-5087, 5090-5093, 5095-5098, 5106-5114, 5121, 5127
- Adelaide Hills = 5152
- Murray and Mallee = 5253, 5260
- Eyre and Western = 5601, 5116, 5118, 5501

# Mode of completion at a glance

The majority of surveys were completed in paper form.



Most respondents completed the survey in English.



The majority of surveys (75.06%; n=313) were completed in paper form. Higher proportions of women (Table 6), people born in North-East Asia (Table 7), and people under 50 years (Table 8) completed the online survey compared to the paper survey. Differences in modes of completion by gender, age, and region of birth were statistically significant (Tables 6-8).

**Table 6: Number and proportion of respondents (n=402)<sup>^</sup>, by mode of completion and gender**

| Survey mode            | Male<br>n (%)      | Female<br>n (%)    | p-value |
|------------------------|--------------------|--------------------|---------|
| Paper<br>(n=300)       | 121 (40.33)        | 179 (59.67)        | 0.020   |
| Online<br>(n=102)      | 28 (27.45)         | 74 (72.55)         |         |
| <b>ALL<br/>(n=402)</b> | <b>149 (37.06)</b> | <b>253 (62.94)</b> |         |

<sup>^</sup>Excludes those who did not report gender, and those who reported non-binary or both male and female genders (due to small numbers)

**Table 7: Number and proportion of respondents (n=371)<sup>^</sup>, by mode of completion and region of birth**

| Survey mode            | SSA<br>n (%)       | SEA<br>n (%)      | NEA<br>n (%)       | p-value |
|------------------------|--------------------|-------------------|--------------------|---------|
| Paper<br>(n=271)       | 126 (46.49)        | 75 (27.68)        | 70 (25.83)         | <0.000  |
| Online<br>(n=100)      | 6 (6.00)           | 20 (20.00)        | 74 (74.00)         |         |
| <b>ALL<br/>(n=371)</b> | <b>132 (35.58)</b> | <b>95 (25.61)</b> | <b>144 (38.81)</b> |         |

<sup>^</sup>Excludes those who did not report region of birth

**Table 8: Number and proportion of respondents (n=408)^, by mode of completion and age**

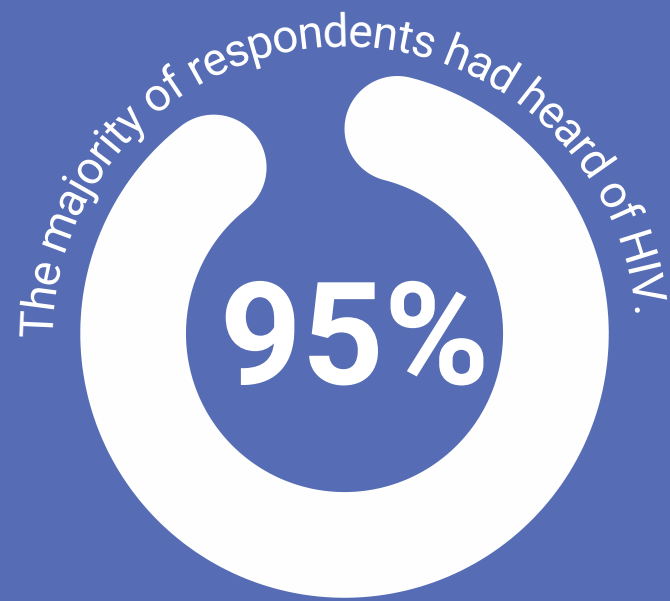
| Survey mode            | 18-29 yrs<br>n (%)     | 30-39 yrs<br>n (%)     | 40-49 yrs<br>n (%)    | 50-59 yrs<br>n (%)   | 60 + yrs<br>n (%)    | p-value |
|------------------------|------------------------|------------------------|-----------------------|----------------------|----------------------|---------|
| Paper<br>(n=305)       | 112 (36.72)            | 85 (27.87)             | 51 (16.72)            | 33 (10.82)           | 24 (7.87)            | 0.006*  |
| Online<br>(n=103)      | 40 (38.83)             | 34 (33.01)             | 25 (24.27)            | 3 (2.91)             | 1 (0.97)             |         |
| <b>ALL<br/>(n=408)</b> | <b>152<br/>(37.25)</b> | <b>119<br/>(29.17)</b> | <b>76<br/>(18.63)</b> | <b>36<br/>(8.82)</b> | <b>25<br/>(6.13)</b> |         |

^Excludes those who did not report age

\*All cells had expected frequencies greater than 5

The majority of surveys (99.28%; n=414) were completed in English. Surveys were also completed in Vietnamese (0.24%; n=1), and Khmer (0.48%, n=2). No surveys were completed in Traditional Chinese or Simplified Chinese.

# HIV knowledge at a glance

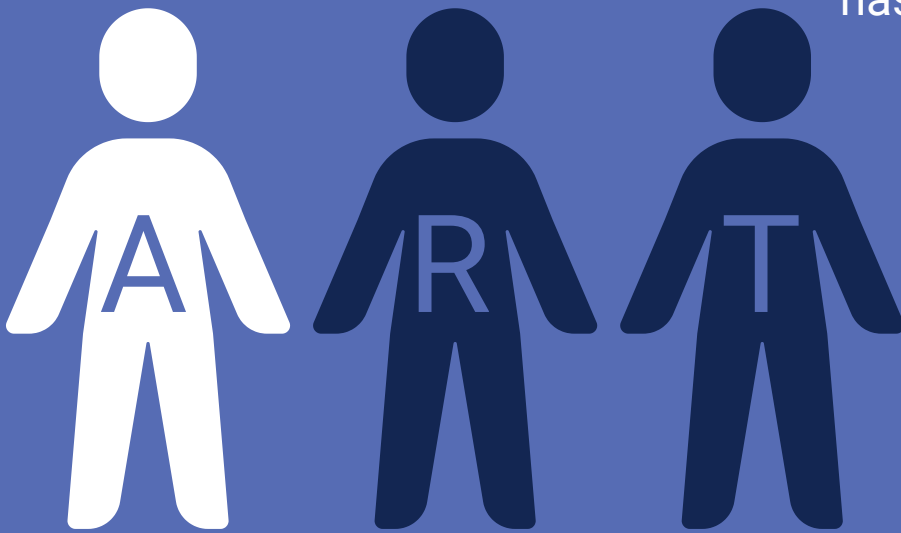


Of those ...

just over one-third were aware that HIV testing is NOT done whenever someone has a blood test.



36%



Approximately one in three respondents knew that there is medication available so people with HIV can live a normal life.



58% of men who are sexually attracted to men had PrEP knowledge

The majority of respondents (95.39%; n=393; five missing responses excluded) had heard of HIV. Of those who had heard of HIV and answered specific knowledge questions:

- just over one-third (36.29%; n=139; 10 missing/invalid responses excluded) were aware that HIV testing is not done whenever someone has a blood test in Australia;
- only 7.53 percent (n=29; 8 missing/invalid responses excluded) were aware that it is safe to have sex without a condom with someone who has very low\* amounts of the HIV virus in their blood;
- less than one-third (31.07%; n=119; 10 missing/invalid responses excluded) were aware that non-traditional\* medicine is available for people living with HIV so they can live a normal life; and
- only 15.84 percent (n=61; 8 missing/invalid responses excluded) knew that there are medicines that people can take before sex to protect themselves against HIV.

No statistically significant differences in responses were observed in relation to respondent age, gender, or region (data not shown). A significantly higher proportion of men who are sexually attracted to men/non-binary people (MSM) were aware that HIV testing is not a routine part of all blood tests, and that pre-exposure prophylaxis is available, compared to non-MSM males (Table 9).

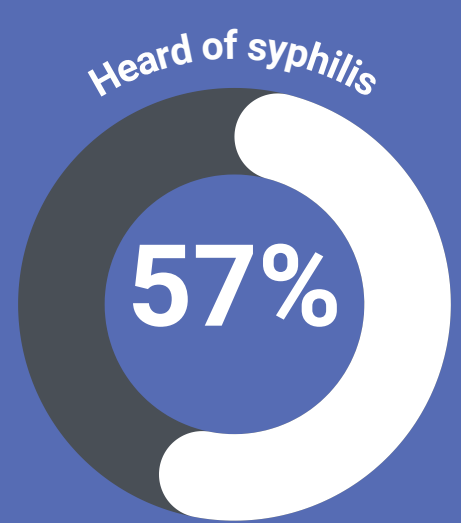
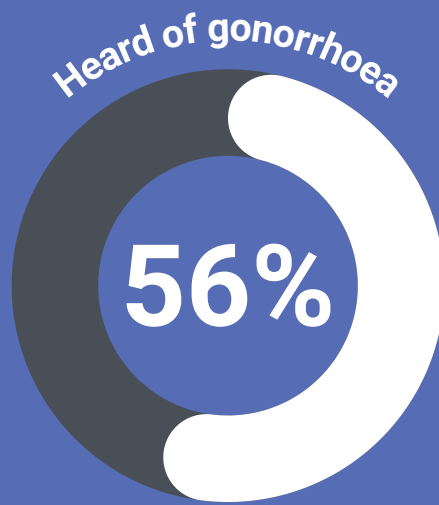
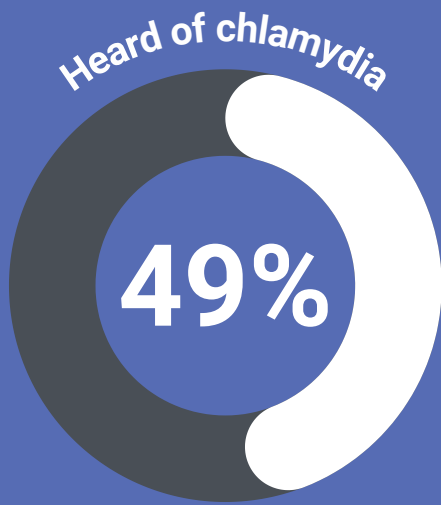
**Table 9: Responses<sup>^</sup> to HIV knowledge questions, by sexuality (MSM v non-MSM males)**

| Survey question<br>(correct answer)   | Correct/<br>incorrect     | MSM<br>n (%)  | Non-MSM<br>n (%) | TOTAL<br>n (%) | p-value         |
|---|---------------------------|---------------|------------------|----------------|-----------------|
| Is an HIV test done whenever someone has a blood test in Australia? <b>(No)</b>                                       | Correct                   | 8<br>(66.67)  | 36<br>(28.80)    | 44<br>(32.12)  | 0.019<br>(FE)** |
|   | Incorrect /<br>Don't know | 4<br>(33.33)  | 89<br>(71.20)    | 93<br>(67.88)  |                 |
| Is it safe to have sex without a condom with someone who has VERY LOW amounts of HIV in their blood? <b>(Yes)</b>     | Correct                   | 2<br>(16.67)  | 12<br>(9.52)     | 14<br>(10.14)  | 0.350<br>(FE)** |
|   | Incorrect /<br>Don't know | 10<br>(83.33) | 114<br>(90.48)   | 124<br>(89.86) |                 |
| Is there non-traditional medication available for people living with HIV so they can live a normal life? <b>(Yes)</b> | Correct                   | 7<br>(63.64)  | 43<br>(34.13)    | 50<br>(36.50)  | 0.098<br>(FE)** |
|   | Incorrect /<br>Don't know | 4<br>(36.36)  | 83<br>(65.87)    | 87<br>(63.50)  |                 |
| Are there any medicines that people can take BEFORE SEX to protect themselves against HIV? <b>(Yes)</b>               | Correct                   | 7<br>(58.33)  | 16<br>(12.70)    | 23<br>(16.67)  | 0.001<br>(FE)** |
|   | Incorrect /<br>Don't know | 5<br>(41.67)  | 110<br>(87.30)   | 115<br>(83.33) |                 |

<sup>^</sup>Excludes respondents who skipped or provided invalid responses to specific knowledge questions, respondents who had not heard of HIV, and respondents who did not report data to enable sexuality to be determined.

\*\*FE = based on Fisher's exact test as more than 20% of cells had an expected frequency of less than 5

# STI knowledge at a glance



Of those who had heard of at least one STI...



67% knew that a person can have an STI without any symptoms



65% knew that a person with only one sexual partner can get an STI



61% knew that STIs can make it harder for women to get pregnant

Of respondents who provided a valid answer to the question about awareness of specific STIs (n=400), fewer respondents reported knowledge of chlamydia (49.00%; n=196) compared to gonorrhoea (55.75%; n=223) and syphilis (57.00%; n=228). Sixty-four respondents (16.00%) indicated that they had not heard of gonorrhoea, chlamydia or syphilis, and 112 respondents (28.00%) said that they "know some STIs but ... don't know what they are called in English" (this option was not included in the translated versions of the survey).

Differences in awareness of gonorrhoea, syphilis, and chlamydia were not statistically significant when comparing gender or sexuality (MSM/non-MSM males) (data not shown), but some statistically significant differences were observed between regions of birth as set out in Table 10. Notably, a larger proportion of respondents born in Sub-Saharan Africa had heard of gonorrhoea, chlamydia and syphilis, compared to respondents from other regions.

**Table 10: Number and proportion of respondents who had heard of individual STIs (n=359)<sup>a</sup>, by region of birth**

| Have you heard of the following STIs? (Tick as many as apply)      | SSA<br>n (%) | SEA<br>n (%) | NEA<br>n (%) | Total<br>n (%) | p-value |
|--|--------------|--------------|--------------|----------------|---------|
| Gonorrhoea   | 108 (85.04)  | 41 (45.05)   | 42 (29.79)   | 191 (53.20)    | <0.000  |
| Syphilis   | 100 (78.74)  | 50 (54.95)   | 47 (33.33)   | 197 (54.87)    | <0.000  |
| Chlamydia  | 72 (56.69)   | 42 (46.15)   | 54 (38.30)   | 168 (46.80)    | 0.011   |
| I haven't heard of any of them                                     | 10 (7.87)    | 13 (14.29)   | 37 (26.24)   | 60 (16.71)     | <0.000  |
| I know some STIs but I don't know what they are called in English* | 24 (18.90)   | 27 (29.67)   | 54 (38.30)   | 105 (29.25)    | 0.002   |

<sup>a</sup>Excludes those who did not report country of birth, those who skipped the question and invalid responses

Some statistically significant differences were observed between groups on the basis of age (Table 11). Notably, lower proportions of 18-29 year olds had heard of syphilis compared to other age groups, and awareness of chlamydia was highest among 40-49 year olds.

**Table 11: Number and proportion of respondents who had heard of individual STIs (n=395)^, by age**

| Have you heard of the following STIs? (Tick as many as apply)     | 18-29 yrs<br>n (%) | 30-39 yrs<br>n (%) | 40-49 yrs<br>n (%) | 50-59 yrs<br>n (%) | 60+ yrs<br>n (%) | TOTAL<br>n (%) | p-value* |
|---|--------------------|--------------------|--------------------|--------------------|------------------|----------------|----------|
| Gonorrhoea  | 79 (51.97)         | 64 (54.70)         | 44 (59.46)         | 19 (59.38)         | 14 (70.00)       | 220 (55.70)    | 0.532    |
| Syphilis  | 72 (47.37)         | 68 (58.12)         | 50 (67.57)         | 19 (59.38)         | 15 (75.00)       | 224 (56.71)    | 0.018    |
| Chlamydia   | 80 (52.63)         | 49 (41.88)         | 45 (60.81)         | 12 (37.50)         | 7 (35.00)        | 193 (48.86)    | 0.032    |
| I haven't heard of any of them                                    | 27 (17.76)         | 21 (17.95)         | 6 (8.11)           | 6 (18.75)          | 3 (15.00)        | 63 (15.95)     | 0.365    |
| I know some STIs but I don't know what they are called in English | 41 (26.97)         | 31 (26.50)         | 23 (31.08)         | 10 (31.25)         | 6 (30.00)        | 111 (28.10)    | 0.943    |

^Excludes those who did not report age, those who skipped the question and invalid responses

Of the respondents who indicated that they had heard of at least one STI (n=336), more than half were aware that a person can have an STI without any symptoms (66.87%; n=222; 4 missing/invalid responses excluded), that a person with only one sexual partner can get an STI through sex (65.35%; n=215; 7 missing/invalid responses excluded) and that some STIs can make it harder for women to get pregnant (61.26%; n=204; 3 missing/invalid responses excluded).

There was no statistically significant difference between correct responses by region of birth for STI knowledge questions, other than the statement "some STIs can make it harder for women to get pregnant" which a lower proportion of South-East Asian-born respondents identified correctly compared to respondents from other birth regions (Table 12). No significant differences in knowledge were observed with respect to gender or sexuality (MSM/non-MSM males) (data not shown).

Compared to other age groups, a significantly larger proportion of respondents aged 18-39 were aware that STIs can be asymptomatic (Table 13). Differences in responses by time in Australia were also statistically significant in relation to the knowledge that people with only one sexual partner could still acquire an STI (Table 14).



**Table 12: Responses<sup>^</sup> to STI knowledge questions, by region of birth**

| Survey question<br>(correct answer)  | Correct/<br>incorrect     | SSA<br>n (%) | SEA<br>n (%) | NEA<br>n (%) | TOTAL<br>n (%) | p-value |
|--|---------------------------|--------------|--------------|--------------|----------------|---------|
| Can a person have an STI without any symptoms? <b>(Yes)</b>                    | Correct                   | 71 (62.28)   | 57 (73.08)   | 73 (70.19)   | 201 (67.91)    | 0.239   |
|  | Incorrect /<br>Don't know | 43 (37.72)   | 21 (26.92)   | 31 (29.81)   | 95 (32.09)     |         |
| Can a person with ONLY one sexual partner get an STI through sex? <b>(Yes)</b> | Correct                   | 76 (67.86)   | 46 (60.53)   | 69 (66.35)   | 191 (65.41)    | 0.566   |
|  | Incorrect /<br>Don't know | 36 (32.14)   | 30 (39.47)   | 35 (33.65)   | 101 (34.59)    |         |
| Can some STIs make it harder for women to get pregnant? <b>(Yes)</b>           | Correct                   | 79 (68.70)   | 37 (48.05)   | 71 (68.27)   | 187 (63.18)    | 0.006   |
|  | Incorrect /<br>Don't know | 36 (31.30)   | 40 (51.95)   | 33 (31.73)   | 109 (36.82)    |         |

<sup>^</sup>Excludes respondents who did not report region of birth, respondents who skipped relevant questions, invalid responses, and those who reported that they had never heard of any STIs

**Table 13: Responses<sup>^</sup> to STI knowledge questions, by age**

| Survey question<br>(correct answer)  | Correct/<br>incorrect     | 18-29 yrs<br>n (%) | 30-39 yrs<br>n (%) | 40-49 yrs<br>n (%) | 50-59 yrs<br>n (%) | 60+ yrs<br>n (%) | TOTAL<br>n (%) | p-value |
|--|---------------------------|--------------------|--------------------|--------------------|--------------------|------------------|----------------|---------|
| Can a person have an STI without any symptoms? <b>(Yes)</b>                    | Correct                   | 89 (71.20)         | 67 (71.28)         | 43 (64.18)         | 11 (42.31)         | 9 (56.25)        | 219 (66.77)    | 0.041   |
|  | Incorrect /<br>Don't know | 36 (28.80)         | 27 (28.72)         | 24 (35.82)         | 15 (57.69)         | 7 (43.75)        | 109 (33.23)    |         |
| Can a person with ONLY one sexual partner get an STI through sex? <b>(Yes)</b> | Correct                   | 88 (70.97)         | 65 (68.42)         | 40 (60.61)         | 12 (48.00)         | 8 (53.33)        | 213 (65.54)    | 0.132   |
|  | Incorrect /<br>Don't know | 36 (29.03)         | 30 (31.58)         | 26 (39.39)         | 13 (52.00)         | 7 (46.67)        | 112 (34.46)    |         |
| Can some STIs make it harder for women to get pregnant? <b>(Yes)</b>           | Correct                   | 75 (60.00)         | 62 (64.58)         | 44 (65.67)         | 13 (52.00)         | 8 (50.00)        | 202 (61.40)    | 0.585   |
|  | Incorrect /<br>Don't know | 50 (40.00)         | 34 (35.42)         | 23 (34.33)         | 12 (48.00)         | 8 (50.00)        | 127 (38.60)    |         |

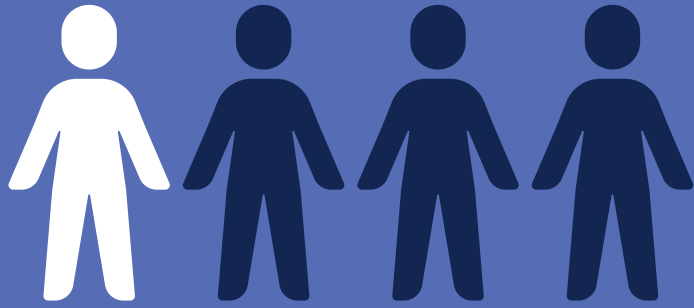
<sup>^</sup>Excludes respondents who did not report age, respondents who skipped relevant questions, invalid respondents, and respondents who reported that they had never heard of any STIs

**Table 14: Responses<sup>a</sup> to STI knowledge questions, by time in Australia**

| Survey question<br>(correct answer)  | Correct/<br>incorrect     | 0-9 years<br>n (%) | 10-19 yrs<br>n (%) | 20-29 yrs<br>n (%) | 30+ yrs<br>n (%) | TOTAL<br>n (%) | p-value |
|--|---------------------------|--------------------|--------------------|--------------------|------------------|----------------|---------|
| Can a person have an STI without any symptoms? <b>(Yes)</b>                    | Correct                   | 109 (68.13)        | 76 (63.87)         | 9 (69.23)          | 18 (66.67)       | 212 (66.46)    | 0.896   |
|  | Incorrect /<br>Don't know | 51 (31.87)         | 43 (36.13)         | 4 (30.77)          | 9 (33.33)        | 107 (33.54)    |         |
| Can a person with ONLY one sexual partner get an STI through sex? <b>(Yes)</b> | Correct                   | 112 (71.79)        | 75 (62.50)         | 9 (69.23)          | 12 (44.44)       | 208 (65.82)    | 0.035   |
|  | Incorrect /<br>Don't know | 44 (28.21)         | 45 (37.50)         | 4 (30.77)          | 15 (55.56)       | 108 (34.18)    |         |
| Can some STIs make it harder for women to get pregnant? <b>(Yes)</b>           | Correct                   | 104 (65.41)        | 73 (60.33)         | 7 (53.85)          | 12 (44.44)       | 196 (61.25)    | 0.194   |
|  | Incorrect /<br>Don't know | 55 (34.59)         | 48 (39.67)         | 6 (46.15)          | 15 (55.56)       | 124 (38.75)    |         |

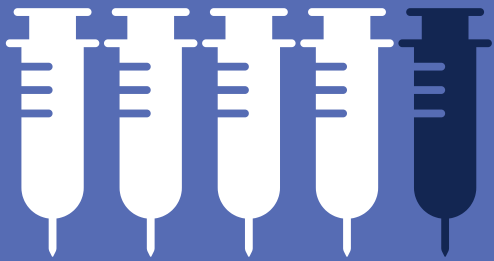
<sup>a</sup>Excludes respondents who did not report time in Australia, respondents who skipped relevant questions, invalid respondents, and respondents who reported that they had never heard of any STIs

# Hepatitis B knowledge at a glance



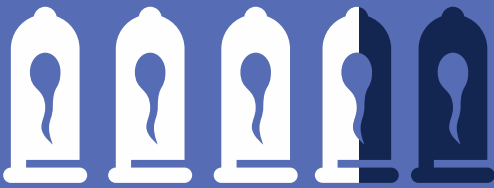
Just over one-quarter "have heard of hepatitis B and know what it is"

Of those ...



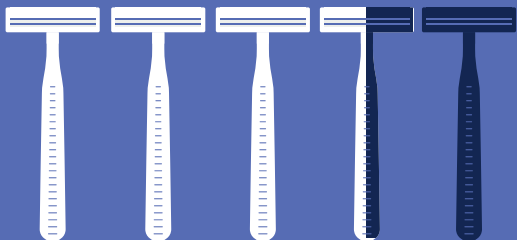
82%

were aware there is a vaccine



70%

were aware it can be passed through sex without a condom



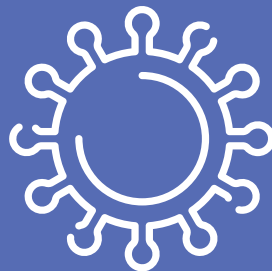
67%

were aware it can be passed on by sharing razors

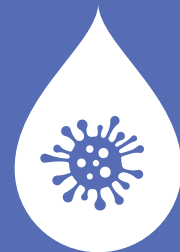
**BUT fewer had knowledge that ...**



it cannot be passed on by sharing food (52%)



there is no medication to cure the virus (50%)



it cannot be passed through contaminated water (41%)

Excluding skipped and invalid responses (n=25), less than one-third of respondents (n=111; 28.32%) indicated that they “have heard of hepatitis B and know what it is”, compared to 21.68 percent (n=85) who indicated that they had heard of hepatitis but did not know “if it was hepatitis B or another type of hepatitis”, and 39.29 percent (n=154) had heard of both hepatitis B and hepatitis C but did not “know the difference between them” (Table 15).

**Table 15: Responses to question “Which of the following best describes you?” (n=392)^**

| Response  | n (%)       |
|---|-------------|
| I have heard of hepatitis but I don't know if it was hepatitis B or another type of hepatitis (for example, hepatitis A or hepatitis C) | 85 (21.68)  |
| I have heard of hepatitis B and hepatitis C but I don't know the difference between them  | 154 (39.29) |
| I have not heard of hepatitis B   | 42 (10.71)  |
| I have heard of hepatitis B and I know what it is*  | 111 (28.32) |

^Excludes skipped/invalid responses

\*Only those who selected this response were required to answer specific hepatitis B knowledge questions

Differences observed between groups on the basis of gender, sexuality (MSM/non-MSM male), or time spent in Australia were not statistically significant. However, familiarity with hepatitis B differed significantly by region of birth and age, with a lower proportion of North-East Asian-born respondents (Table 16) and 18-29 year olds (Table 17) indicating that they knew what hepatitis B was, when compared to other groups.

**Table 16: Number and proportion of respondents who had heard of hepatitis B (n=357)<sup>^</sup>, by region of birth**

| Which of the following best describes you? (Tick one)  | SSA<br>n (%) | SEA<br>n (%) | NEA<br>n (%) | TOTAL<br>n (%) | p-value |
|--|--------------|--------------|--------------|----------------|---------|
| I have heard of hepatitis but I don't know if it was hepatitis B or another type of hepatitis (for example hepatitis A or hepatitis C) | 33 (26.83)   | 23 (25.00)   | 26 (18.31)   | 82 (22.97)     | 0.024   |
| I have heard of hepatitis B and hepatitis C but I don't know the difference between them   | 42 (34.15)   | 34 (36.96)   | 56 (39.44)   | 132 (36.97)    |         |
| I have not heard of hepatitis B  | 10 (8.13)    | 5 (5.43)     | 26 (18.31)   | 41 (11.48)     |         |
| I have heard of hepatitis B and I know what it is  | 38 (30.89)   | 30 (32.61)   | 34 (23.94)   | 102 (28.57)    |         |

<sup>^</sup>Excludes those who skipped the question or provided invalid responses (i.e. chose more than one option), or did not report region of birth

**Table 17: Number and proportion of respondents<sup>a</sup> who had heard of hepatitis B (n=388), by age**

| Which of the following best describes you? (Tick one)  | 18-29 yrs<br>n (%) | 30-39 yrs<br>n (%) | 40-49 yrs<br>n (%) | 50-59 yrs<br>n (%) | 60+ yrs<br>n (%) | TOTAL<br>n (%) | p-value* |
|--|--------------------|--------------------|--------------------|--------------------|------------------|----------------|----------|
| I have heard of hepatitis but I don't know if it was hepatitis B or another type of hepatitis (for example hepatitis A or hepatitis C) | 28 (19.05)         | 20 (17.70)         | 20 (26.67)         | 8 (25.00)          | 9 (42.86)        | 85 (21.91)     | 0.019    |
| I have heard of hepatitis B and hepatitis C but I don't know the difference between them   | 70 (47.62)         | 47 (41.59)         | 23 (30.67)         | 8 (25.00)          | 4 (19.05)        | 152 (39.18)    |          |
| I have not heard of hepatitis B  | 19 (12.93)         | 11 (9.73)          | 4 (5.33)           | 4 (12.50)          | 2 (9.52)         | 40 (10.31)     |          |
| I have heard of hepatitis B and I know what it is  | 30 (20.41)         | 35 (30.97)         | 28 (37.33)         | 12 (37.50)         | 6 (28.57)        | 111 (28.61)    |          |

<sup>a</sup>Excludes those who did not report age; those who skipped the question and invalid responses

Only those who reported that they had “heard of hepatitis B and know what it is” (n=111) were required to answer specific hepatitis B knowledge questions. Table 18 shows that the proportion of correct answers was high for vaccine knowledge (81.98%; n=91), knowledge of sexual transmission (69.72%; n=76, 2 missing responses), and knowledge of transmission through the sharing of personal hygiene equipment (66.97%; n=73, 2 missing responses); knowledge was comparatively lower with respect to the fact that hepatitis B cannot be transmitted through faecal contamination (40.54%; n=45), that no cure is available (49.54%; n=54) and that it cannot be passed through the sharing of food (51.82%; n=57, 1 missing response).

**Table 18: Responses<sup>^</sup> to hepatitis B knowledge questions**

| Survey question<br>(correct answer)  | Correct<br>n (%) | Incorrect /<br>don't know<br>n (%) |
|--|------------------|------------------------------------|
| Is there a vaccine (injection) to stop people from getting hepatitis B? <b>(Yes)</b>                                       | 91<br>(81.98)    | 20<br>(18.02)                      |
| Can you get hepatitis B from swallowing food or water containing the faeces (poo) of an infected person? <b>(No)</b>       | 45<br>(40.54)    | 66<br>(59.46)                      |
| Is there non-traditional medicine that can make the hepatitis B virus completely go away from a person's body? <b>(No)</b> | 54<br>(49.54)    | 55<br>(50.46)                      |
| Can hepatitis B normally be passed on through sex without a condom? <b>(Yes)</b>   | 76<br>(69.72)    | 33<br>(30.28)                      |
| Can hepatitis B normally be passed on by sharing a toothbrush or shaving razor? <b>(Yes)</b>                               | 73<br>(66.97)    | 36<br>(33.03)                      |
| Can hepatitis B normally be passed on by sharing food with an infected person? <b>(No)</b>                                 | 57<br>(51.82)    | 53<br>(48.18)                      |

<sup>^</sup>Excludes respondents who did not answer that they "have heard of hepatitis B and know what it is", and who skipped specific knowledge questions.

Correct responses to specific hepatitis B questions varied significantly by region of birth for three questions only (Table 19). North-East Asian-born respondents had higher levels of knowledge of the existence of a vaccine (94.12%; n=32) and knowledge that hepatitis B can be transmitted by sharing toothbrushes/razors (85.29%; n=29) compared to other groups. Meanwhile, higher proportions of Sub-Saharan African-born respondents gave correct answers to the question "Can hepatitis B normally be passed on by sharing food with an infected person?" (73.68%; n=28), compared to respondents from other birth regions. There were no significant differences by age, gender or sexuality (MSM/non-MSM men) (data not shown).



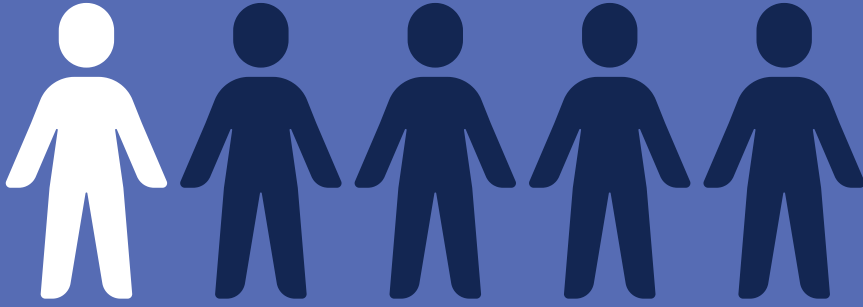
**Table 19: Responses^ to hepatitis B knowledge questions, by region of birth**

| Survey question<br>(correct answer)   | Correct/<br>incorrect  | SSA<br>n (%) | SEA<br>n (%) | NEA<br>n (%) | TOTAL<br>n (%) | p-value |
|---|------------------------|--------------|--------------|--------------|----------------|---------|
| Is there a vaccine (injection) to stop people from getting hepatitis B? (Yes)                                       | Correct                | 27 (71.05)   | 26 (86.67)   | 32 (94.12)   | 85 (83.33)     | 0.027   |
|   | Incorrect / Don't know | 11 (28.95)   | 4 (13.33)**  | 2 (5.88)     | 17 (16.67)     |         |
| Can you get hepatitis B from swallowing food or water containing the faeces (poo) of an infected person? (No)       | Correct                | 19 (50.00)   | 11 (36.67)   | 13 (38.24)   | 43 (42.16)     | 0.462   |
|   | Incorrect / Don't know | 19 (50.00)   | 19 (63.33)   | 21 (61.76)   | 59 (57.84)     |         |
| Is there non-traditional medicine that can make the hepatitis B virus completely go away from a person's body? (No) | Correct                | 20 (55.56)   | 11 (36.67)   | 18 (52.94)   | 49 (49.00)     | 0.265   |
|   | Incorrect / Don't know | 16 (44.44)   | 19 (63.33)   | 16 (47.06)   | 51 (51.00)     |         |
| Can hepatitis B normally be passed on through sex without a condom? (Yes)   | Correct                | 28 (75.68)   | 23 (79.31)   | 21 (61.76)   | 72 (72.00)     | 0.249   |
|   | Incorrect / Don't know | 9 (24.32)    | 6 (20.69)    | 13 (38.24)   | 28 (28.00)     |         |
| Can hepatitis B normally be passed on by sharing a toothbrush or shaving razor? (Yes)                               | Correct                | 26 (70.27)   | 14 (48.28)   | 29 (85.29)   | 69 (69.00)     | 0.007   |
|   | Incorrect / Don't know | 11 (29.73)   | 15 (51.72)   | 5 (14.71)    | 31 (31.00)     |         |
| Can hepatitis B normally be passed on by sharing food with an infected person? (No)                                 | Correct                | 28 (73.68)   | 11 (37.93)   | 15 (44.12)   | 54 (53.47)     | 0.006   |
|   | Incorrect / Don't know | 10 (26.32)   | 18 (62.07)   | 19 (55.88)   | 47 (46.53)     |         |

^Excludes respondents who did not report region of birth, respondents who skipped relevant questions, invalid responses, and respondents who did not report that they had "heard of hepatitis B and know what it is".

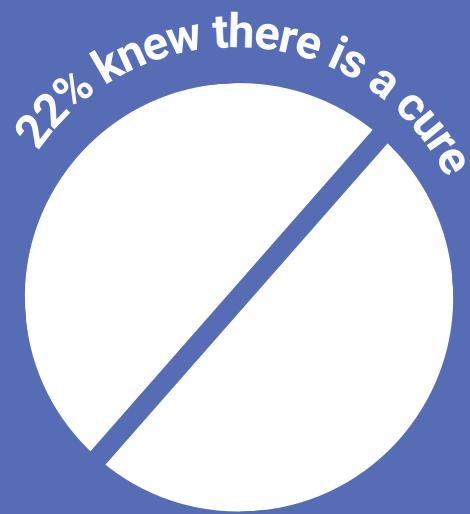
\*\*Expected frequency >5

# Hepatitis C knowledge at a glance



Just over one-fifth of all respondents (n=91) **had heard of hepatitis C** and could distinguish it from other forms of hepatitis

Of those ...



but a higher proportion (85%) were aware that



One hundred and thirty-eight (33.09% of the total sample) indicated that they “have heard of hepatitis C” but this included respondents who had not correctly followed skip logic and were not required to answer this question based on their response to an earlier hepatitis B threshold question (i.e. had indicated in an earlier question that they did not know the difference between different types of hepatitis). After excluding those respondents, there was a total of 91 respondents who had heard of hepatitis C and were aware of how it was distinct from other forms of hepatitis. No significant differences between groups by age, gender, region of birth, or sexuality (MSM/non-MSM male) were observed.

Of the respondents who had heard of hepatitis C and answered specific hepatitis C questions, 35.96 percent (n=32; 2 missing responses) were aware that there was no vaccine for hepatitis C, and 21.59 percent (n=19; 3 missing responses) were aware that a cure is available. As shown in Table 20 below, there were higher levels of knowledge that hepatitis C can be passed on by sharing injecting equipment and that reinfection is possible.

**Table 20: Responses^ to hepatitis C knowledge questions**

| Survey question<br>(correct answer)   | Correct<br>n (%) | Incorrect /<br>don't know<br>n (%) |
|---|------------------|------------------------------------|
| Is there a vaccine (injection) to stop people from getting hepatitis C? <b>(No)</b>   | 32<br>(35.96)    | 57<br>(64.04)                      |
| Is there non-traditional medicine that can make the hepatitis C virus completely go away from a person's body? <b>(Yes)</b> | 19<br>(21.59)    | 69<br>(78.41)                      |
| Can hepatitis C be passed on by sharing injecting equipment like needles and syringes? <b>(Yes)</b>                         | 76<br>(85.39)    | 13<br>(14.61)                      |
| Can someone get hepatitis C more than once in their lifetime? <b>(Yes)</b>  | 40<br>(44.94)    | 49<br>(55.06)                      |

^Excludes respondents who skipped relevant questions, those who did not report that they had "heard of hepatitis C", and those who did not know the distinction between different types of hepatitis

No statistically significant differences by region of birth or gender were observed in any of the hepatitis C data (data not shown), but significant differences were noted by age and sexuality with respect to knowledge about hepatitis C reinfection; notably, larger proportions of younger people and men who are sexually attracted to men answered this question correctly, compared to older respondents and non-MSM males (Table 21, Table 22).

**Table 21: Responses<sup>a</sup> to hepatitis C knowledge questions, by age**

| Survey question<br>(correct answer)   | Correct/<br>incorrect     | 18-29 yrs<br>n (%) | 30-39 yrs<br>n (%) | 40-49 yrs<br>n (%) | 50-59 yrs<br>n (%) | 60+ yrs<br>n (%) | TOTAL<br>n (%) | p-value         |
|---|---------------------------|--------------------|--------------------|--------------------|--------------------|------------------|----------------|-----------------|
| Is there a vaccine (injection) to stop people from getting hepatitis C? ( <b>No</b> )   | Correct                   | 5 (20.83)          | 14 (50.00)         | 11 (45.83)         | 1 (11.11)          | 1 (25.00)        | 32 (35.96)     | 0.075**<br>(FE) |
|   | Incorrect /<br>Don't know | 19 (79.17)         | 14 (50.00)         | 13 (54.17)         | 8 (88.89)          | 3 (75.00)        | 57 (64.04)     |                 |
| Is there non-traditional medicine that can make the hepatitis C virus completely go away from a person's body? ( <b>Yes</b> ) | Correct                   | 4 (16.67)          | 7 (25.93)          | 6 (26.09)          | 1 (10.00)          | 1 (25.00)        | 19 (21.59)     | 0.799**<br>(FE) |
|   | Incorrect /<br>Don't know | 20 (83.33)         | 20 (74.07)         | 17 (73.91)         | 9 (90.00)          | 3 (75.00)        | 69 (78.41)     |                 |
| Can hepatitis C be passed on by sharing injecting equipment like needles and syringes? ( <b>Yes</b> )                         | Correct                   | 21 (87.50)         | 23 (85.19)         | 22 (91.67)         | 7 (70.00)          | 3 (75.00)        | 76 (85.39)     | 0.437**<br>(FE) |
|   | Incorrect /<br>Don't know | 3 (12.50)          | 4 (14.81)          | 2 (8.33)           | 3 (30.00)          | 1 (25.00)        | 13 (14.61)     |                 |
| Can someone get hepatitis C more than once in their lifetime? ( <b>Yes</b> )  | Correct                   | 14 (58.33)         | 16 (59.26)         | 9 (37.50)          | 0 (0.00)           | 1 (25.00)        | 40 (44.94)     | 0.004**<br>(FE) |
|   | Incorrect /<br>Don't know | 10 (41.67)         | 11 (40.74)         | 15 (62.50)         | 10 (100.00)        | 3 (75.00)        | 49 (55.06)     |                 |

<sup>a</sup>Excludes respondents who did not report age, respondents who skipped relevant questions, invalid respondents, and respondents who reported that they had never heard of any STIs

\*\*FE = based on Fisher's exact test as more than 20% of cells had an expected frequency of less than 5

**Table 22: Responses<sup>a</sup> to hepatitis C knowledge questions, by sexuality**

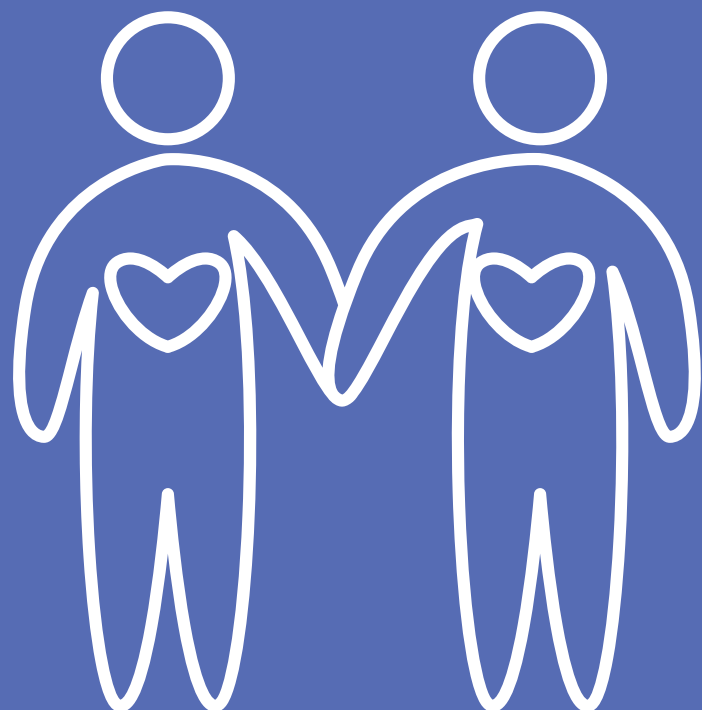
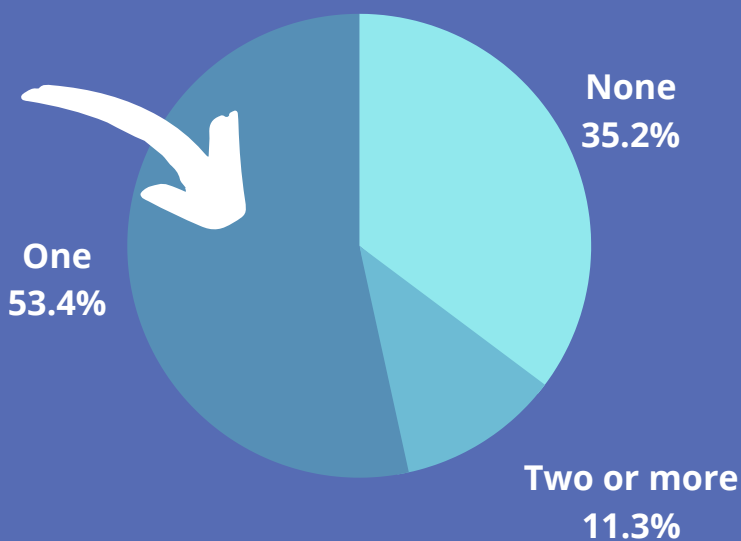
| Survey question<br>(correct answer)   | Correct/<br>incorrect     | Non-MSM<br>male<br>n (%) |                           | MSM male<br>n (%) |                           | TOTAL<br>n (%) | p-value |
|---|---------------------------|--------------------------|---------------------------|-------------------|---------------------------|----------------|---------|
|   |                           | Correct                  | Incorrect /<br>Don't know | Correct           | Incorrect /<br>Don't know |                |         |
| Is there a vaccine (injection) to stop people from getting hepatitis C? ( <b>No</b> )   | Correct                   | 12 (52.17)               | 1 (25.00)                 | 13 (48.15)        | 0.596<br>(FE)*            |                |         |
|   | Incorrect /<br>Don't know | 11 (47.83)               | 3 (75.00)                 | 14 (51.85)        |                           |                |         |
| Is there non-traditional medicine that can make the hepatitis C virus completely go away from a person's body? ( <b>Yes</b> ) | Correct                   | 5 (22.73)                | 3 (75.00)                 | 8 (30.77)         | 0.072<br>(FE)*            |                |         |
|   | Incorrect /<br>Don't know | 17 (77.27)               | 1 (25.00)                 | 18 (69.23)        |                           |                |         |
| Can hepatitis C be passed on by sharing injecting equipment like needles and syringes? ( <b>Yes</b> )                         | Correct                   | 21 (91.30)               | 4 (100.00)                | 25 (92.59)        | 1.000<br>(FE)*            |                |         |
|   | Incorrect /<br>Don't know | 2 (8.70)                 | 0 (0.00)                  | 2 (7.41)          |                           |                |         |
| Can someone get hepatitis C more than once in their lifetime? ( <b>Yes</b> )  | Correct                   | 8 (34.78)                | 4 (100.00)                | 12 (44.44)        | 0.028<br>(FE)*            |                |         |
|   | Incorrect /<br>Don't know | 15 (65.22)               | 0 (0.00)                  | 15 (55.56)        |                           |                |         |

<sup>a</sup>Excludes respondents who skipped relevant questions, those who did not report that they had "heard of hepatitis C", those who did not report sexuality, and those who did not know the distinction between different types of hepatitis

\*FE = Fisher's exact test used

# Sexual partners at a glance

The majority of respondents reported only one sexual partner in the previous 12 months



The majority of sexually active respondents (90%) reported that they were in a committed relationship with the most recent person they had sex with.



18% of respondents who had been overseas since Jan 2018 reported having sex during one of those visits

Three hundred and thirty-five respondents provided a valid answer to the question “In the past twelve months, how many people have you had sexual intercourse with (vaginal or anal)?” Of those, one-third (35.22%; n=118) reported having no sexual partners in the previous 12 months, 53.43 percent (n=179) reported one sexual partner only and a small proportion (11.34%; n=38) reported at least two sexual partners. Table 23 shows that a higher proportion of online respondents reported one or more sexual partners, compared to paper respondents, and the differences were statistically significant. Statistically significant differences were also observed in responses by region (Table 24).

**Table 23: Reported number<sup>^</sup> of sexual partners in past 12 months, by survey mode**

| Survey mode   | None<br>n (%) | One<br>n (%) | Two or more<br>n (%) |
|---------------|---------------|--------------|----------------------|
| Paper (n=239) | 93 (38.91)    | 117 (48.95)  | 29 (12.13)           |
| Online (n=96) | 25 (26.04)    | 62 (64.58)   | 9 (9.38)             |
| TOTAL (n=335) | 118 (35.22)   | 179 (53.43)  | 38 (11.34)           |

<sup>^</sup>Excludes those who did not provide a valid response to the sexual partners question  
\*p=0.033

**Table 24: Reported number<sup>^</sup> of sexual partners in past 12 months, by region of birth**

| Region        | None<br>n (%) | One<br>n (%) | Two or more<br>n (%) |
|---------------|---------------|--------------|----------------------|
| SSA (n=102)   | 39 (38.24)    | 50 (49.02)   | 13 (12.75)           |
| SEA (n=76)    | 23 (30.26)    | 38 (50.00)   | 15 (19.74)           |
| NEA (n=126)   | 42 (33.33)    | 77 (61.11)   | 7 (5.56)             |
| TOTAL (n=304) | 104 (34.21)   | 165 (54.28)  | 35 (11.51)           |

<sup>^</sup>Excludes those who did not provide a valid response to the sexual partners question and those who did not report country of birth  
\*p=0.024

Statistically significant differences were also observed between groups on the basis of gender and age, with a higher proportion of males, 18-29 year olds and MSM males reporting two or more sexual partners, compared to women, older cohorts and non-MSM males (Table 25-Table 27).

**Table 25: Reported number<sup>^</sup> of sexual partners in past 12 months, by gender**

| Gender         | None<br>n (%) | One<br>n (%) | Two or more<br>n (%) |
|----------------|---------------|--------------|----------------------|
| Male (n=118)   | 31 (26.27)    | 66 (55.93)   | 21 (17.80)           |
| Female (n=208) | 83 (39.90)    | 111 (53.37)  | 14 (6.73)            |
| TOTAL (n=326)  | 114 (34.97)   | 177 (54.29)  | 35 (10.74)           |

<sup>^</sup>Excludes those who did not provide a valid response to the gender or sexual partners questions  
\*p=0.002

**Table 26: Reported number<sup>^</sup> of sexual partners in past 12 months, by age**

| Sexuality               | None<br>n (%) | One<br>n (%) | Two or more<br>n (%) |
|-------------------------|---------------|--------------|----------------------|
| 18 to 29 yrs<br>(n=133) | 55 (41.35)    | 58 (43.61)   | 20 (15.04)           |
| 30 to 39 yrs<br>(n=96)  | 25 (26.04)    | 62 (64.58)   | 9 (9.38)             |
| 40 to 49 yrs<br>(n=60)  | 11 (18.33)    | 42 (70.00)   | 7 (11.67)            |
| 50 to 59 yrs<br>(n=28)  | 13 (46.43)    | 14 (50.00)   | 1 (3.57)             |
| 60+ years<br>(n=14)     | 11 (78.57)    | 2 (14.29)    | 1 (7.14)             |
| TOTAL (n=331)           | 115 (34.74)   | 178 (53.78)  | 38 (11.48)           |

<sup>^</sup>Excludes those who did not provide a valid response to the sexual partners question and those who did not report age

\*p<0.000 (chi2 used as number of cells with expected frequencies of < 5 did not exceed 20%)



**Table 27: Reported number<sup>^</sup> of sexual partners in past 12 months, by sexuality**

| Gender                   | None<br>n (%) | One<br>n (%) | Two or more<br>n (%) |
|--------------------------|---------------|--------------|----------------------|
| Non-MSM males<br>(n=104) | 27 (25.96)    | 60 (57.69)   | 17 (16.35)           |
| MSM males (n=10)         | 0 (0.00)      | 6 (60.00)    | 4 (40.00)            |
| TOTAL (n=114)            | 27 (23.68)    | 66 (57.89)   | 21 (18.42)           |

<sup>^</sup>Excludes those who did not provide a valid response to the sexual partners question and those who did not report sexuality

\*p=0.048; Fisher's exact test used as number of cells with expected frequencies of < 5 exceeded 20%

The majority (89.96%; n=215) of participants who provided a valid answer to the question “Which of the following best describes the most recent person you had sex with?” reported sex in a committed relationship; 20 (8.37%) reported sex with a casual sexual partner and four (1.67%) reported sex with a sex worker (excludes five who reported partner type despite indicating that they had no sexual partners in previous 12 months).

Statistically significant differences in responses by region of birth, gender and sexuality are set out in Tables 28-30. No statistically significant differences were observed between groups based on the mode of survey completion or age (data not shown).

**Table 28: Reported<sup>^</sup> relationship to most recent sexual partner, by region**

| Region        | Committed<br>n (%) | Not Committed<br>n (%) |
|---------------|--------------------|------------------------|
| SSA (n=71)    | 66 (92.96)         | 5 (7.04)               |
| SEA (n=56)    | 44 (78.57)         | 12 (21.43)             |
| NEA (n=90)    | 85 (94.44)         | 5 (5.56)               |
| TOTAL (n=217) | 195 (89.86)        | 22 (10.14)             |

<sup>^</sup>Excludes those who did not report region of birth or type of sexual partners. These figures include some who skipped or provided valid responses to the question about the number of sexual partners, but exclude anyone who indicated that they had **no** sexual partners in the previous 12 months.

\*p=0.005

**Table 29: Reported<sup>^</sup> relationship to most recent sexual partner, by gender**

| Gender         | Committed<br>n (%) | Not Committed<br>n (%) |
|----------------|--------------------|------------------------|
| Male (n=92)    | 79 (85.87)         | 13 (14.13)             |
| Female (n=141) | 132 (93.62)        | 9 (6.38)               |
| TOTAL (n=233)  | 211 (90.56)        | 22 (9.44)              |

<sup>^</sup>Excludes those who did not report gender or type of sexual partners. These figures include some who skipped or provided valid responses to the question about the number of sexual partners, but exclude anyone who indicated that they had **no** sexual partners in the previous 12 months.

\*p=0.048

**Table 30: Reported<sup>^</sup> relationship to most recent sexual partner, by sexuality (MSM/non-MSM male)**

| Sexuality           | Committed<br>n (%) | Not Committed<br>n (%) |
|---------------------|--------------------|------------------------|
| Non-MSM male (n=80) | 72 (90.00)         | 8 (10.00)              |
| MSM (n=12)          | 7 (58.33)          | 5 (41.67)              |
| TOTAL (n=92)        | 79 (85.87)         | 13 (14.13)             |

<sup>^</sup>Excludes those who did not report sexuality or type of sexual partners. These figures include some who skipped or provided valid responses to the question about the number of sexual partners, but exclude anyone who indicated that they had **no** sexual partners in the previous 12 months.

\*p=0.012; Fisher's exact test used

Two hundred and thirty-three respondents indicated that they had traveled overseas at least once since January 2018 and answered the question about sex while traveling; of those, 41 (17.60%) reported sexual intercourse on any of those visits with at least one person who lives outside of Australia (data not shown).

# Condom use at a glance



## Why not?

### #1 reason

My partner and I trust each other

### #2 reason

My partner and I don't have any illnesses that can be passed on through sex



The majority (56.49%; n=135) of respondents who answered “Did you use a condom the most recent time you had sex?” answered ‘No’; 94 (39.33%) answered ‘Yes’ and 10 (4.18%) could not remember (excludes responses of those who indicated that they had not had any sexual partners in last 12 months). No statistically significant differences were observed between groups by gender or sexuality. However, Tables 31-33 show that a significantly larger proportion of people from North-East Asia, 18-29 year olds, and people in non-committed relationships reported condom use at last sex, compared to other groups.

**Table 31: Condom use at last sexual encounter, by region<sup>^</sup>**

| Condom use                      | SSA<br>n (%) | SEA<br>n (%) | NEA<br>n (%) |
|---------------------------------|--------------|--------------|--------------|
| Used (n=91)                     | 18 (25.00)   | 20 (35.09)   | 53 (58.89)   |
| Not used / can't recall (n=128) | 54 (75.00)   | 37 (64.91)   | 37 (41.11)   |

<sup>^</sup>Excludes those who did not report country of birth, those who reported no sexual partners in last 12 months, those who did not report whether condoms used at last sex and invalid responses \*p<0.000

**Table 32: Condom use at last sexual encounter, by age<sup>^</sup>**

| Condom use                      | 18-29 years<br>n (%) | 30-39 years<br>n (%) | 40-49 years<br>n (%) | 50-59 years<br>n (%) | 60+ years<br>n (%) |
|---------------------------------|----------------------|----------------------|----------------------|----------------------|--------------------|
| Used (n=93)                     | 38 (46.91)           | 37 (44.58)           | 15 (29.41)           | 3 (17.65)            | 0 (0.00)           |
| Not used / can't recall (n=143) | 43 (53.09)           | 46 (55.42)           | 36 (70.59)           | 14 (82.35)           | 4 (100.00)         |

<sup>^</sup>Excludes those who did not report age, those who reported no sexual partners in last 12 months, those who did not report whether condoms used at last sex and invalid responses \*p=0.027

**Table 33: Condom use at last sexual encounter, by type of relationship<sup>^</sup>**

| Condom use                      | Committed<br>n (%) | Not committed<br>n (%) |
|---------------------------------|--------------------|------------------------|
| Used (n=93)                     | 77 (37.02)         | 16 (66.67)             |
| Not used / can't recall (n=139) | 131 (62.98)        | 8 (33.33)              |

<sup>^</sup>Excludes those who did not report partner type, those who reported no sexual partners in last 12 months, those who did not report whether condoms used at last sex and invalid responses \*p=0.005

Among those who reported no condom use (including can't remember) at last sexual encounter and provided a reason (n=138), Table 34 shows that the most commonly reported reason was "My partner and I trust each other" (51.45%; n=71), followed by "My partner and I don't have any illnesses that can be passed on through sex" (37.68%; n=52).

**Table 34: Reasons for not using a condom at last sexual encounter**

| Reason <sup>^</sup>   | n (%)      |
|---|------------|
| My partner and/or I did not have one  | 12 (8.70)  |
| My partner and/or I could not afford one                                    | 2 (1.45)   |
| My partner did not want to use one  | 24 (17.39) |
| I did not want to use one   | 24 (17.39) |
| My partner and/or I did not know where to get one                           | 2 (1.45)   |
| My partner doesn't like the way they feel                                   | 22 (15.94) |
| I don't like the way they feel  | 22 (15.94) |
| My partner or I was trying to get pregnant                                  | 19 (13.77) |
| It is against my or my partner's culture or religion                        | 2 (1.45)   |
| My partner and I don't have any illnesses that can be passed on through sex | 52 (37.68) |
| My partner and I trust each other   | 71 (51.45) |

<sup>^</sup>Respondents could choose more than one option

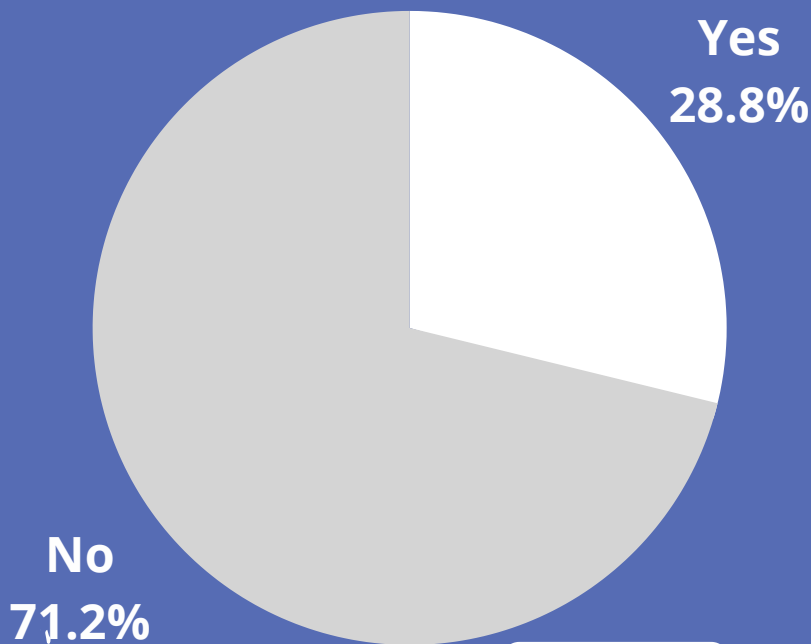
Among those whose last sexual experience was with a casual partner and who provided a reason for not using a condom (n=8), the most frequently reported reasons were "I don't like the way they feel" (n=3; 37.50%) and "I did not want to use one" (n=3; 37.50%) (data not shown). Less than half (38.1%; n=16) of respondents who reported having had sex with people who live outside of Australia during overseas visits since January 2018, reported "always" using condoms (Table 35).

**Table 35: Condom use among those who reported sex overseas since Jan. 2018 (n=42)**

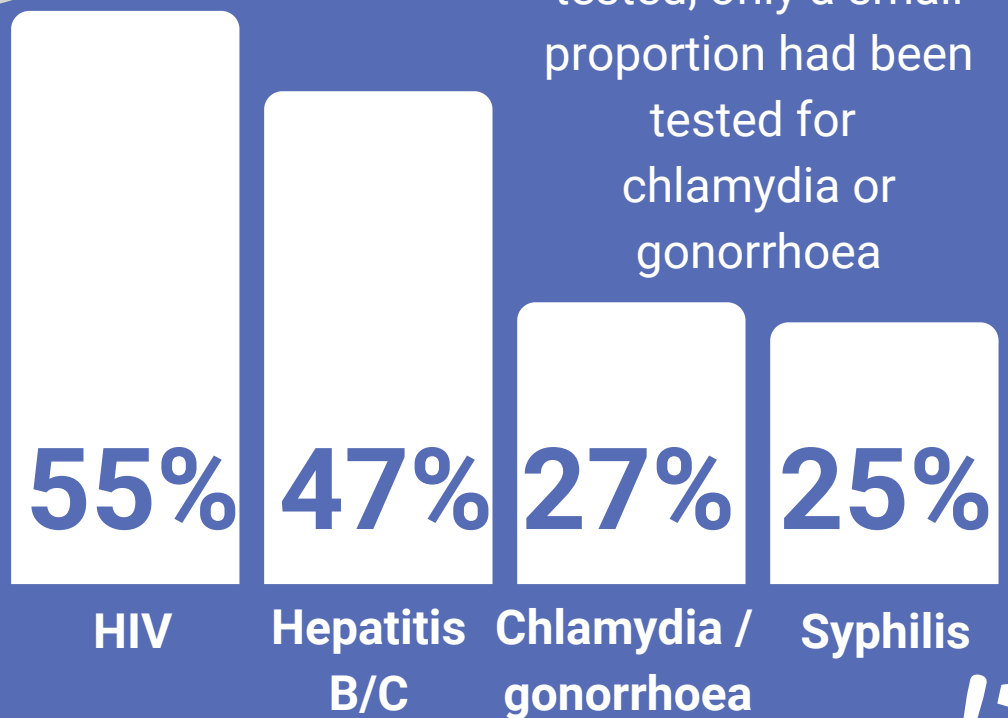
| Frequency of condom use overseas | n (%)      |
|----------------------------------|------------|
| Always                           | 16 (38.10) |
| Sometimes                        | 18 (42.86) |
| Never                            | 8 (19.05)  |

# Testing at a glance

Proportion tested for any STI/BBV  
in last 2 years



of those who had been tested, only a small proportion had been tested for chlamydia or gonorrhoea



## Top reasons for NOT testing:

- I did not do anything to put me at risk
- I did not have any symptoms



# Testing at a glance

How would you feel if a doctor in Australia offered you STI and BBV tests during an appointment without you requesting any of these tests?



52%

Okay - STI and BBV testing is normal



4%

Embarrassed - I'd rather not talk about these things



11%

Offended - why are they asking me?

Only 8 respondents said that they had actually been tested because a doctor or nurse had suggested it

Table 36 shows that less than one-third of all respondents who answered the test timing question (28.82%; n=117) reported having had an STI or BBV test within the last two years.

**Table 36: Time since last STI and/or BBV test, n=406<sup>^</sup>**

| Time since last STI and/or BBV test | n (%)       |
|-------------------------------------|-------------|
| Less than 12 months ago             | 60 (14.78)  |
| 1 to 2 years ago                    | 57 (14.04)  |
| More than 2 years ago               | 100 (24.63) |
| I have never been tested            | 135 (33.25) |
| I don't know                        | 54 (13.30)  |

<sup>^</sup>Excludes those who did not report time since last test.

Tables 37-38 show that significantly greater proportions of people under the age of 40 and people who had been in Australia for less than 10 years, compared to other groups. Differences according to region of birth, gender and sexuality (MSM/non-MSM males) were not significant (data not shown).

**Table 37: Time since last STI and/or BBV test, by age<sup>^</sup>**

| Time of last STI/BBV test       | 18-29 years<br>n (%) | 30-39 years<br>n (%) | 40-49 years<br>n (%) | 50-59 years<br>n (%) | 60+ years<br>n (%) |
|---------------------------------|----------------------|----------------------|----------------------|----------------------|--------------------|
| Within last 2 years (n=117)     | 46 (30.46)           | 45 (37.82)           | 18 (24.00)           | 8 (22.86)            | 0 (0.00)           |
| Not within last 2 years (n=285) | 105 (69.54)          | 74 (62.18)           | 57 (76.00)           | 27 (77.14)           | 22 (100.00)        |

<sup>^</sup>Excludes those who did not report age or time since last test, and invalid responses

\*p=0.004 (chi2 used as no cells had an expected frequency of < 5)

**Table 38: Time since last STI and/or BBV test, by time in Australia<sup>^</sup>**

| Time of last STI/BBV test       | 0-9 years<br>n (%) | 10-19 years<br>n (%) | 20-29 years<br>n (%) | 30+ years<br>n (%) |
|---------------------------------|--------------------|----------------------|----------------------|--------------------|
| Within last 2 years (n=112)     | 71 (34.98)         | 33 (24.63)           | 4 (21.05)            | 4 (12.12)          |
| Not within last 2 years (n=277) | 132 (65.02)        | 101 (75.37)          | 15 (78.95)           | 29 (87.88)         |

<sup>^</sup>Excludes those who did not report time in Australia or time since last test, and invalid responses

\*p=0.019 (chi2 used as no cells had an expected frequency of < 5)



Among respondents who reported being tested within the last two years and specified the test type (n=104), the most commonly reported test was for HIV (54.81%; n=57), followed by hepatitis B and/or hepatitis C (47.12%; n=49) (Table 39).

**Table 39: Most recent test type in last two years, n=104^**

| Test type*                                   | n (%)      |
|--|------------|
| HIV  | 57 (54.81) |
| Chlamydia and/or gonorrhoea                  | 28 (26.92) |
| Syphilis                                     | 26 (25.00) |
| Hepatitis B and/or hepatitis C               | 49 (47.12) |
| I don't know - it was a blood test           | 16 (15.38) |
| I don't know - it was a urine test           | 10 (9.62)  |
| I don't know - it was a blood and urine test | 8 (7.69)   |
| Other  | 7 (6.73)   |

\*Note: Respondents could choose more than one option.

^Excludes those who did not report getting tested in last two years and those who did not specify test type

No significant differences in the proportion of respondents getting particular tests were observed by gender, region of birth, or sexuality (data not shown). Compared to other age groups, a larger proportion of those aged 40-49 who had been tested in the last two years had had an HIV test as part of that testing (Table 40). No other significant differences by age were observed (data not shown).

**Table 40: Whether STI/BBV test in last 2 years included an HIV test, by age**

| Whether HIV testing included | 18-29 years<br>n (%) | 30-39 years<br>n (%) | 40-49 years<br>n (%) | 50-59 years<br>n (%) | 60+ years<br>n (%) |
|------------------------------|----------------------|----------------------|----------------------|----------------------|--------------------|
| Yes (n=57)                   | 21 (45.65)           | 22 (48.89)           | 14 (77.78)           | 0 (0.00)             | 0 (0.00)           |
| No (n=60)                    | 25 (54.35)           | 23 (51.11)           | 4 (22.22)            | 8 (100.00)           | 0 (0.00)           |

^Excludes those who did not report age or time since last test, type of test, and invalid responses

\*p=0.002 based on Fisher's exact test

The most frequently reported reason for getting an STI and/or BBV test in the last two years was “It was part of my regular health check” (33.33%; n=32), followed by “It was a requirement for my work/study” (n=19.79%; n=19) and “I wanted to know if I had an STI or a BBV ” (16.67%; n=16) (Table 41).

**Table 41: Reasons for getting tested in last two years (n=96)^**

| Reason*   | n (%)      |
|---|------------|
| I was applying for permanent residency          | 8 (8.33)   |
| I had a new sexual partner                      | 8 (8.33)   |
| I shared injecting equipment with someone       | 0 (0.00)   |
| Something happened that may have put me at risk | 7 (7.29)   |
| I was pregnant and had a check up               | 7 (7.29)   |
| I was getting contraception/birth control       | 3 (3.13)   |
| My doctor / nurse suggested it                  | 8 (8.33)   |
| My doctor / nurse just did it                   | 2 (2.08)   |
| I wanted to know if I had an STI or a BBV       | 16 (16.67) |
| I had symptoms                                  | 6 (6.25)   |
| It was part of my regular health check          | 32 (33.33) |
| I like to get regular STI/BBV tests             | 5 (5.21)   |
| It was a requirement for my work/study^^        | 19 (19.79) |
| Another reason                                  | 6 (6.25)   |

\*Note: Respondents could choose more than one option.

^Excludes those who did not report getting tested in last two years or did not specify reason.

^^People at occupational risk of hepatitis B are recommended to have serological testing after a primary hepatitis B vaccine course

The most frequently reported reason for not getting tested within the last two years was “I did not do anything to put me at risk” (62.66%; n=146) followed by “I did not have any symptoms” (34.33%; n=80) (Table 42).

**Table 42: Reasons for NOT getting tested in last two years (n=233)^**

| Reason*                                 | n (%)       |
|---|-------------|
| I did not do anything to put me at risk | 146 (62.66) |
| I was too embarrassed                   | 5 (2.15)    |
| I could not afford extra tests          | 8 (3.43)    |
| I didn't know where to get one          | 21 (9.01)   |
| I was scared about the result           | 9 (3.86)    |
| I don't like needles / blood tests      | 7 (3.00)    |
| I did not have any symptoms             | 80 (34.33)  |
| I did not have time to get tested       | 18 (7.73)   |
| I did not think it was important        | 18 (7.73)   |
| I couldn't get to a service / clinic    | 3 (1.29)    |
| Another reason                          | 24 (10.30)  |

\*Note: Respondents could choose more than one option.

^Excludes those who reported getting tested in last two years, those who reported that they 'did not know' when they were last tested, those who did not report test timing, and those who did not offer a reason for not testing

Over half (59.72%; n=43) of those who both reported that they did not get tested because they did not have any symptoms and who answered the STI knowledge question about symptoms, had correctly answered that a person can “have an STI without any symptoms”. Less than half (39.73%; n=29) of those who both reported “I did not do anything to put me at risk” and who answered the condom use question reported that they had used a condom at their last sexual encounter.

Of the priority groups for STI/BBV testing who reported testing practices, 58.33% (n=7) of men who reported being attracted to men (data on whether had sex with men specifically unavailable), 38.46% (n=30) of people under the age of 30 who had had sex in the past 12 months, 25.00% (n=1) of people whose last sexual partner was a sex worker, and 27.27% (n=6) of recent arrivals had been tested for any STI or BBV in the last two years (Table 43). The types of tests reported to have been undertaken are summarised in Table 44.

**Table 42: Testing for any STI or BBV in last two years, by priority group<sup>^</sup>**

| Priority groups for STI/BBV testing                                  | Tested n(%) | Not tested / unsure of timing n (%) |
|--|-------------|-------------------------------------|
| Men attracted to men (n=12)  | 7 (58.33)   | 5 (41.67)                           |
| People under the age of 30 who have had sex in last 12 months (n=78) | 30 (38.46)  | 48 (61.54)                          |
| People whose last sexual partner was a sex worker (n=4)              | 1 (25.00)   | 3 (75.00)                           |
| People who have lived in Australia for less than 1 year (n=22)       | 6 (27.27)   | 16 (72.73)                          |

<sup>^</sup>Excludes those who did not answer question about whether tested in last two years and those who did not provide data to indicate membership of a priority group.

**Table 44: Types of STI or BBV tests undertaken in last two years, by priority group<sup>^</sup>**

| Priority groups for STI/BBV testing                                  | CT/NG n (%) | Syphilis n (%) | HIV n (%)  | HBV/HCV n (%) |
|--|-------------|----------------|------------|---------------|
| Men attracted to men (n=7)   | 4 (57.14)   | 4 (57.14)      | 5 (71.43)  | 3 (42.86)     |
| People under the age of 30 who have had sex in last 12 months (n=30) | 8 (26.67)   | 5 (16.67)      | 14 (46.67) | 12 (40.00)    |
| People whose last sexual partner was a sex worker (n=1)              | 0 (0.00)    | 0 (0.00)       | 0 (0.00)   | 0 (0.00)      |
| People who have lived in Australia for less than 1 year (n=6)        | 1 (16.67)   | 1 (16.67)      | 3 (50.00)  | 2 (33.33)     |

\*Note: Respondents could choose more than one type of test

<sup>^</sup>Excludes those who did not indicate testing in last two years, those who did not provide data to indicate membership of a priority group, those who did not answer the question about last test type and those who could not recall test type.

In response to the question “How would you feel if a doctor in Australia offered you STI and BBV tests during an appointment without you requesting any of these tests?”, the most frequent response was “Okay – STI and BBV testing is normal” (Table 45).

**Table 45: Reaction to offer of opportunistic testing (n=388)**

| Reaction*  | n (%)       |
|--|-------------|
| Offended - why are they asking me?                   | 44 (11.34)  |
| Worried - do they think I have an illness?           | 80 (20.62)  |
| Surprised - I wasn't expecting that                  | 96 (24.74)  |
| Okay - STI and BBV testing is normal                 | 200 (51.55) |
| Relieved - now I don't have to ask for the tests     | 31 (7.99)   |
| Embarrassed - I'd rather not talk about these things | 17 (4.38)   |
| Other  | 13 (3.35)   |

\*Note: Respondents could choose more than one option.

In response to the question “If a close friend in Australia told you that they were going to get tested for STIs and BBVs, how would you feel?”, the most frequent response was “Supportive – I am here if they need my help” (Table 46).

**Table 46: Reaction to being told a friend was getting an STI/BBV test (n=401)**

| Reaction*  | n (%)       |
|--|-------------|
| Fine - it is none of my business                       | 141 (35.16) |
| Shocked - I didn't think they would need to get tested | 17 (4.24)   |
| Proud - it's a responsible thing to do                 | 77 (19.20)  |
| Supportive - I am here if they need my help            | 194 (48.38) |
| Worried - I hope they are okay                         | 82 (20.45)  |
| Disappointed - they must have done something wrong     | 12 (2.99)   |
| Other  | 6 (1.50)    |

\*Note: Respondents could choose more than one option.



# **DISCUSSION**

## Familiarity with specific STIs and BBVs

Consistent with the results of a survey of culturally and linguistically diverse (CaLD) people in New South Wales [10], over 90% of MiBSS respondents in South Australia indicated that they had heard of HIV (page 17). There was less familiarity with the names of other STIs (page 19). Notably, less than half of respondents (49.00%) had heard of chlamydia. The low levels of chlamydia awareness in the MiBSS South Australian sample is comparable to the findings from the Queensland MiBSS sub-study [16], and suggests that current health promotion messaging may not be reaching migrant populations, despite the fact that chlamydia is the most frequently reported STI in Australia [1].

While only 10.71% of respondents indicated that they “have **not** heard of hepatitis B”, less than one-third (28.32%) indicated that they knew how it was distinct from other forms of hepatitis, with knowledge significantly lower among respondents born in North-East Asia (23.94%) compared to those born in South-East Asia (32.61%) and Sub-Saharan Africa (30.89%) (pages 26-27).

One-fifth of all respondents (21.82%) indicated familiarity with hepatitis C as distinct from other forms of hepatitis (page 32). These findings are consistent with data from studies of Asian migrant communities in North America. For instance, a study of Korean-Americans found “the majority of participants were not able to distinguish HBV from other types of hepatitis such as hepatitis A” [17], studies of Cambodian-American and Hmong-American migrants found a lack of consensus of terminology around hepatitis and its variations [18-19], and a

study of Vietnamese-Americans found that some respondents spoke of hepatitis B in general terms (e.g. using the Vietnamese term for ‘liver disease’) [20].

## Knowledge

Despite high levels of familiarity with the term HIV, the majority of respondents gave incorrect answers to individual HIV knowledge questions (page 17). The finding that just over one-third (36.29%) of respondents were aware that HIV testing is not included in all blood tests supports data from other studies indicating that migrants are often confused about post-migration screening and testing practices [21]. The misperception may serve as a barrier to HIV testing in that individuals who have undergone blood tests for other health issues may consider it unnecessary to request and/or consent to offers of HIV testing.

Previous qualitative research has indicated that some migrants may avoid HIV testing in Australia because of a perception (largely formed in the country of origin) that testing is futile because effective treatments are not available, thereby making HIV a ‘death-sentence’ [22, 23]. The results from the MiBSS South Australian sub-study suggest that misperceptions about the availability and/or efficacy of HIV treatments are widespread, with only 31.07% of respondents reporting awareness that non-traditional medications are available for “people living with HIV so they can live a normal life” (page 17). Other studies have also revealed low HIV treatment knowledge among migrant cohorts [24, 25]. However, the MiBSS results must be read in light of the fact that some respondents provided feedback that they

did not understand the term 'non-traditional medicine' (which was proposed by pretest participants to distinguish anti-retroviral therapies from herbal/traditional remedies).

Survey feedback also revealed some uncertainty about the meaning of the question "Is it safe to have sex without a condom with someone who has VERY LOW amounts of HIV in their blood?", which only 7.53% of respondents answered correctly (page 17). During the pre-testing process, respondents suggested that the term "undetectable" would not be familiar to some migrants and that another word should be used; however, some respondents to the final survey commented that the meaning of the replacement term "very low" was not clear. It is therefore possible that the low percentage of correct responses to this question underestimates the degree of community knowledge that HIV cannot be transmitted by people with undetectable viral loads (Undetectable = Untransmittable, U=U). An Australian survey of gay and bisexual men conducted in 2019 found that 34.6% of respondents believed in the effectiveness of treatment as prevention [26], compared to 16.67% (n=2) of the small sample of South Australian MSM MiBSS respondents who correctly answered the question about sex with someone with "very low amounts of HIV in their blood" (page 17). Given the small size of the MiBSS MSM sample in South Australia, more research is needed to gain an accurate insight into U=U knowledge among men who have sex with men in migrant populations.

Knowledge that there are "medicines that people can take BEFORE SEX to protect themselves against HIV" was significantly

higher among South Australian MiBSS MSM respondents (58.33%) compared to non-MSM male respondents (12.70%) (page 17). PrEP knowledge among MSM participants in MiBSS appears lower than that reported in the 2018 Sydney Gay Asian Men's Survey which found 73% of non-HIV respondents agreed that using PrEP before sex could stop HIV transmission [11].

While a lower proportion of all MiBSS respondents had heard of gonorrhoea, syphilis or chlamydia compared to HIV, the majority of those who had heard of at least one STI answered each of the three STI knowledge questions correctly (page 21). The fact that only people who had reported hearing of at least one STI were required to answer specific STI knowledge questions, sets MiBSS apart from other surveys but makes comparison difficult. Sixty percent of 18-29 year olds and 68.70% of North-East Asian respondents who had heard of at least one STI in the South Australian MiBSS sample were aware that "some STIs can make it harder for women to get pregnant" (pages 22-23). By contrast, in a 2018 national Australian survey of Chinese international students, 23.2% of all respondents (not just those who had heard of chlamydia) knew that "chlamydia can make women infertile" [27], and 45% of predominately Australian-born 16-29 year olds in the South Australian Sexual Health (SASH) Survey knew that chlamydia "can make a woman unable to have a baby" [28]. A lower proportion of the MiBSS South Australian 18-29 year old cohort knew that a person with an STI can be asymptomatic (71.20%, page 23), compared to 16-29 year olds in the SASH Survey of the general population (91%) [28].



Among those who reported that they had heard of hepatitis B and knew what it was (28.32% of South Australian sample), hepatitis B knowledge was generally high (correct responses for each question ranged from 49.54% to 81.98%), with one exception; only 40.54% of respondents were aware that you cannot “get hepatitis B from swallowing food or water containing the faeces (poo) of an infected person”, suggesting some confusion between hepatitis B and hepatitis A transmission (page 29).

Significant differences were noted between regions of birth, with South-East Asian respondents having lower levels of knowledge that hepatitis B cannot normally be passed on by sharing food with an infected person (37.93%) compared to other groups (page 30). This is consistent with the findings of a systematic review which found that “South Asians commonly attributed transmission of HBV infection to factors such as ... communal sharing of food and drinks” [29].

Hepatitis C knowledge was generally low (correct responses for each question ranged from 21.59% to 44.94% among those who indicated familiarity with hepatitis C), with the exception of responses to the question “Can hepatitis C be passed on by sharing injecting equipment like needles and syringes?” which 85.39% answered correctly (page 32). The finding of low levels of hepatitis C knowledge in relation to vaccination and cure, and higher levels of knowledge about transmission through sharing injecting equipment was consistent with an Australian study of hepatitis C knowledge among Egyptian migrants living in Sydney,

and the results of the SASH Survey of predominately Australian-born youth [30, 28].

### **Sexual behaviours**

With respect to behaviours, just over a third (35.22%) of respondents reported no sex in the previous 12 months (page 36). This figure was higher than that reported by respondents in the Second Australian Study of Health and Relationships (ASHR2) survey of the general population (19.2%) [31], comparable to that reported in a community survey of people from culturally and linguistically diverse (CaLD) backgrounds in New South Wales (30.3%) [9], and lower than reported in a survey of South-East Asian and Sub-Saharan African migrants living in Western Australia (50%) [8].

Only 11.34% of respondents reported sex with two or more partners in the previous 12 months (page 36). This figure appears comparable to ASHR2 which found that 11.2% of respondents in the general population had had sex with at least two people in the last year [31]. In the South Australian MiBSS study, a statistically significantly higher proportion of males reported two or more partners (17.80%) compared to females (6.73%) (page 37).

Interestingly, in the Queensland MiBSS study, a significantly larger proportion of online (compared to paper-based) respondents reported that they had had sex with more than one person in the previous 12 months (15% online, 7% paper) [16]; however, the opposite was true and the differences were less marked in the South Australian study (9.38% online, 12.13% paper) (page 36).

The majority (89.96%) of sexually active respondents reported that their last sexual encounter was with a committed partner (page 38). While no comparable question was asked in the ASHR2 survey, it found that “[a]mong all respondents who had been sexually active in the year before being interviewed, 88.8% were currently in a heterosexual regular relationship” and, of those who had been in a relationship for at least one year 96.8% reported being monogamous [32].

Only a minority (39.33%) of sexually active respondents reported that they had used a condom at their last sexual encounter (page 41), but this was higher than ASHR2 findings that 23.3% of respondents who had engaged in vaginal intercourse in the previous year used a condom in their most recent sexual encounter [33]. Condom use was significantly higher among 18-29 year olds (46.91%) compared to other age groups, and was consistent with a survey of Sudanese youth in Queensland which found that 46.4% of respondents had used a condom at their last sexual encounter [34].

In MiBSS, the main reasons given for not using condoms related to expectations of monogamy – “My partner and I trust each other” (51.45%) and “My partner and I don’t have any illnesses that can be passed on through sex” (37.68%) (page 42); in the NSW CaLD community survey 73% of respondents who did not use condoms in the last 12 months said that it was because they were in “a steady relationship” [9].

Of those who reported sex with a casual partner or sex worker at last sexual encounter and answered the condom use question, the majority (66.67%) reported using a condom (page 41). By contrast, in

ASHR2, 49% of heterosexual respondents with recent casual partners reported always using condoms [33], and in the Queensland MiBSS sub-study the majority (n=19; 59.38%) reported that they had not used a condom or could not recall whether they had used a condom with a casual sexual partner [16].

Only 42 respondents answered the question about condom use during sex in the course of overseas travel since January 2018 and, of those, 38.10% reported always using condoms and 42.86% reported using condoms “sometimes” during sex overseas (page 42). The remaining one-fifth (19.05%) reported that they never used condoms during sex overseas. The only comparable data comes from the NSW CaLD community survey which found that only 14% used condoms during visits to their country of origin (note difference in wording) [9]. The small number of respondents to this question in the MiBSS survey may reflect sensitivities around travel and disease transmission in the context of the COVID-19 pandemic.

## Testing

The Australian STI Management Guidelines recommend the following testing for key priority populations:

- Men who have had (non-monogamous) sex with another man in the previous three months should be offered 3-monthly testing for chlamydia, gonorrhoea, syphilis and HIV;
- Men who have sex with men but who are in a monogamous relationship or not sexually active should be tested at least annually for chlamydia, gonorrhoea, syphilis and HIV;

- Refugees and newly arrived migrants from similar settings should be offered screening for chronic hepatitis B and syphilis, and HIV testing should be offered to adults from regions of high (>1%) prevalence if months have passed since pre-migration testing; and
- Sexually active people under the age of 30 years should be offered chlamydia testing at least annually [34].

The findings suggest that the guidelines are not being met for at least 41.67% of men who have sex with men (page 49). Additionally, only 38.46% of sexually active respondents under 30 reported being tested for any STI or BBV in the previous two years. While only a small sub-sample of MiBSS respondents belonged to these priority testing groups, the results point to the need for further investigation.

While opportunistic offers of testing are encouraged under the Australian STI Management Guidelines, only eight respondents reported that their reason for testing was because a doctor/nurse suggested it (page 47). However, it is noteworthy that the majority of respondents (51.55%) reported that they would be "okay" with an offer for STI/BBV testing, while only a minority reported negative reactions (11.34% said they would be offended) (page 50).

Reasons for not testing mainly related to low risk perception (62.66% said they had not done anything to put themselves at risk), rather than issues of service access (e.g. transport or cost) (page 48). This is consistent with the findings from a Western Australian study of South-East Asian and Sub-Saharan African migrants which found that 55.9% of respondents

did not get tested for HIV because they did not believe that they had done anything to put themselves at risk [8].

## Limitations

The main limitation of this study relates to the fact that a convenience sampling method was adopted. While convenience sampling is common for surveys of this nature, the recruitment method raises questions about whether the sample is representative of the source population. Respondents to the South Australian survey were more likely to be women, English-speakers and Adelaide residents.

While rigorous pretesting of the survey instrument was conducted, post-completion survey feedback indicates that some respondents had difficulties understanding some questions.

Data collection coincided with the COVID-19 pandemic. The results ought therefore to be read alongside data from the Adelaide Sexual Health Centre *Changes to Sexual Health Behaviour during COVID-19 restrictions* study, when they are released [35].

It should also be noted that while survey research is well-suited to *describing* knowledge, attitudes, and practices, it is more limited in its ability to *explain* the reasons that people think and act in certain ways. Box 1 below highlights a number of questions emerging from this survey that may benefit from qualitative research to assist service providers and policy makers design effective responses for the prevention and control of STIs and BBVs in migrant populations.

## Box 1: Areas for possible qualitative research

- What are the reasons that 41.67% of respondent men who are sexually attracted to other men do not know about PrEP (page 17)?
- What are the reasons that 83.33% of respondent men who have sex with men do not know about U=U (page 17)?
- What are the reasons that only 31.07% of respondents were aware of the existence of effective medications to manage HIV (page 17)?
- What accounts for the finding that significantly lower proportions of North-East Asian respondents had heard of chlamydia and gonorrhoea, compared to respondents born in other regions (page 19)?
- How does the fact that 28.00% of respondents did not know the English names for any STIs influence the effectiveness of current health promotion messaging (page 19)?
- What are the reasons that significantly lower proportions of South-East Asian respondents were aware that some STIs can lead to infertility, compared to respondents born in other regions (page 22)?
- Why do a lower proportion of 18-29 year olds in MiBSS know that STIs can be asymptomatic, when compared to findings from the SASH survey of 16-29 year olds in the general population?
- What explains the finding that the majority of respondents could not distinguish between different forms of viral hepatitis (page 26)?
- Why do lower proportions of North-East Asian respondents and 18-29 year olds understand the difference between hepatitis B and other forms of hepatitis compared to migrants from other regions (pages 26-28)?
- What are the reasons that significantly higher proportions of North-East Asian-born respondents were aware that hepatitis B can be transmitted by sharing toothbrushes/razors, compared to other regions (page 29)?
- What are the reasons that significantly higher proportions of Sub-Saharan African-born respondents were aware that hepatitis B cannot normally be transmitted by sharing food, compared to other regions (page 29)?
- Why is knowledge around hepatitis C generally low among respondents (page 32)?
- Why do only 38.10% of respondents reported always using condoms during overseas sexual encounters (page 42)?
- What are the barriers to men who have sex with men and sexually active young people getting tested in accordance with Australian STI testing guidelines (page 49)?

## Conclusion

The findings of the South Australian MiBSS study, when read in the context of the available literature, suggest the following potential areas for priority action:

- 1) Raise awareness of chlamydia among migrant populations;
- 2) Improve migrant awareness of the differences in transmission, prevention and treatment pathways for the various types of viral hepatitis;
- 3) Raise awareness that HIV testing is not routinely included in all blood tests;
- 4) Further investigate whether MSM+ migrants' knowledge of HIV prevention strategies such as PrEP and U=U is comparable to knowledge among MSM people in the general population;
- 5) Ensure that communication strategies around the availability of a cure for hepatitis C are inclusive of migrants;
- 6) Emphasise the importance of using condoms during overseas sexual encounters;
- 7) Promote the importance of annual STI and BBV testing among sexually active people under the age of 30, in accordance with clinical guidelines;
- 8) Disseminate findings about the acceptability of opportunistic testing in migrant communities and encourage health providers to offer more opportunistic STI and BBV testing (as clinically appropriate).

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