

# HIV/AIDS, Hepatitis and Sexually Transmissible Infections in Australia Annual Report of Trends in Behaviour 2010

**Author:**

Hopwood, Max; Holt, Martin; Treloar, Carla; de Wit, John

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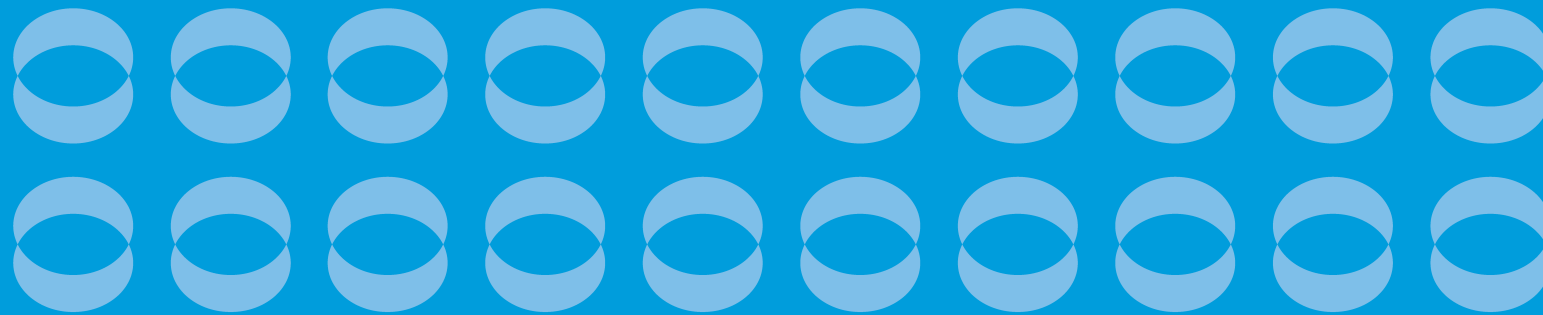
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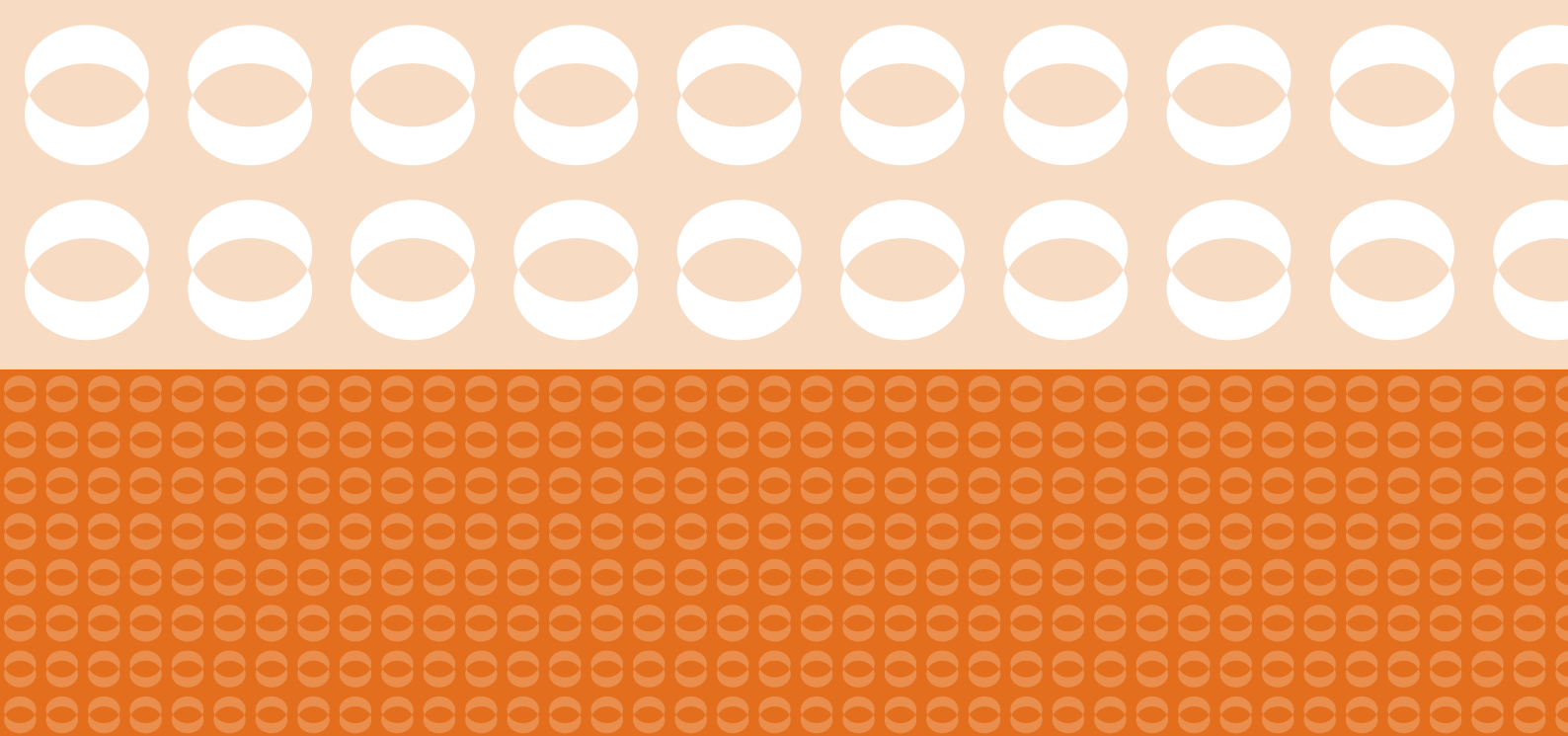


HIV/AIDS, hepatitis and sexually transmissible infections in Australia  
Annual report of trends in behaviour 2010

Edited by  
Max Hopwood  
Martin Holt  
Carla Treloar  
John de Wit







HIV/AIDS, hepatitis and sexually transmissible infections in Australia

# Annual report of trends in behaviour 2010

Edited by  
Max Hopwood  
Martin Holt  
Carla Treloar  
John de Wit

National Centre in HIV Social Research

Copies of this monograph or any other publications from the Centre may be obtained by contacting:

#### National Centre in HIV Social Research

Level 2, Robert Webster Building  
University of New South Wales  
Sydney NSW 2052 Australia

Telephone: +61 2 9385 6776  
Fax: +61 2 9385 6455  
Email: [nchsr@unsw.edu.au](mailto:nchsr@unsw.edu.au)  
Website: <http://nchsr.arts.unsw.edu.au>

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# Glossary

**AIDS** acquired immune deficiency syndrome

**ART** antiretroviral therapy/treatment

**HCV** hepatitis C virus

**HIV** human immunodeficiency virus

**HIV-seroconcordant relationship** a relationship in which both partners are of the same HIV serostatus, either HIV-positive or HIV-negative

**HIV seroconversion** the process of becoming HIV-positive (confirmed by antibody testing); the appearance of HIV antibodies in the blood serum. Seroconversion is often accompanied by a flu-like illness

**HIV seroconverter** someone who is in the process of seroconverting to HIV, i.e. becoming antibody-positive to HIV

**HIV-serodiscordant relationship** a relationship in which both partners are known (as a result of testing) to be of different HIV serostatus, e.g. HIV-positive and HIV-negative

**HIV-serononconcordant relationship** a relationship in which the HIV status of at least one partner in the relationship is not known, e.g. HIV-positive and untested, HIV-negative and untested or both untested

**HIV (sero)status** a person's antibody status established by HIV testing, e.g. HIV-negative, HIV-positive, or unknown (untested))

**M** mean

**Mdn** median

**MSM** men who have sex with men

**n** denotes the frequency of responses or classifications.

**N** denotes the denominator in each quantitative analysis of proportions.

**ns** non-significant

**negotiated safety agreement** a definite spoken agreement between a **seroconcordant** couple to have unprotected sex with each other, but not to have sex (or unprotected sex) with other people

**post-exposure prophylaxis** a drug or procedure used to reduce the risk of infection after exposure has occurred, e.g. antiretrovirals administered to reduce the risk of HIV transmission after a condom has broken during sex

**serosorting** there are multiple definitions of serosorting. For the purposes of this report we define it as selecting sexual partners on the basis of a common or shared HIV **serostatus** confirmed by testing

**STI** sexually transmissible infection

**UAI** unprotected anal intercourse

**UAIC** unprotected anal intercourse with casual partners

**UAIR** unprotected anal intercourse with regular partners

# Preface

This report *HIV/AIDS, hepatitis and sexually transmissible infections in Australia: Annual report of trends in behaviour 2010* is the 12th in our annual series reviewing behavioural data relevant to the transmission of human immunodeficiency virus (HIV), viral hepatitis and other sexually transmissible infections (STIs) in Australia. It examines behavioural and other data relevant to the development and evaluation of prevention strategies and the understanding of individuals' experiences of treatment of these infections. This report does not include all research done by the National Centre in HIV Social Research (NCHSR) but concentrates on those data that provide measures of trends over time, other repeated measures and information relating to key emerging issues.

Selected other studies that are of particular relevance to understanding trends and current issues are described as spotlights. This review builds on the previous reports in this series by comparing data from the past year with data from the previous years. The best sources for historical data pertaining to trends over time in behaviour relevant to the risk of HIV transmission for the period 1984 to 1995 can be found in *Valuing the past...investing in the future: Evaluation of the National HIV/Aids strategy 1993–94 to 1995–96* (Feachem, 1995) and its technical Appendices 3 (Crawford et al., 1996), 4 (Crofts et al., 1995) and 5 (Smith et al., 1995). For the period following the Feachem evaluation, consult the previous 11 reports in this series on behavioural trends (de Wit, Treloar and Wilson, 2009; Imrie & Frankland, 2007, 2008; National Centre in HIV Social Research, 1999, 2000, 2001; Rawstorne, Treloar and Richters, 2005; Richters, 2006; Van de Ven, Rawstorne and Treloar, 2002, Van de Ven, Rawstorne, Treloar and Richters, 2003, 2004).

Much of the work of NCHSR focuses on documenting sexual and other risk practices related to the transmission, acquisition and prevention of HIV, hepatitis C and other

STIs among the most affected population groups in Australia. Considerable work over the period covered by this report has looked specifically at the sexual and other risk practices of homosexually active men, the group most at risk of HIV in Australia. However, as this report demonstrates, our research also examines the sexual and other risk practices of other groups at elevated risk of these infections.

In this report a distinction is made between regular and casual sexual partners of homosexually active men. This distinction is important because the meaning of a specific sexual behaviour often depends on whether it occurs with a regular partner, for example within a committed relationship with a boyfriend or lover, or in the context of a casual sexual encounter such as a 'one-night stand'. The strategies adopted and behaviours enacted to reduce sexual risk often take account of the context in which a sexual event is happening and, more importantly, of the type of partner with whom it is happening (Crawford et al., 2006).

To gain the most comprehensive overview of factors relating to the transmission, prevention and management of HIV, viral hepatitis and other STIs in Australia, this review should be consulted in conjunction with *HIV/AIDS, viral hepatitis and sexually transmissible infections in Australia Annual Surveillance Report 2010* compiled by the National Centre in HIV Epidemiology and Clinical Research (NCHECR) (NCHECR, 2010).

We acknowledge and thank a large number of organisations and people involved in health throughout Australia for their contributions and support of this project. In particular, we acknowledge the contributions of the National Centre in HIV Epidemiology and Clinical Research at the University of New South Wales, Sydney, the Australian Research Centre in Sex, Health and Society at La Trobe University, Melbourne, and all of our community partners.

# Executive summary

## Sexual practices among gay men and other men who have sex with men

Most indicators of gay men's sexual practices collected in the Gay Community Periodic Surveys have remained stable in the last ten years, suggesting many HIV prevention practices are well embedded. However, trends in some key indicators (such as unprotected anal intercourse with casual partners and negotiated safety agreements) give cause for concern and suggest opportunities for targeted education activities.

### Sexual practices and agreements

**Number of male sex partners** Over the last ten years, the proportions of men reporting more than ten male sex partners in the six months prior to survey have fallen across Australia, from 30% in 2000 to 26% in 2009. Canberra and Sydney have bucked the national trend, with a recent increase in the proportions of men reporting more than ten male sex partners prior to survey in both cities.

**No unprotected anal intercourse with male partners** The proportion of all men reporting no unprotected anal intercourse (UAI) with male partners has remained above 50% nationally over the last ten years, stabilising at around 57% in the last three years. The proportions of men avoiding UAI have increased in Adelaide and Queensland in the last three years. This indicator suggests that safe sex remains the norm among the majority of gay men.

**Unprotected anal intercourse with regular partners** Around 30% of all men in the GCPS report any unprotected anal intercourse with regular male partners (UAIR). This indicator has been stable nationally for the last ten years, although there have been fluctuations in the six states and territories where surveys are conducted. Going against the national trend, the proportion of men reporting UAIR has significantly increased in Perth from 28% in 2000 to 35% in 2008.

**Serodiscordant or seroconcordant UAIR** The proportion of all men reporting any UAIR with serodiscordant or seroconcordant regular male partners (partners of a different or unknown HIV status) has been stable nationally at around 15% for the last ten years.

**Negotiated safety agreements** In 2009, 29% of HIV-negative men with seroconcordant (HIV-negative) regular male partners had an explicit negotiated safety agreement

with their partner to allow UAI within the relationship and to avoid UAI with other partners. If consistently practised, negotiated safety agreements are relatively effective in protecting regular partners from HIV (Jin et al., 2009a). Unfortunately, the proportion of HIV-negative men with an explicit negotiated safety agreement has been falling across Australia, from 35% in 2000 to 29% in 2009. The proportions of HIV-negative men reporting negotiated safety agreements are at their lowest level for ten years in Canberra and Sydney.

### Unprotected anal intercourse with casual partners

In the last ten years, the proportions of all men reporting any unprotected anal intercourse with casual male sex partners (UAIC) have increased from 20% to 24% across Australia. Rates of UAIC have risen noticeably in Adelaide, Canberra and Melbourne and continue to fluctuate in Sydney.

**HIV disclosure to casual male partners** HIV disclosure between casual male sex partners has become significantly more common across Australia during the last ten years. Between 2000 and 2009, the proportion of HIV-negative men reporting HIV disclosure to any casual partner rose from 35% to 46%. HIV-positive men remain more likely to disclose to their casual partners, with the proportion of HIV-positive men reporting disclosure to any casual partner rising from 50% in 2000 to 62% in 2009.

### Testing for HIV and sexually transmissible infections

**HIV testing** In the last ten years the proportion of men (excluding men recruited from clinics) who report having ever been tested for HIV has stabilised across Australia at around 87%. Compared with the national average, Sydney has tended to have a slightly higher proportion of men who have ever been tested for HIV, while Adelaide and Canberra typically find lower lifetime rates of HIV testing among Gay Community Periodic Survey participants.

Recent HIV testing (testing within the 12 months prior to the survey) has increased among non-HIV-positive men (excluding men recruited at clinics) in the last ten years across Australia, from 54% of men in 2000 to 60% of men in 2009. Testing within the 12 months prior to survey has noticeably increased among men in Canberra, Sydney and Melbourne in the last ten years.



**Testing for sexually transmissible infections** Around two-thirds of men in the Gay Community Periodic Surveys report having had any test for STIs in the 12 months prior to survey. This proportion has been relatively stable for the last ten years, although there are differences in trends across the states and territories. The proportions of men reporting any STI test in the 12 months prior to survey have significantly declined in Adelaide and Queensland but increased in Sydney in the last ten years.

## Living with HIV

Nationally, the proportion of HIV-positive men recruited into the Gay Community Periodic Surveys has been stable at around 13% between 2000 and 2009. As we would expect, there are considerable variation in the proportions of HIV-positive men recruited in the individual state and territory surveys. The Sydney survey routinely recruits the highest proportion of HIV-positive men (19% in 2009) and Perth the lowest (4% in 2008).

## Uptake of antiretroviral treatment, and viral load

Over half of all HIV-positive men recruited into the Gay Community Periodic Surveys report the use of antiretroviral treatment. Nationally, the proportion of HIV-positive men reporting treatment uptake was 57% in 2009. This proportion appears to have been relatively stable for the last decade. Treatment uptake has significantly increased in Sydney over the last ten years (from 52% to 62%), but appears to have declined in Melbourne (from 54% to 46%). Adjusting the data set for age and recruitment venue has resulted in the level of treatment uptake appearing to be about 10% lower than has been previously reported in the Annual Report of Trends in Behaviour (de Wit, Treloar & Wilson, 2009). This is likely to be due to substantial variations in the age and venue distribution of HIV-positive men who are on treatment.

The proportion of HIV-positive men reporting a detectable viral load has fallen nationally over the last ten years from 39% to 34%. However, there are wide differences between the states and territories on this indicator. In 2009 the proportion of HIV-positive men in Sydney reporting a detectable viral load had fallen to 16%, while in Melbourne and Queensland 32% had reported a detectable viral load.

## Drug use and drug treatment

### Recreational drug use among gay men and other men who have sex with men

The drug most commonly used by Australian gay and other homosexually active men is the inhalant amyl nitrite (colloquially referred to as 'poppers'). Nationally, the reported use of amyl nitrite has fallen between 2000 and 2009, from 38% to 32% of men in 2009. The use of amyl nitrite remains most common in Sydney, with 41% of men reporting its use in 2009.

Injecting drug use (of any drug) remains rare among gay men, although much more common than among the general population. Nationally, the proportion of men reporting any drug injection in the six months prior to survey has remained stable at around 5–6% in the last ten years. Injecting drug use is most commonly reported by men in Melbourne, Queensland and Sydney and is much less likely to be reported by men in Canberra.

### Illicit drug use among young people attending music festivals in New South Wales

Among young people attending music festivals in New South Wales, illicit drug use was common with more than half (56.8%) of respondents reporting use of any illicit drug in the 12 months prior to the survey. Marijuana was the most commonly reported illicit drug used in the preceding 12 months (43.7%), followed by ecstasy (32.8%) and (meth)amphetamine (27.9%). In 2009 there was a considerable and sharp increase in both cocaine and LSD use (from 3.6% and 4.2% in 2008 to 16.6% and 10.6% in 2009).

### Injecting drug use among people who obtain injecting equipment from pharmacies in New South Wales and Western Australia

In NSW in 2009, among people who obtained needles and syringes from community pharmacies ( $N = 490$ ), the drug most commonly reported having been recently injected was heroin (42.7%), followed by (meth)amphetamine (20.6%), methadone (14.4%) and cocaine (12.0%). There was a sharp decline in (meth)amphetamine use observed between 2007 and 2008, and the lower rate of (meth)amphetamine use was sustained in 2009. In the month prior to the survey, about half (47.2%) of respondents had



injected drugs daily or more frequently. Over two-fifths of respondents (45.3%) reported that they had never received treatment for their drug use.

In Western Australia in 2009, surveys were collected from 164 people who obtained needles and syringes from community pharmacies. Clients of Western Australian pharmacies reported some notable differences to those in New South Wales. For example, the drug most commonly recently injected was (meth)amphetamine (58.5%). Western Australian respondents also reported injecting relatively infrequently, with a little over a third (38.4%) reporting having injected daily or more frequently.

## Hepatitis infections

Knowledge of risk factors for hepatitis C transmission among people who obtain injecting equipment from pharmacies in New South Wales and Western Australia

Our 2009 surveys of people who obtained needles and syringes from pharmacies showed the following:

- About three in ten respondents (30.8% in New South Wales and 28.3% in Western Australia) reported having used, in the previous month, a needle and syringe that someone else had already used.
- Knowledge about hepatitis C transmission was generally good with 90.0% in New South Wales and 84.1% in Western Australia knowing that hepatitis

C was transmitted via the sharing of needles and syringes used for injecting.

- Fewer were aware that there was more than one type of hepatitis C or that treatment did not always cure hepatitis C, indicating that the consequences of contracting hepatitis C may not be fully appreciated among this population.

## Knowledge of hepatitis C among young people attending music festivals in New South Wales and Queensland

Our 2009 surveys among young people attending music festivals in New South Wales and Queensland showed the following:

- In New South Wales, about two-thirds of participants (67.8%) knew that hepatitis C could be contracted via shared needles used for injecting drugs, but only about a third (35.9%) knew that it could also be transmitted via injecting equipment other than needles. About a third did not know that hepatitis C could be transmitted via unsterile tattooing or body piercing.
- While injecting was relatively rare, a quarter of respondents reported that they had been exposed to injecting in the 12 months prior to the survey (26.1% for Gold Coast, 27.3% for Sydney) either through friends, boyfriends or girlfriends injecting, or through having been offered drugs to inject.

# Sexual practice and partnerships



## 1.1 Background to new analyses of Gay Community Periodic Surveys

Martin Holt and Limin Mao

This year sees a departure in the way trends in behaviour are reported among Australian gay and other homosexually active men. In previous years, the Annual Report of Trends in Behaviour has reported trends in sexual practices, relationships, condom use, testing for HIV and STIs (among other indicators) for each state or territory where the Gay Community Periodic Surveys (GCPS) are conducted. The frequencies reported from the GCPS in previous years have always been unadjusted – they simply reflected the numbers of men reporting a particular practice or behaviour for a given year in each state or territory. However, it has been recognised for some time that there are variations in the composition of GCPS samples from year to year or between states and territories. These variations inevitably occur because these surveys rely on opportunity samples

recruited from gay community events and venues, and recruitment is therefore reliant on attendance and patronage at these locations. While variations in GCPS samples may be small, over time they can make it difficult to interpret changes in key behavioural indicators (such as condom use or HIV testing). When a trend in a practice or behaviour is noted, we must consider whether the change is a result of a real change in the observed behaviour or an artefact of sampling variation. Sampling variation can, however, be corrected by adjusting the samples for key demographic variables and weighting the samples for variations in the proportions of men recruited from different venues and events.

Therefore, this year the analyses report trends in behaviour using samples that have been age standardised (using annual Australian Bureau of Statistics reference data) and weighted to account for variations in recruitment by venue or event in each state or territory each year. These adjustments mean, firstly, that we can be much more confident in observing trends over time in each state or territory. Secondly, it is easier to compare states and

territories with each other in a given year or over time. Thirdly, it is possible for us to calculate a national trend, based on the data gathered in the six states and territories, for the key indicators reported. The national trend line allows us to see how states and territories fare compared with the national average for each key indicator.

Because of the complexity of conducting new analyses using adjusted GCPS data, we have limited the number of key indicators included in this report compared with previous years. However, we have expanded the number of years included in the trend analyses (from a five to ten year period) and, as mentioned above, added national trend lines for each key indicator. Although some previously reported detail is omitted from this report, we think that the new reporting style gives a more reliable overview of key behavioural trends among gay men and other men who have sex with men (MSM) across Australia.

There are, of course, some limitations to the new reporting style and adjustments of the data set. Adjusting the samples by the proportions recruited from each type of venue becomes less reliable (or impossible) if there are severe imbalances between the numbers of men recruited from different venue types. Over the years and across all six states and territories, there have been declining levels of recruitment from general practices and sexual health clinics and difficulties in sustaining recruitment from saunas and sex venues. Recruitment from social venues (gay bars, clubs and social functions) has been relatively stable, but in many states and territories the proportions of men recruited from gay community events and festivals (e.g. Pride, Midsumma, Mardi Gras) have increased over time. In states or territories where there is a heavy reliance on men recruited from gay community events and little or no recruitment at clinics (e.g. Western Australia), it is therefore not possible to completely correct for the severe imbalance between the four types of recruitment sites—gay social venues, sexual venues, clinics and community events.

Caution should also be exercised when interpreting trends over time. We have tested for linear trends over a ten-year (2000–2009) and three-year period (2007–2009). When there is a clear and statistically significant change over time, the direction of the change is indicated by an up (↑) or down (↓) symbol. However, many indicators do not show a clear increase or decrease over time despite

the statistical test (the chi-square test for linear trend) returning a significant result. In these cases, where there is not a clear change up or down over time, but there is a statistically significant test result, we report the trend as fluctuating, indicated with the symbol †. When there is no significant change over time, this is described as non-significant (*ns*), and when statistical tests have not been performed this is indicated by a dash (–).

Readers should also bear in mind that historically there has been some variation in the phrasing of survey questions in the different states and territories. While most key indicators have been assessed using the same questions, for other indicators there may be some variability in the data due to differences in measurement. From 2010, all questionnaires have been standardised across states and territories, reducing the likelihood that differences between states and territories are due to differences in measurement.

## 1.2 Sample overview

Martin Holt and Limin Mao

The following description of the sample is based on raw data from the Gay Community Periodic Surveys conducted in Adelaide, Canberra, Melbourne, Perth, Queensland and Sydney between 2000 and 2009. These surveys deliberately target men who are socially and sexually involved with gay men in the most densely populated, metropolitan areas of Australia.

Table 1 shows a summary of the men included in the analyses that follow. The column totals include all the men recruited in each state or territory between 2000 and 2009. The surveys conducted in Melbourne, Sydney and Queensland typically attract the largest numbers of men and are conducted annually while the surveys conducted in Adelaide, Canberra and Perth usually recruit smaller samples and are not conducted every year. As is typical in GCPS samples, the vast majority of men recruited between 2000 and 2009 identified as gay, the remainder usually identifying as bisexual or queer. During the reporting period over two-thirds of men reported that their ethnic background was Anglo-Australian. The mean age of men recruited into the GCPS was 35 years between 2000 and 2009. Overall, about three-quarters of the participants reported that they were HIV-negative.

**Table 1: Overview of men recruited into the Gay Community Periodic Surveys, 2000-2009**

	Adelaide	Canberra	Melbourne	Perth	Queensland	Sydney	All six states/ territories
	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)	<i>n</i> (%)
Gay or homosexual	3806 (83.8)	1076 (89.9)	19042 (89.8)	4576 (85.3)	14371 (84.5)	26930 (91.2)	69801 (88.5)
Anglo-Australian	3434 (75.6)	861 (71.9)	13612 (64.2)	3553 (66.3)	12570 (73.9)	18912 (64.1)	52942 (67.2)
Mean age ( $\pm$ SD)	35.0 ( $\pm$ 11.5)	36.9 ( $\pm$ 10.7)	34.9 ( $\pm$ 10.4)	34.9 ( $\pm$ 11.5)	33.4 ( $\pm$ 11.1)	35.9 ( $\pm$ 9.8)	35.0 ( $\pm$ 10.5)
Median age in years	35	36	34	34	32	35	34
HIV-negative	3448 (76.0)	940 (78.5)	16021 (75.5)	4086 (76.2)	13080 (76.9)	22004 (74.5)	59579 (75.6)
Total	4540	1197	21208	5362	17012	29518	78837

## 1.3 Male partners and safe sex

Martin Holt and Limin Mao

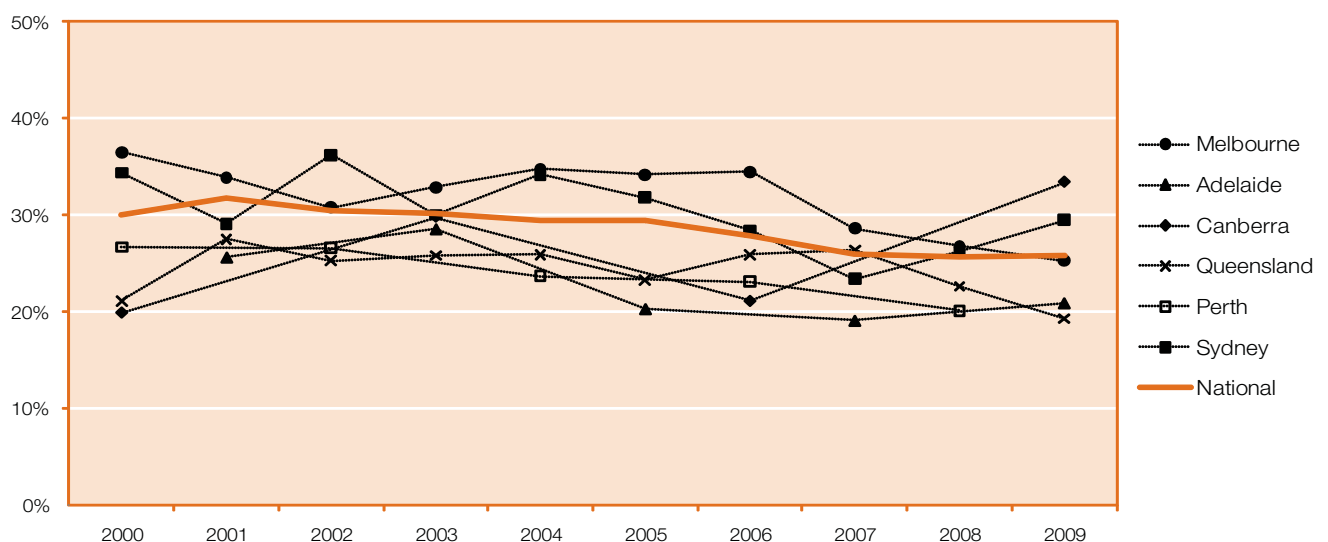
### Number of male partners

The analyses that follow are based on adjusted data from the GCPs conducted in Adelaide, Canberra, Melbourne, Perth, Queensland and Sydney between 2000 and 2009. Over the last ten years there has been a significant reduction across Australia in the proportion of men reporting more than ten male sex partners in the six months prior to the survey (see Table 2 and Figure 1). Nationally, this proportion has declined from 30.0% in 2000 to 25.8% in 2009, and has been relatively stable for

the last three years. There has been considerable variation between states and territories. As is apparent in Figure 1, the number of men in Perth reporting more than ten male sex partners has been consistently below the national average while men in Melbourne have tended to be most likely to report more than ten male partners. In Adelaide, Melbourne and Perth the proportions of men reporting more than ten male sex partners have fallen since 2000, while the same proportion has declined in Queensland in the last three years. Canberra bucks the national trend, with an increase in the proportion of men reporting more than ten male partners from 19.9% in 2000 to 33.4% in 2009. An increase in this indicator has also been observed in Sydney during the last three years.

**Table 2: Men who reported more than ten male sex partners in the six months prior to the survey: GCPs, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		25.6		28.5		20.3		19.1		20.9	↓ $p < 0.001$	<i>ns</i>
Canberra	19.9			29.8			21.1			33.4	↑ $p < 0.001$	–
Melbourne	36.5	33.9	30.8	32.9	34.8	34.2	34.5	28.6	26.8	25.3	↓ $p < 0.001$	<i>ns</i>
Perth	26.7		26.6		23.7		23.1		20.1		↓ $p < 0.002$	–
Queensland	21.1	27.5	25.3	25.8	25.9	23.3	25.9	26.4	22.6	19.3	↓ $p < 0.001$	↓ $p < 0.001$
Sydney	34.4	29.1	36.2	30.0	34.2	31.8	28.4	23.4	26.2	29.5	↓ $p < 0.001$	↑ $p < 0.01$
All six states/ territories	30.0	31.8	30.5	30.2	29.4	29.5	27.9	26.0	25.7	25.8	↓ $p < 0.012$	<i>ns</i>



**Figure 1: Men who reported more than ten male sex partners in the six months prior to the survey: GCPs, 2000–2009**

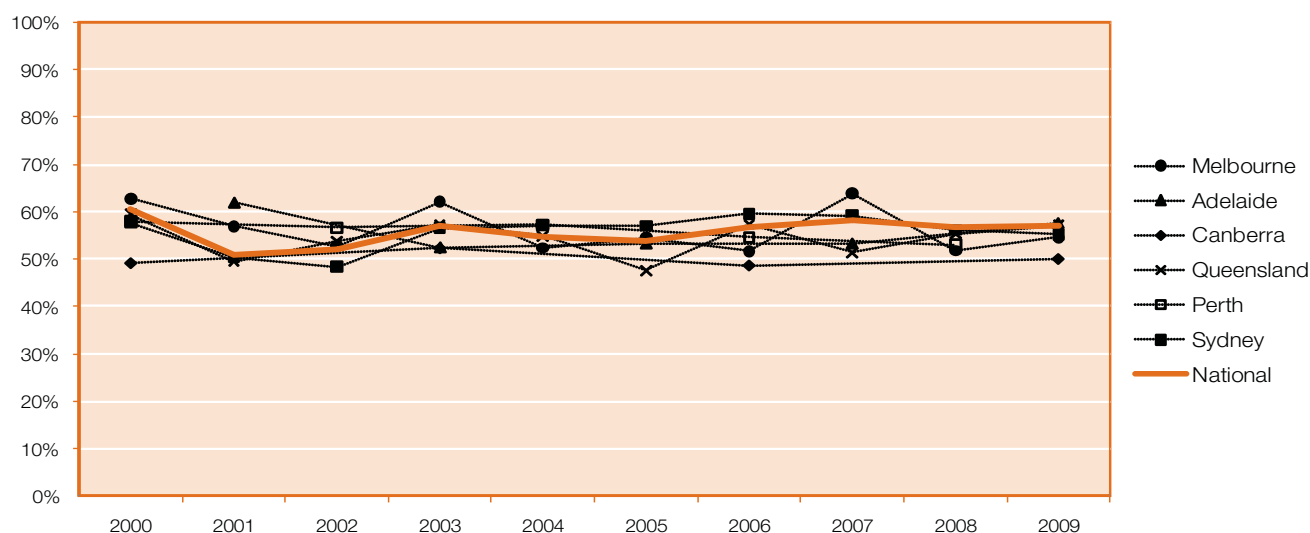
### No unprotected anal intercourse with male partners

Table 3 and Figure 2 on the next page show the proportions of men reporting no unprotected anal intercourse (UAI) with a male sex partner in the six months prior to survey. Nationally, looking at the trend for all six states and territories, the proportion of men who avoided UAI has fluctuated between 51.0% and 60.7% between 2000 and

2009. In the last three years, the proportion has been stable nationwide at around 57%. Looking at the states and territories, over the last ten years Canberra has consistently had a lower proportion of men reporting no UAI. Over the last three years, the proportions of men reporting no UAI have increased in Adelaide and Queensland, been stable in Sydney and fluctuated in Melbourne.

**Table 3: Men who reported no UAI with male sex partners in the six months prior to the survey: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall Trend	Trend in last 3 years
Adelaide		61.9		52.5		53.3		53.3		57.6	↓ $p < 0.001$	↑ 0.05
Canberra	49.2			52.4			48.7			50.1	<i>ns</i>	–
Melbourne	62.8	57.0	52.8	62.1	52.4	54.5	51.7	63.9	51.8	54.6	↓ $p < 0.001$	↓ $p < 0.001$
Perth	58.0		56.7		57.4		54.6		53.1		<i>ns</i>	–
Queensland	59.5	49.6	53.9	57.3	54.9	47.6	57.4	51.4	55.3	57.2	↓ $p < 0.001$	↑ $p < 0.03$
Sydney	57.7	50.4	48.4	56.6	57.2	57.1	59.6	59.2	56.2	55.2	↓ $p < 0.001$	<i>ns</i>
All six states/ territories	60.7	51.0	52.2	57.1	54.7	53.9	56.8	58.1	56.8	57.0	↓ $p < 0.001$	<i>ns</i>

**Figure 2: Men who reported no UAI with male sex partners in the six months prior to the survey: GCPS, 2000–2009**

## 1.4 Risk and risk reduction with regular male partners

Martin Holt and Limin Mao

### Unprotected anal intercourse with regular partners

Unprotected anal intercourse with regular partners (UAIR) is more commonly reported by gay men than unprotected anal intercourse with casual partners (UAIC). Looking

at the national trend in Table 4 and Figure 3, we can see that the proportion of Australian men reporting UAIR has been relatively stable for the last ten years at around 30% of all men in the surveys. There is more fluctuation in the rates of UAIR in individual states and territories, with the proportions of men reporting UAIR fluctuating between 24.0% and 36.4% over the last ten years. Only in Perth has the proportion of men reporting UAIR clearly increased from 28.0% in 2000 to 34.9% in 2008.

**Table 4: Men who reported any UAIR in the six months prior to the survey: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		29.9		27.2		33.0		28.7		27.0	↓ $p < 0.02$	<i>ns</i>
Canberra	33.8			28.1			31.5			30.1	↓ $p < 0.04$	–
Melbourne	24.0	28.1	30.7	25.5	33.5	30.3	32.6	25.3	34.1	32.0	↓ $p < 0.001$	↓ $p < 0.001$
Perth	28.0		27.4		31.2		32.4		34.9		↑ $p < 0.001$	–
Queensland	29.5	33.7	32.2	28.7	28.1	34.4	26.6	34.5	33.1	31.3	↓ $p < 0.001$	<i>ns</i>
Sydney	28.8	28.6	36.4	28.0	30.2	26.6	28.6	28.7	30.9	32.9	↓ $p < 0.001$	<i>ns</i>
All six states/ territories	27.3	31.3	32.3	27.9	31.9	30.7	29.5	29.9	31.6	30.9	<i>ns</i>	<i>ns</i>



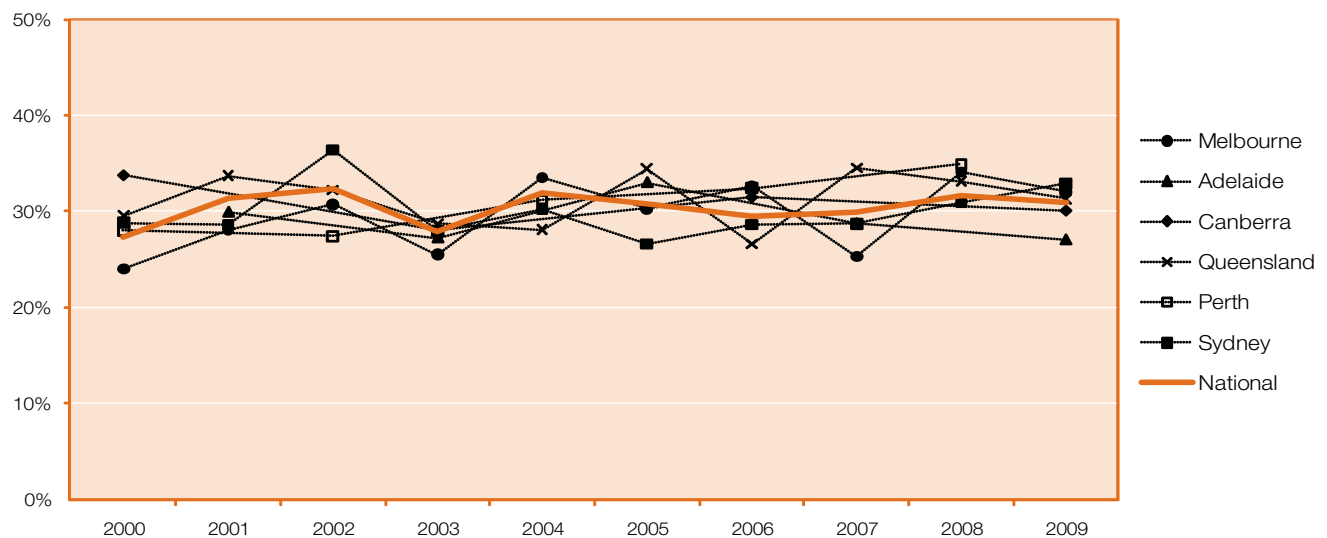


Figure 3: Men who reported any UAIR in the six months prior to the survey: GCPS, 2000–2009

### Unprotected anal intercourse with sero-nonconcordant or serodiscordant regular partners

Table 5 and Figure 4 show the proportions of men reporting UAIR with sero-nonconcordant or serodiscordant regular partners. When partners are sero-nonconcordant or serodiscordant, the likelihood of HIV transmission is increased and over the last ten years, the national trend has

been stable for this indicator. Approximately 15% of the men surveyed reported any nonconcordant or discordant UAIR. These proportions have fluctuated in most states and territories but have clearly increased in Adelaide (8.2% in 2001 to 14.5% in 2009). In the past 3 years, the proportions of men reporting nonconcordant or discordant UAIR have increased in Melbourne (from 12.4% to 16.0%), decreased in Queensland (from 19.4% to 14.6%) and fluctuated in Sydney.

Table 5: Men who reported any sero-nonconcordant or serodiscordant UAIR in the six months prior to the survey: GCPS, 2000–2009

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		8.2		11.3		12.5		12.2		14.5	$\uparrow p < 0.001$	ns
Canberra	14.5			11.1			12.7			17.4	$\downarrow p < 0.001$	–
Melbourne	13.6	14.5	15.5	11.1	16.3	17.9	14.6	12.4	15.4	16.0	$\downarrow p < 0.001$	$\uparrow p < 0.05$
Perth	15.7		14.7		14.3		14.0		15.9		ns	–
Queensland	12.8	14.5	13.2	13.1	10.8	17.0	15.8	19.4	15.5	14.6	$\downarrow p < 0.001$	$\downarrow p < 0.01$
Sydney	14.5	14.4	17.8	12.0	14.7	14.1	13.5	16.7	12.1	15.6	$\downarrow p < 0.004$	$\downarrow p < 0.01$
All six states/ territories	14.0	13.7	15.1	11.8	15.5	16.3	13.3	15.6	14.0	15.4	ns	ns

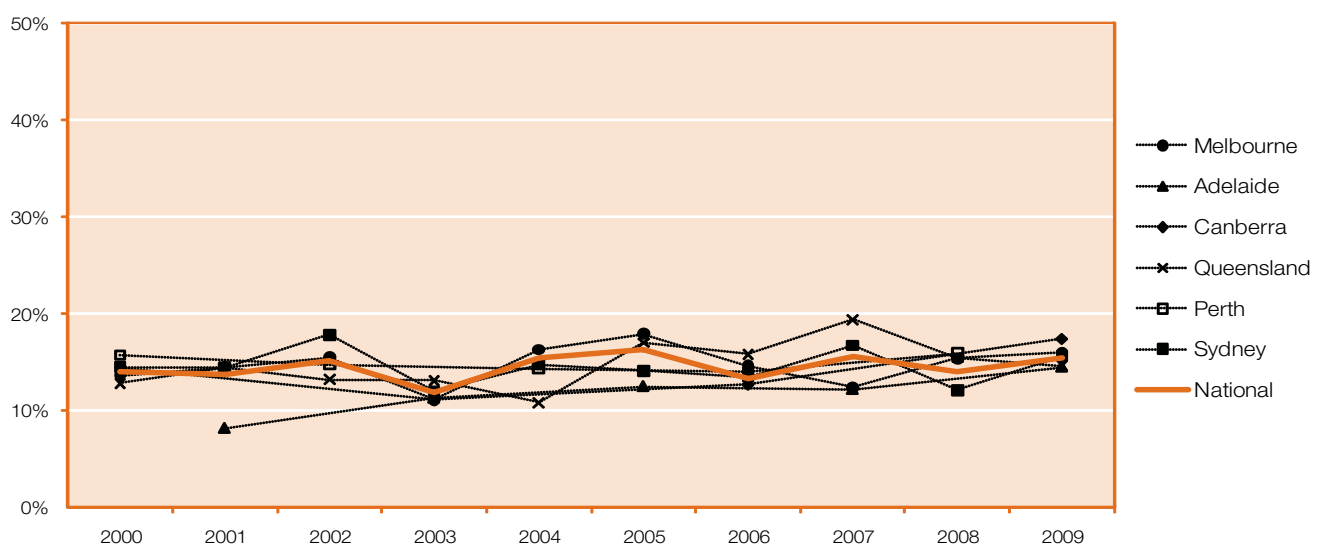


Figure 4: Men who reported any sero-nonconcordant or serodiscordant UAIR in the six months prior to the survey: GCPS, 2000–2009

## Negotiated safety agreements

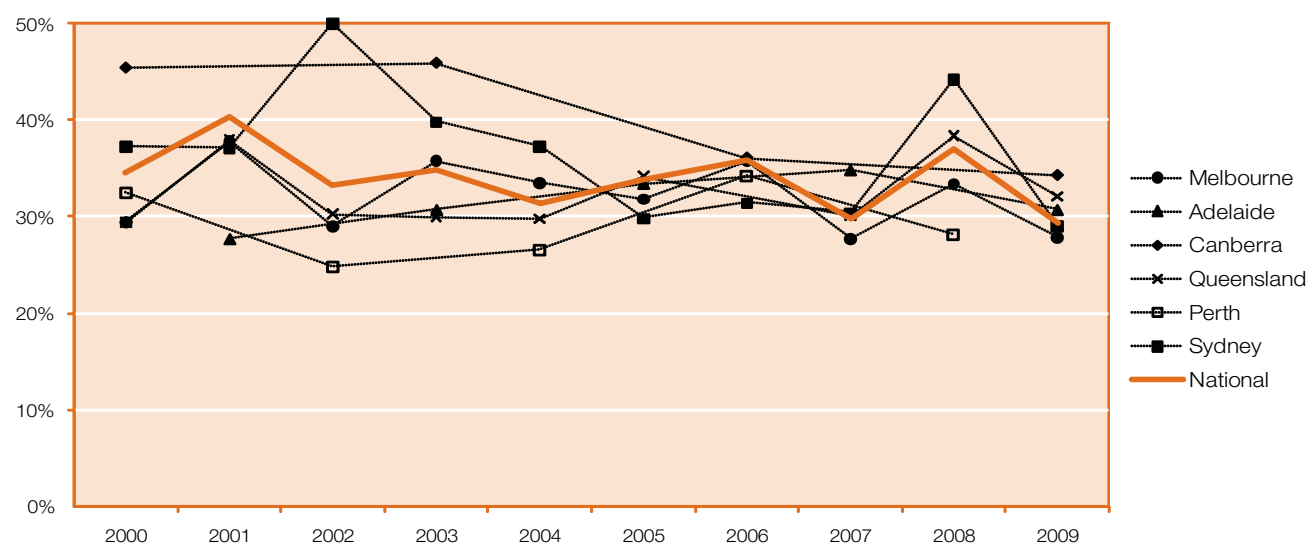
Negotiated safety agreements, if consistently practised, have been found to be no more risky for HIV infection than avoiding UAI, within HIV-negative seroconcordant relationships (Jin et al., 2009a). A negotiated safety agreement is defined as an explicit agreement between HIV-negative regular partners to allow UAI within the relationship but to avoid UAI with casual partners outside the relationship (Crawford, Rodden, Kippax & Van de Ven, 2001; Kippax et al., 1997). For the analysis presented in Table 6 and Figure 5, HIV-negative men were regarded as having a negotiated safety agreement if they had an HIV-negative regular partner and reported an agreement with that partner to have UAI within their relationship but to

have no sex, no anal intercourse, or no anal intercourse without condoms outside the relationship.

For all six states and territories, there have been significant decreases over the last ten years in the proportions of HIV-negative men with explicit negotiated safety agreements (34.5% in 2000 to 29.3% in 2009) with the most evident decrease in Canberra (45.4% in 2000 to 34.3% in 2009). In the other states and territories the proportions have fluctuated. HIV-negative men in Sydney have generally been more likely to report negotiated safety agreements than men elsewhere during the last ten years, although the proportion reporting such agreements in 2009 was similar to the national average. In the last three years, the proportion of men with negotiated safety agreements decreased in Adelaide from 34.8% to 30.7%.

**Table 6: Negotiated safety agreements among HIV-negative men with HIV-negative regular partners: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		27.7		30.7		33.4		34.8		30.7	↓ $p < 0.01$	↓ $p < 0.05$
Canberra	45.4			45.9			36.1			34.3	↓ $p < 0.001$	–
Melbourne	29.4	37.8	29.0	35.8	33.5	31.8	35.7	27.7	33.4	27.9	↓ $p < 0.001$	↓ $p < 0.01$
Perth	32.5		24.8		26.6		34.3		28.2		↓ $p < 0.001$	–
Queensland	29.4	38.0	30.3	30.0	29.8	34.2		30.1	38.4	32.1	↓ $p < 0.001$	↓ $p < 0.001$
Sydney	37.3	37.1	50.0	39.8	37.3	29.8	31.4	30.4	44.2	29.0	↓ $p < 0.001$	↓ $p < 0.001$
All six states/ territories	34.5	40.4	33.2	34.8	31.4	33.8	35.9	29.8	37.0	29.3	↓ $p < 0.001$	↓ $p < 0.001$



**Figure 5: Negotiated safety agreements among HIV-negative men with HIV-negative regular partners: GCPS, 2000–2009**

## 1.5 Risk and risk reduction with casual male partners

Martin Holt and Limin Mao

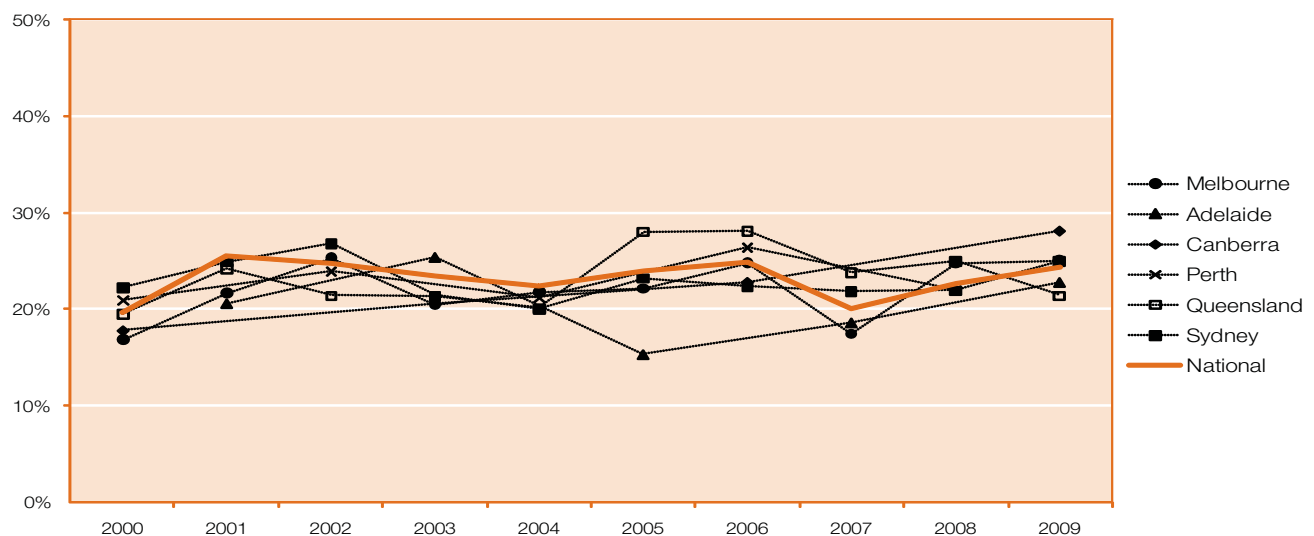
### Unprotected anal intercourse with casual partners

For all six states and territories, over the last ten years there have been significant increases in the proportions of men reporting any unprotected anal intercourse with

casual partners (UAIC) (see Table 7 and Figure 6). The proportions reporting UAIC have risen from 19.7% in 2000 to 24.4% in 2009, although this appears to have stabilised in the last three years. Within the ten-year observation period, an increase in UAIC was most evident in Canberra (from 17.8% to 28.1%), with fluctuations in the rates found in other states and territories. In the past three years, the proportion of men reporting UAIC has been stable in Sydney and Queensland but risen significantly in Melbourne from 17.4% to 25.0% and Adelaide from 18.6% to 22.8%.

**Table 7: Men who reported any UAIC in the six months prior to the survey: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		20.6		25.4		15.3		18.6		22.8	↓ $p < 0.001$	↑ $p < 0.02$
Canberra	17.8			20.6			22.8			28.1	↑ $p < 0.001$	–
Melbourne	16.8	21.6	25.3	20.4	21.8	22.1	24.8	17.4	24.8	25.0	↓ $p < 0.001$	↑ $p < 0.001$
Perth	20.9		23.9		21.2		26.4		22.0		↓ $p < 0.02$	–
Queensland	19.5	24.2	21.4	21.3	20.1	28.0	28.1	23.8	25.0	21.4	↓ $p < 0.001$	<i>ns</i>
Sydney	22.2	24.9	26.8	21.4	20.0	23.2	22.4	21.8	21.9	25.0	↓ $p < 0.01$	<i>ns</i>
All six states/ territories	19.7	25.5	24.7	23.5	22.4	23.9	24.8	20.1	22.7	24.4	↑ $p < 0.02$	<i>ns</i>

**Figure 6: Men who reported any UAIC in the six months prior to the survey: GCPS, 2000–2009**

### HIV disclosure to casual partners

The Gay Community Periodic Surveys also collect data on HIV disclosure by men to their casual male partners. HIV disclosure is of interest because historically there have been norms of nondisclosure among gay men, but many contemporary non-condom-based risk reduction strategies are reliant on the disclosure of HIV status (Chambers, 1994; Jin et al., 2009a).

Some caution should be exercised in interpreting the data presented in Tables 8 and 9 and Figures 7 and 8

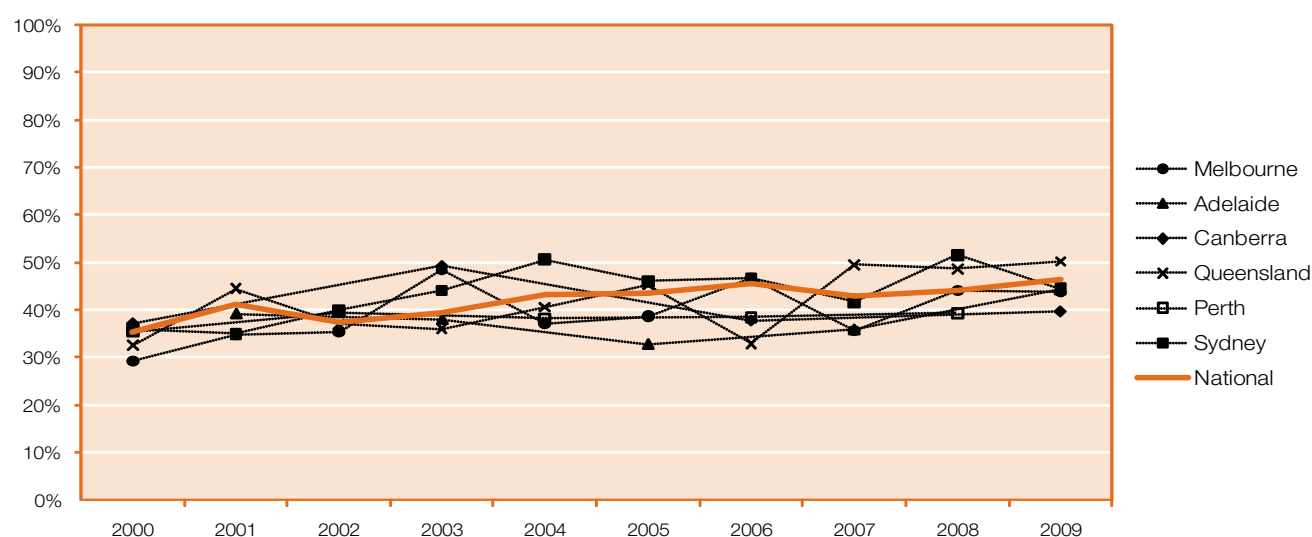
as it is only since 2007 that all six states and territories have consistently used the same questions to assess HIV disclosure to casual partners. Therefore, the trend analysis for the last three years is likely to be more robust than the ten-year trend.

Table 8 and Figure 7 show data on HIV disclosure among HIV-negative men to their casual partners. The national trend indicates a significant increase in the proportion of HIV-negative men disclosing their HIV status to any casual partners in the six months prior to survey. This proportion

**Table 8: HIV-negative men with casual partners who reported disclosing their HIV status to any casual partner: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		39.2		38.0		32.7		35.8		44.3	↑ $p < 0.001$	↑ $p < 0.001$
Canberra	37.1			49.2			37.7			39.6	↓ $p < 0.001$	–
Melbourne	29.2	34.9	35.3	48.5	37.1	38.6	46.7	35.6	44.1	43.8	↑ $p < 0.001$	↓ $p < 0.001$
Perth	35.3		39.4		38.3		38.5		39.3		<i>ns</i>	–
Queensland	32.5	44.5	37.0	36.0	40.6	45.2	32.9	49.5	48.6	50.2	↑ $p < 0.001$	<i>ns</i>
Sydney	36.0	35.0	39.9	44.1	50.6	46.0	46.7	41.7	51.6	44.5	↑ $p < 0.001$	↓ $p < 0.001$
All six states/ territories	35.3	41.1	37.4	39.4	43.3	43.6	45.4	43.0	44.0	46.4	↑ $p < 0.001$	<i>ns</i>





**Figure 7: HIV-negative men with casual partners who reported disclosing their HIV status to any casual partner: GCPS, 2000–2009**

has risen from 35.3% in 2000 to 46.4% in 2009. This trend has stabilised over the last 3 years. Within the ten-year observation period, the proportions of HIV-negative men reporting any HIV disclosure have increased significantly in all three eastern states and South Australia, remained stable in Perth and fluctuated in Canberra. Over the last 3 years, Adelaide has continued to show a significant increase in the proportion of HIV-negative men reporting HIV disclosure from 35.8% in 2007 to 44.3% in 2009. The proportions of HIV-negative men reporting HIV disclosure have fluctuated in Melbourne and Sydney over the last three years and stabilised in Queensland.

Table 9 and Figure 8 show the data on HIV disclosure for HIV-positive men with casual partners. HIV-positive men

remain more likely to disclose their HIV status than HIV-negative men. Looking at the national trend, disclosure of HIV status to any casual partner has significantly increased among HIV-positive men since 2000. The proportion of HIV-positive men reporting HIV disclosure to any casual partner has risen from 49.7% in 2000 to 61.5% in 2009. This upward trend was observed in most states and territories, except in Canberra and Sydney where the proportion of HIV-positive men reporting disclosure has fluctuated. In the last three years, HIV disclosure by HIV-positive men increased markedly in Adelaide and Queensland and has fluctuated in Melbourne and Sydney.

**Table 9: HIV-positive men with casual partners who reported disclosing their HIV status to any casual partner: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		32.7		36.2		43.1		36.9		55.4	↑ $p < 0.001$	↑ $p < 0.001$
Canberra <sup>1</sup>	15.1			38.8			8.3			18.0	↕ $p < 0.001$	–
Melbourne	36.8	41.1	55.2	44.5	58.6	58.2	42.4	55.5	59.1	52.9	↑ $p < 0.001$	↕ $p < 0.02$
Perth	37.3		22.8		46.5		37.0		46.6		↑ $p < 0.001$	–
Queensland	43.8	48.2	59.7	43.8	52.7	36.4	44.3	40.8	48.1	61.8	↑ $p < 0.001$	↑ $p < 0.001$
Sydney	55.6	46.6	53.0	50.9	54.7	61.4	63.9	63.5	54.4	59.3	↕ $p < 0.001$	↕ $p < 0.001$
All six states/ territories	49.7	45.0	57.0	49.6	56.9	54.3	56.3	51.0	54.5	61.5	↑ $p < 0.001$	↑ $p < 0.001$

<sup>1</sup> Caution: small numbers of HIV-positive men in the Canberra samples may make data unreliable.

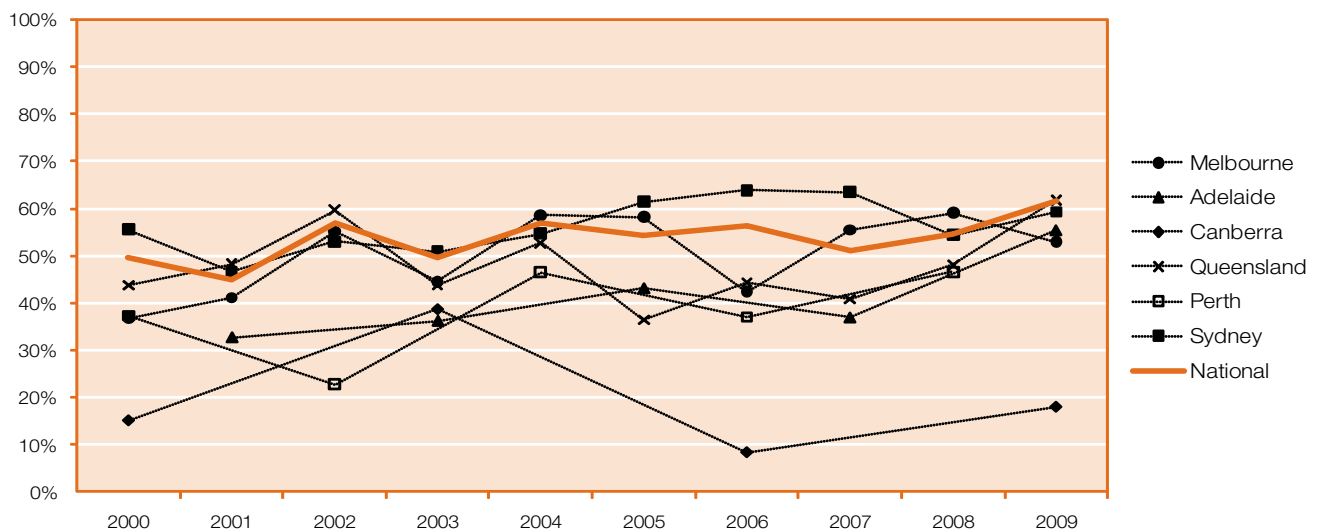


Figure 8: HIV-positive men with casual partners who reported disclosing their HIV status to any casual partner: GCPS, 2000–2009

## 1.6 Future developments

### Feasibility of an online cohort study of gay men

John de Wit, Philippe Adam, Dean Murphy and John Imrie

Nationally and internationally, the internet is increasingly used to conduct social and behavioural research on the sexual practices of gay men as well as other communities at risk for HIV and STIs. In 2008–2009 NCHSR led an investigation to assess the feasibility and acceptability of a future online prospective cohort study of gay and other men who have sex with men (MSM) across Australia.

#### Why a cohort study of gay and other MSM is needed

Australia has a long and strong tradition of excellent social and behavioural research among gay men and other MSM and, through its partnership approach, is well positioned to respond effectively to the challenges the ongoing HIV epidemic poses for HIV prevention and social and behavioural research. Epidemiological and behavioural surveillance programs are ongoing, but research to understand the social and behavioural drivers of new infections and the factors that shape sexual practice is more limited in its scope and volume. In particular, there is currently no behavioural cohort study of the broad community of Australian gay men. As a result, one of the vital linking pins between epidemiology and behavioural surveillance that uniquely supports the evidence base for effective HIV-prevention responses is missing. A cohort study design has a range of methodological strengths, including the possibility to 1) calculate incidence rates for HIV and other outcomes, 2) assess individual-level changes over time, 3) establish temporal relationships between sexual practice and infection rates, as well as between factors that may shape sexual practice and subsequent behaviours, and 4) measure the impact of

policies and programs. When conducted nationally, a cohort study also has the much-needed capacity to help understand differences in trends in HIV and sexual practice between states and territories.

#### Assessing the feasibility and acceptability of an online cohort study

As researchers' experience with online methods increases, the strengths and limitations associated with engaging research participants via internet connections are better understood. Thus far, however, the internet has mostly been used to conduct cross-sectional surveys and attempted to engage Australian gay and other MSM in an online prospective or repeated follow-up study using internet-based technologies have remained limited.

To assess the feasibility and acceptability of an online prospective cohort study of gay and other MSM, the National Centre in HIV Social Research conducted an investigation on behalf of a consortium of 10 research, community and government organisations. Data were obtained from key-informant interviews; a technical needs assessment determined infrastructure requirements, a literature review, and an online acceptability survey to assess empirically the acceptability of the proposed internet-based cohort study of gay and other MSM in Australia.

The feasibility and acceptability study found stakeholders felt a national cohort study was an important resource and identified the advantages of conducting research this way. Questions were raised by stakeholders regarding the reliability of data, the safety and security of stored information, provision of informed consent, participant retention, and governance of the study. A review of the literature found that expert international researchers have already developed effective models to address these concerns, mostly through the use of sophisticated procedures and software. The needs assessment identified

highly developed technology for online data collection that would match the requirements for an online cohort study in gay and other MSM in Australia. The feasibility study also identified that community organizations could play a key role in participant recruitment and retention.

To assess the willingness of gay and other MSM to participate in a potential online prospective cohort study, an online survey was conducted among 1,135 men, with adequate representation in all states and territories. The survey explored in particular whether men would be willing to: 1) complete a baseline online questionnaire; 2) provide an email address so they could be followed online over time; and 3) allow personal data to be linked to various health registries. The results of the survey showed that the vast majority of men (83%) were willing to complete a baseline questionnaire and provide an e-mail address for future follow-up (81%). In practice, acceptance may be even higher as some men were unsure and might be more inclined to accept if more information were provided. Willingness to provide minimum identifiers for data linkage was also high, with 92% of men willing to provide a valid postcode and 83% willing to provide their date of birth.

At least half of participants were willing to provide all minimum identifiers needed for probabilistic record linkage.

### What's next?

The feasibility and acceptability study showed strong support for an online cohort study in gay and other men who have sex with men. Some concerns were noted, and when encountered by international researchers in practice, effective solutions have already been identified and tested. Importantly, gay men and other MSM surveyed were very willing to participate in an online cohort study and provide data needed for record linkage. Use of state-of-the-art technology guarantees participants the highest standard of data safety and privacy protection.

Cohort studies are an indispensable part of an effective and comprehensive research program and a national cohort study of gay men and other MSM is critical to inform the future HIV response in Australia. NCHSR is currently in the process of establishing a partnership for Myriad—a national cohort study of gay men and other MSM. The next step will be to secure funding for this important initiative.

## Spotlight Sexual networks and sexual norms among gay men: the CONNECT study

Iryna Zablotska, John de Wit, Garrett Prestage and Graham Brown

In Australia, recent increases in HIV incidence and risky sexual behaviours among men who have sex with men are of concern for HIV prevention. Individuals' behaviours are not independent, and international studies show that social norms play an important role in shaping sexual behaviour. However, perceptions and communication of norms with respect to HIV/STI risk and risk reduction behaviours within MSM populations have not been studied in Australia. The study of social and sexual connections between men may contribute to understand how men communicate norms and practices and shape each other's beliefs and behaviours. It will also help explain the differing behavioural patterns between the states and why increasing efforts in HIV prevention have been unsuccessful in halting risky practices among MSM.

The CONNECT study, which started in 2010, is focused on investigating contemporary social norms in gay networks regarding risk and risk reduction practices, drug use and sexual health testing. The respondent-driven sampling approach will allow studying the connections between individuals in MSM networks. The study will in particular assess men's understanding of and concordance in perceived behavioural norms, and the effect of these norms on behaviours, among both men who are and are not or less attached to gay communities. The study will compare findings across states and jurisdiction to elucidate local norms and behaviours. This will contribute to the understanding of how differences between states in norms and behaviours are shaped by local circumstances.

The study has three research sites located in Sydney, Melbourne and Perth. Data will be collected using self-administered computerized questionnaires. A group of initial participants will be recruited and then asked to refer up to three of their peers (friends and/or sexual partners) to participate in the study, using coupons with unique IDs. Referrals will continue until 2000 men are recruited in total. Trained data collection officers will assist in administering questionnaires. The largest chain of recruitment with at least six waves of referral will participate in a chance draw for a prize. A system of safeguards is designed to ensure confidentiality and research integrity. The study recruitment will start in October 2010 and will be completed at the end of June 2012.

The CONNECT study is funded by NHMRC for three years (2010-2012). This project is conducted by the UNSW, Sydney in collaboration with Curtin University, Perth. The study is implemented by a group of four chief investigators (Dr Iryna Zablotska, CIA, NCHECR; Professor John de Wit, CIB, NCHSR; Associate Professor Garrett Prestage, CIC, NCHECR; and Dr Graham Brown, CID, WA Centre for Health Promotion Research, Curtin University), three associate investigators (Professor Christopher Fairley, Melbourne Sexual Health Centre, Melbourne University; Associate Professor Bruce Maycock, WA Centre for Health Promotion Research, Curtin University; and Dr Alden Klov Dahl, School of Social Sciences, Australian National University), a project manager (Michelle McKechnie, NCHECR), and one data recruitment officer in each city. The project is conducted in partnership and collaboration with ACON, Positive Life NSW, AFAO, New South Wales Department of Health, VAC/GMHC, PLWHA Victoria, WACC and WA Health.

# 2

## Testing for HIV and other STIs



### 2.1 Trends in HIV testing among gay and other homosexually active men

Martin Holt and Limin Mao

The lifetime rate of HIV testing among men recruited into the Gay Community Periodic Surveys is very high and has remained stable for the last ten years (see Table 10 and Figure 9). In general, over 85% of GCPs participants have ever had an HIV test. Sydney has observed the highest proportion of men who have ever

been tested for HIV and Canberra the lowest. Significant variations can be seen across most states and territories except Canberra where the proportions of men tested for HIV have remained stable during the last decade.

Over the last three years, the proportion of men tested for HIV has been relatively stable in most states and territories, except Adelaide where it dropped from 84.5% to 78.2%. The change in Adelaide may be a result of a change in recruitment venues and locations. In the 2009 Adelaide survey, a number of new social venues were included as recruitment sites.

**Table 10: Men who had ever been tested for HIV, excluding men recruited from sexual health clinics: GCPs, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		81.1		85.8		80.6		84.5		78.2	↕ $p < 0.001$	↓ $p < 0.001$
Canberra	77.8			79.6			80.7			80.9	<i>ns</i>	–
Melbourne	83.1	86.3	87.0	84.2	81.0	84.4	81.8	85.1	87.4	84.6	↕ $p < 0.001$	<i>ns</i>
Perth	84.6		78.2		82.5		81.3		83.8		↕ $p < 0.002$	–
Queensland	86.1	83.7	84.4	80.1	84.0	87.2	88.4	89.0	89.4	87.5	↕ $p < 0.001$	<i>ns</i>
Sydney	88.2	83.4	92.3	87.7	90.2	87.9	92.8	88.9	90.4	89.4	↕ $p < 0.001$	<i>ns</i>
All six states/ territories	86.3	84.8	85.7	87.2	87.6	87.1	87.0	88.1	88.8	86.9	<i>ns</i>	<i>ns</i>

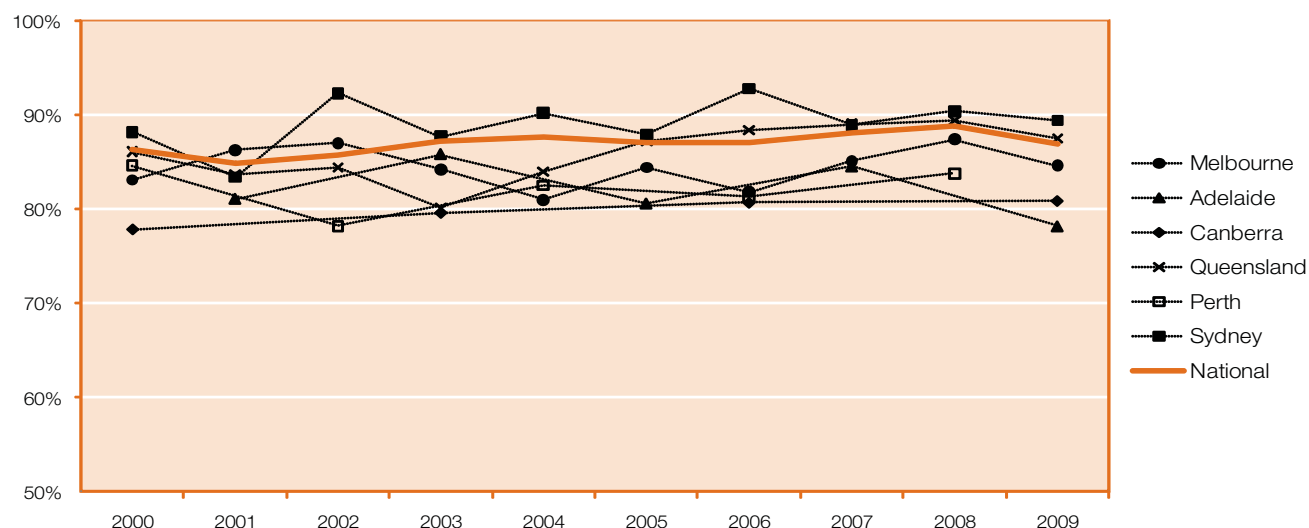


Figure 9: Men who had ever been tested for HIV, excluding men recruited from sexual health clinics: GCPS, 2000–2009

Please note: Men who were recruited from general practices or sexual health clinics were excluded from the analyses in this section as clinic attendees tend to have a higher HIV testing rate than men recruited from elsewhere.

Table 11 and Figure 10 show the proportions of non-HIV-positive men reporting HIV testing in the 12 months prior to the survey. Over the last ten years, the national trend shows a significant increase in the proportion of men being

Table 11: Non-HIV-positive men tested for HIV in the 12 months prior to the survey, excluding men recruited from sexual health clinics: GCPS, 2000–2009

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		53.5		55.8		56.7		57.6		54.0	<i>ns</i>	<i>ns</i>
Canberra	46.4			52.4			53.9			53.3	$\uparrow p < 0.002$	–
Melbourne	51.9	51.7	50.1	52.1	55.0	58.0	52.1	61.1	56.7	59.7	$\uparrow p < 0.001$	<i>ns</i>
Perth	51.7		50.9		49.7		52.2		52.1		<i>ns</i>	–
Queensland	57.0	54.7	52.7	51.1	56.9	58.3	56.1	59.5	54.0	61.3	$\downarrow p < 0.001$	$\downarrow p < 0.003$
Sydney	55.5	46.7	57.4	59.4	62.7	60.1	61.8	64.8	62.0	66.6	$\uparrow p < 0.001$	<i>ns</i>
All six states/ territories	53.7	51.8	53.0	55.7	57.6	59.8	57.3	60.4	57.6	60.2	$\uparrow p < 0.001$	<i>ns</i>

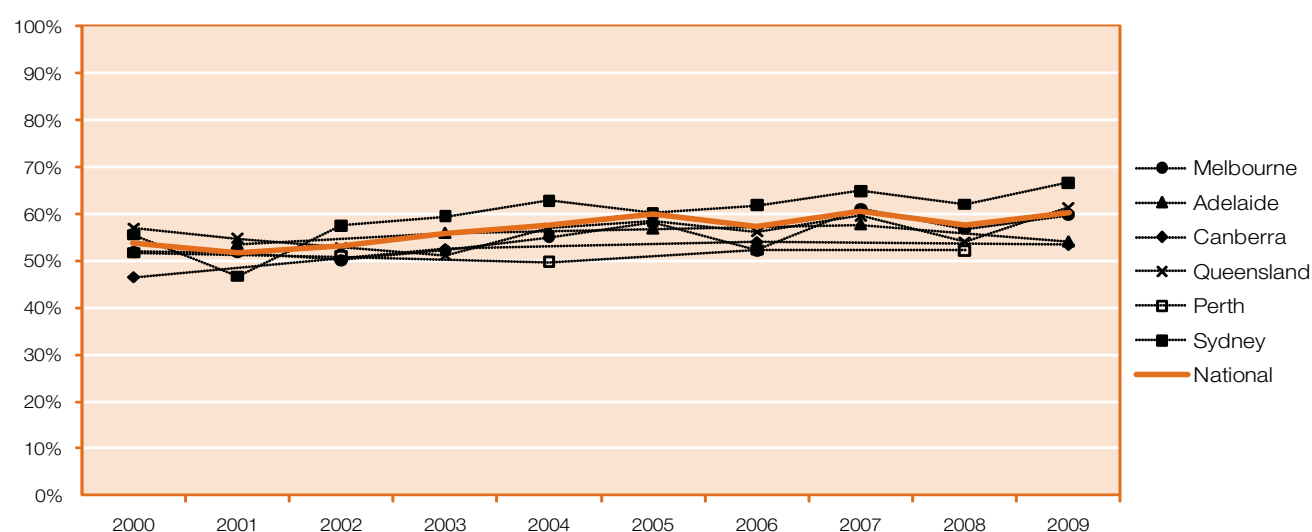


Figure 10: Non-HIV-positive men tested for HIV in the 12 months prior to the survey, excluding men recruited from sexual health clinics: GCPS, 2000–2009



tested for HIV within the 12 months prior to the survey (53.7% in 2000 to 60.2% in 2009). This upward trend appears to have stabilised over the last 3 years. Between 2000 and 2009, increases in recent HIV testing are most apparent in Canberra (from 46.4% to 53.3%), Melbourne (from 51.9% to 59.7%) and Sydney (from 55.5% to 66.6%). The proportions of men reporting having been tested for HIV in the 12 months prior to the survey have remained stable in Adelaide and Perth and fluctuated in Queensland over the ten-year period.

## 2.2 Trends in testing for STIs among gay and other homosexually active men

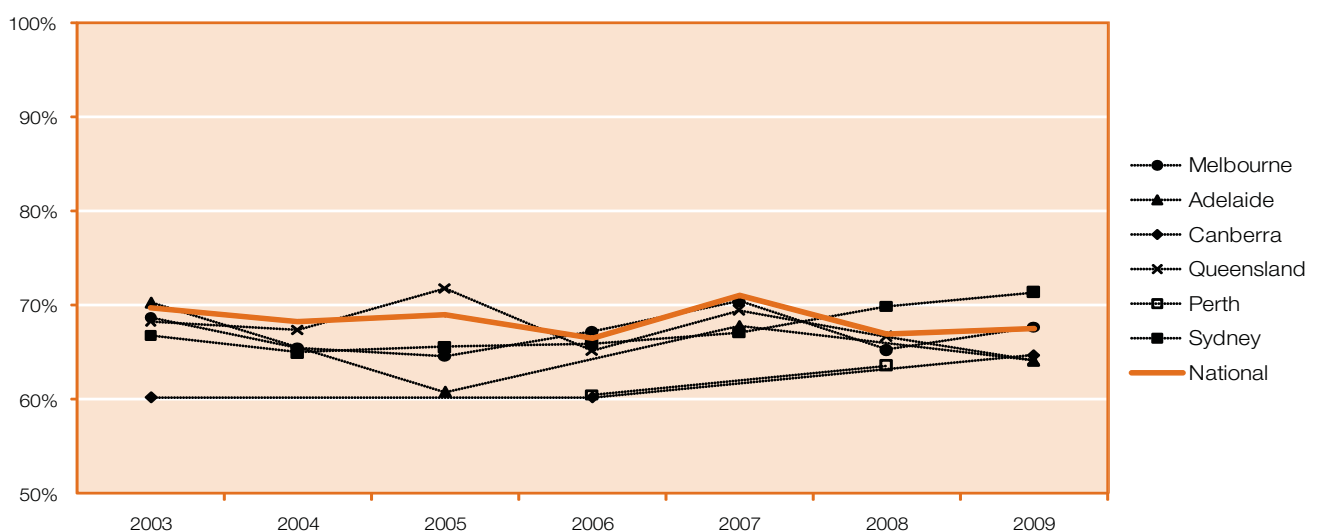
Martin Holt and Limin Mao

Table 12 and Figure 11 show the proportions of men reporting any test for STIs in the 12 months prior to the survey. Data on a range of tests for STIs including anal swabs, throat swabs, penile swabs, urine samples or blood tests other than for HIV have been available since 2003.

Nationally, there has been no change in the proportion of men reporting any test for STIs over the last seven years. During this period, generally over two-thirds of men who participated in the Gay Community Periodic Surveys reported any STI testing in the year prior to the survey. Looking at the states and territories, the proportions of men reporting STI testing have also been stable in Canberra, Melbourne and Perth. Men in Canberra are the least likely to report any STI testing. Between 2003 and 2009, the proportions of men reporting STI testing decreased in Adelaide from 70.3% to 64.1% and in Queensland from 68.3% to 64.2%. In contrast, the proportion of men reporting STI testing in Sydney increased from 66.8% in 2003 to 71.4% in 2009. Over the last 3 years, STI testing has been stable in most states and territories except Queensland where it declined. It should be noted that previous Annual Reports of Trends in Behaviour have found that the comprehensiveness of STI tests has increased over time (de Wit, Treloar & Wilson, 2009).

**Table 12: Men who reported any STI test in the 12 months prior to the survey: GCPS, 2003-2009**

	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide	70.3		60.8		67.8		64.1	↓ $p < 0.001$	<i>ns</i>
Canberra	60.2			60.2			64.7	<i>ns</i>	–
Melbourne	68.7	65.5	64.6	67.2	70.4	65.3	67.7	<i>ns</i>	<i>ns</i>
Perth				60.5		63.6		<i>ns</i>	–
Queensland	68.3	67.4	71.8	65.2	69.5	66.7	64.2	↓ $p < 0.01$	↓ $p < 0.04$
Sydney	66.8	65.0	65.6	65.9	67.1	69.9	71.4	↑ $p < 0.02$	<i>ns</i>
All six states/ territories	69.7	68.3	69.0	66.5	71.1	66.9	67.5	<i>ns</i>	<i>ns</i>



**Figure 11: Men who reported any STI test in the 12 months prior to the survey: GCPS, 2003–2009**

## 2.3 HIV testing data from the e-male survey

Martin Holt

The Gay Community Periodic Surveys provide regular snapshots of the practices of gay men primarily living in metropolitan areas. This is useful for monitoring the practices of those homosexually active men most at risk of HIV in Australia. However, the profile of men typically recruited into the GCPS (mainly gay-identified, living in urban areas and involved in gay community activities) means that data from the GCPS do not represent all men who have sex with men in Australia. The Male Call and Male Out surveys conducted by the National Centre in HIV Social Research between 1992 and 2000 investigated the practices of gay, bisexual and other homosexually active men who live in regional areas by using different recruitment methods to the GCPS, such as national telephone surveys and questionnaires distributed through pornographic video catalogues (Crawford, Kippax, Rodden, Donohue & Van de Ven, 1998; Van de Ven, Rawstorne, Crawford & Kippax, 2001). In 2008 NCHSR conducted an anonymous online survey (the e-male survey) across Australia to reach a range of gay, bisexual and other men who have sex with men (Rawstorne, Holt, Kippax, Worth, Wilkinson, & Bittman, 2009). The e-male survey confirmed that there continue to be similarities and differences between men who have sex with men who live in metropolitan and regional areas, and between men who are involved in gay-community activities and those who are not. HIV testing is one of those areas of difference.

Men recruited into the GCPS typically report high levels of HIV testing. In general, over 85% of GCPS participants

reported having ever been tested for HIV (see 2.1 Trends in HIV testing). However, as Table 13 indicates, surveys targeting men in regional areas as well as cities (and subsequently a broader range of men who have sex with men) routinely find a much higher proportion of men who have never tested for HIV e.g. over a quarter of men in the e-male survey did not know their HIV status. Other surveys conducted in Australia that have attracted a broader range of MSM also report a higher proportion of untested men than that found in the GCPS (Grulich, De Visser, Smith, Rissel & Richters, 2003; Pitts, Smith, Mitchell, & Patel, 2006).

Previous analyses of Australian data have shown that men who have never been tested for HIV are younger, less likely to identify as gay, less socially involved with gay men and have fewer male sex partners (Van de Ven, Prestage, Knox, & Kippax, 2000). This indicates that untested men are often more socially and sexually distant from the HIV epidemic and tend to get tested for HIV as they get older, become more sexually active and become more socially involved with gay men. However, untested men are not necessarily geographically distant from the HIV epidemic. Data from the e-male survey indicate that although untested men are more likely than tested men to live in regional areas (52% vs. 34%), nearly half of all untested men in Australia live in the metropolitan areas in and around capital cities (Rawstorne, Holt, Kippax, Worth, Wilkinson, & Bittman, 2009). This highlights the importance of engaging with younger men and those less connected with gay life in metropolitan areas before they become more sexually active so as to establish a regular HIV testing pattern and knowledge of safe sex practices.

**Table 13: HIV status among men in Male Out, Male Call and e-male surveys**

	Male Call 1992 <i>n</i> (%)	Male Call 1996 <i>n</i> (%)	Male Out 2000 <i>n</i> (%)	e-male 2008 <i>n</i> (%)
No test/Don't know the result	143 (26.8)	170 (28.9)	403 (22.0)	822 (25.4)
HIV-negative	379 (71.0)	400 (68.0)	1343 (73.3)	2131 (66.0)
HIV-positive	12 (2.2)	18 (3.1)	86 (4.7)	278 (8.6)
Total	534 (100)	588 (100)	1832 (100)	3231 (100)

## 2.4 Future developments

### STI-related knowledge and testing in adolescents and young adults

Philippe Adam, John de Wit, Christopher Bourne, Liz Story and Barry Edwards

Increased notifications of various types of STIs have been observed among young heterosexual people in New South Wales and other Australian jurisdictions. According to experts, the uptake of testing for STIs is, however, low which limits optimal management of STIs in this population. Poor STI knowledge is often seen as the major barrier to testing of youth for STIs, but no empirical data is

currently available to validate this idea. To address this gap in understanding, a quantitative cross-sectional survey was conducted in 2010 by NCHSR and the NSW STI Programs Unit to assess the prevalence of STI-related knowledge and its contribution to testing for STIs in male and female adolescents and young adults living in New South Wales.

The survey was conducted between May and July 2010 through the online platform [www.gettingdowntoit.net](http://www.gettingdowntoit.net). Participants were recruited using Facebook advertisements that were programmed to only target male and females aged between 16 and 26 years old living in or around 9 major cities and towns in New South Wales. After providing informed consent, participants completed an anonymous online survey that included questions on

respondents' socio-demographic characteristics, their sexual practices and use of condoms with their regular and casual sexual partners, as well as their experience with and knowledge of STIs. STI-related knowledge was measured with a scale developed in collaboration with clinicians from the Sydney Sexual Health Centre. The scale consisted of 32 items aimed at measuring respondents' knowledge regarding the presence or absence of STI symptoms, the modes of STI transmission, the consequences of having an STI and the existence or absence of treatment for various STIs. For each of these four areas of knowledge, questions were asked with respect to HIV, Chlamydia, gonorrhoea, syphilis, herpes, HPV, as well as for STIs in general without further specification. For each STI-related question, response options were 'true', 'false' or 'don't know'. Scores of STI-related knowledge were calculated by summing the number of correct answers.

In addition to responding to questions on knowledge, respondents also indicated if they had ever been tested for STIs, including HIV, and whether they intended to be tested for STIs in the next six months. Intention to test for STIs was measured with two five-point-scale questions pertaining to plans and expectancy. Intention items were averaged ( $\alpha = .94$ ), and higher scores reflected higher intentions to test.

A total of 2,429 respondents accessed the online questionnaire. Of these, 1,912 met the eligibility criteria of living in Australia, being sexually experienced and aged between 16 and 26 years. Respondents' mean age was 20.4 years and 58% of the respondents were female. Due to the recruitment strategy used, most participants (88%) originated from New South Wales but some participants who directly accessed the survey website originated from other jurisdictions. Condom use was found to be low in this population, and 64.2% of the participants reported unprotected vaginal or anal intercourse with any partner in the previous six months.

On average respondents provided 17.2 correct answers on the knowledge questions, out of 32 ( $Mdn = 18$ ,  $SD = 7.01$ ). STI-related knowledge was found to be higher in respondents with a higher level of education and lower in respondents with a non-Anglo-Australian background and in heterosexual respondents rather than in bisexual or homosexual respondents. Level of knowledge varied according to the four areas of knowledge. Knowledge regarding the consequences of having an STI was found to be lower than knowledge of symptoms, transmission and treatment. Similarly, respondents did not present the same level of knowledge for all STIs. Knowledge regarding Chlamydia was quite high and knowledge regarding herpes and HIV was moderate; the lowest level of knowledge was observed for syphilis and HPV.

Half of the respondents (51%) reported that they had ever been tested for STIs or HIV. Of those respondents who reported having been tested, two-thirds had been tested for both STIs and HIV, a quarter had been tested for STIs only and a small minority (6%) had been tested for HIV only. Among respondents who engaged in unprotected sex in the six months prior to the survey; one-third had never been tested for STIs and another third had engaged in risky sex after being tested.

Respondents' intention to test for STIs in the next six months was moderate ( $M = 2.8$  out of 5), even among participants who recently engaged in unprotected sex but had not tested for STIs since they engaged in risky sex.

Analyses conducted to assess the contribution of STI-related knowledge to testing for STIs indicated that of the four areas of knowledge, only knowledge regarding the presence or absence of symptoms and knowledge of consequences of having an STI were independently associated with past testing behaviours. These aspects of knowledge were also related to intention to test in the future. The contribution of higher levels of knowledge to explaining STI testing was, however, limited: knowledge explained 5% of the variance in past behaviour and only 1% of the variance in intention to test for STIs.

While this online sample cannot be considered representative of the population of young people aged between 16 and 26 years in NSW, it provides useful information on STI-related issues in male and female adolescents and young adults. Due to a lack of consistent use of condoms, the population recruited in this survey was at high risk for contracting an STI. Even though half of the respondents had ever been tested for STIs, there is a clear need for a higher uptake of STI-testing in the surveyed population. Among respondents who engaged in unprotected sex in the six months prior to the survey, a third had never been tested for STIs and a third had tested prior to engaging in risky sex for the last time. Intention to test in the future was only moderate in this group, which calls for a better understanding of the barriers that prevent some young people to test for STIs. At first glance results indicate that there may be a need for improving knowledge of STIs other than Chlamydia and knowledge of the potential consequences of having an STI. However, and contrary to a belief widely held in the field of health promotion, the contribution of STI-related knowledge to the decision to test for STIs was found to be limited. Findings suggest that there will be no significant increase in the uptake of STI testing among adolescents and young adults in NSW and other jurisdictions if prevention programs focus on increasing STI-related knowledge without also addressing other major individual, social and structural barriers to testing for STIs.



## Spotlight The debate over rapid HIV testing in Australia

Martin Holt

Rapid HIV testing is an alternative to standard HIV testing in which the presence of HIV antibodies can be ascertained quickly, generally within 30 minutes (Franco-Paredes, Tellez & del Rio, 2006). The results of rapid tests are usually delivered during consultation rather than at a second appointment, making it easier to offer HIV testing in non-traditional settings. Rapid assays are widely used overseas, particularly in the United States where there traditionally have been low levels of HIV testing. Unlike standard HIV testing, which usually requires a venous blood sample, many rapid tests can be conducted on saliva, an oral swab or blood from a finger prick. In contexts where both rapid and standard HIV tests are offered, rapid HIV tests tend to be the preferred choice of consumers, given the speed with which results can be delivered and the option for less invasive sample-collection methods.

Over the last few years, a debate has emerged in Australia about the potential benefits of rapid HIV testing (Chen & Estcourt, 2009; Holt & Keen, 2009). The debate has been prompted by a number of factors. Firstly, in some Australian jurisdictions there has been an increase in the proportion of men recently diagnosed with HIV who have never been tested for HIV or have not been tested for a number of years. (STD Services, 2009). Secondly, changes to testing guidelines for gay and other homosexually active men now encourage many sexually active men to test more frequently than before (STIGMA, 2009). Thirdly, research addressing barriers to HIV testing among Australian gay and bisexual men suggests some men experience problems in accessing HIV testing while others find it frustrating to see their doctor twice to get their test results (Prestage, McCann, Hurley, Bradley, Down, & Brown, 2010). These factors combined suggest that alternatives to standard HIV testing, like rapid HIV testing, could help to maintain or increase HIV testing levels among gay and other homosexually active men.

Currently, Australia's National HIV Testing Policy prohibits the use of rapid HIV testing for routine screening (Australian Government, 2006). This is partly because rapid assays tend to be less accurate than standard HIV tests in detecting or ruling out the presence of HIV antibodies. It may also reflect a preference (on the part of regulatory authorities) to maintain the bulk of HIV testing in clinical settings, rather than offer it in community settings or through outreach. However, given the positive reactions of consumers overseas, it has been suggested that making rapid HIV testing available may help to maintain or increase the already high levels of HIV testing among gay and bisexual men (Holt & Keen, 2009). Taking into account this evidence, the Australian Federation of AIDS Organisations has recently adopted a policy position advocating that rapid HIV testing be made available for routine testing in Australia (AFAO, 2010).

Making rapid HIV testing more available in Australia faces a number of regulatory and policy hurdles. Manufacturers must seek approval from the Therapeutic Goods Administration in order for rapid assays to be licensed for use as routine HIV tests. The National HIV Testing Policy would need to be revised to allow rapid testing across Australia. It also remains unclear how rapid HIV testing would be regulated and monitored if offered in non-clinical settings. In the mean time, researchers and community organisations are garnering evidence to assess the likely impact and acceptability of rapid testing among gay and bisexual men and clinicians. Recent survey findings suggest that gay and bisexual men would test more frequently if HIV testing was more convenient, if results could be obtained quickly and if testing was offered at gay venues, all of which would be easier to implement if rapid testing were available (Prestage, McCann, Hurley, Bradley, Down, & Brown, 2010). In addition, research in Brisbane and Melbourne indicates it is feasible to offer HIV testing to gay and bisexual men at gay community events, gay bars and in sex-on-premises venues (Birrell et al., 2010; Pedrana et al., 2008).

To add to the evidence base, the National Centre in HIV Social Research is participating in a trial of rapid HIV testing in clinical settings in the Sydney metropolitan area, led by Dr Damian Conway of the Sexually Transmitted Infections Research Centre at the University of Sydney. The trial, to be conducted in 2011–2012, will analyse the experiences of rapid HIV testing by gay men and other men who have sex with men and assess how clinical staff adapt to rapid testing procedures. If the results show that rapid testing is well received and can be implemented smoothly, it is expected that the trial will strengthen the case for rapid HIV testing in Australia.

# 3

## Living with HIV



### 3.1 HIV-positive men in the Gay Community Periodic Surveys

Martin Holt and Limin Mao

Nationally, the proportion of HIV-positive men recruited into the Gay Community Periodic Surveys remains stable; 11.7–14.8% of men in the GCPS reported being HIV-positive between 2000 and 2009 (see Table 14 and Figure 12).

This partly indicates the stability of recruitment procedures over time and across states and territories. However, it is clear in the surveys that far fewer HIV-positive men were recruited from the less populous states and territories; the highest proportion of which is routinely seen in the Sydney survey. The proportions of HIV-positive men in each state and territory appear to reflect the size of the HIV-positive gay population in each jurisdiction (Prestage et al., 2008).

**Table 14: Men who are HIV-positive: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		9.8		7.0		4.4		13.7		6.2	↕ $p < 0.001$	↓ $p < 0.001$
Canberra <sup>1</sup>	3.5			1.8			4.6			4.6	↕ $p < 0.002$	–
Melbourne	13.1	15.6	13.8	15.1	10.6	12.7	13.5	14.7	14.1	12.8	<i>ns</i>	<i>ns</i>
Perth	3.9		2.4		4.4		5.7		3.9		↕ $p < 0.01$	–
Queensland	11.7	9.9	12.3	11.4	11.7	19.4	9.9	9.5	10.3	10.8	↕ $p < 0.001$	<i>ns</i>
Sydney	16.4	16.2	22.7	12.4	18.4	16.7	18.9	14.3	20.0	18.7	↕ $p < 0.001$	↕ $p < 0.002$
All six states/ territories	12.2	13.4	14.3	11.7	12.6	13.8	13.8	13.6	14.8	12.8	<i>ns</i>	<i>ns</i>

<sup>1</sup> Caution: small numbers of HIV-positive men in the Canberra samples may make data unreliable.

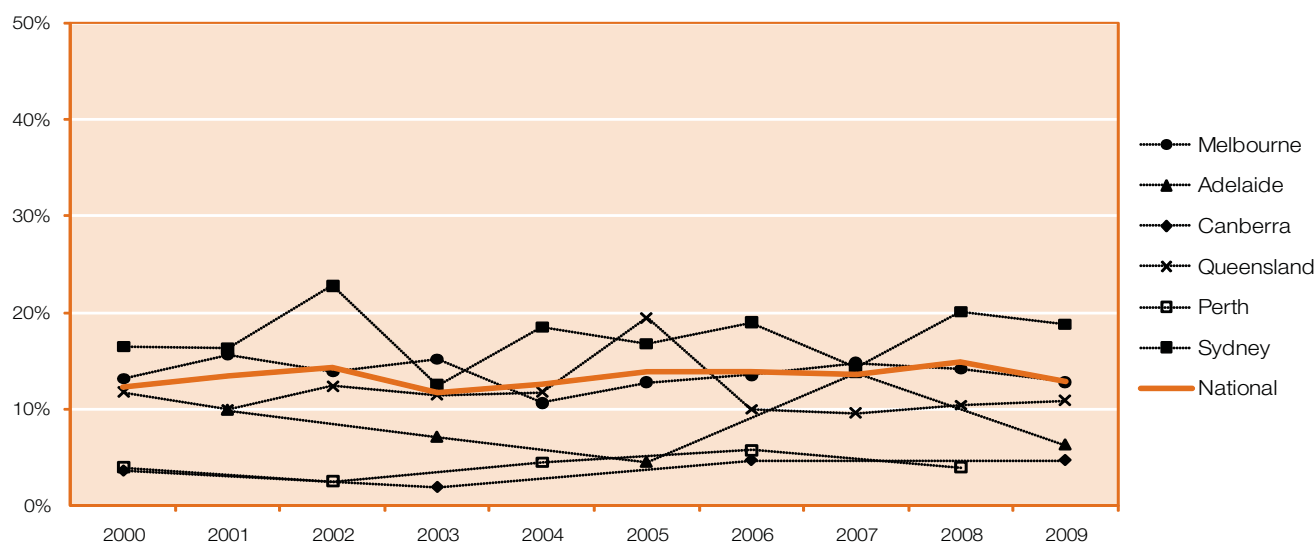


Figure 12: Men who are HIV-positive: GPCPS, 2000–2009

In smaller cities such as Adelaide, Canberra and Perth, few HIV-positive men are typically recruited into the surveys. This means that caution should be exercised when interpreting the proportions of HIV-positive men on treatment and those with a detectable viral load in these locations.

## 3.2 Uptake of antiretroviral treatment

Martin Holt and Limin Mao

Use of antiretroviral treatment among HIV-positive men is shown in Table 15 and Figure 13. The national trend indicates that generally over half of HIV-positive men in the Gay Community Periodic Surveys reported being on treatment between 2000 and 2009, although the proportion has fluctuated significantly, stabilising in the last three years. Within the ten-year observation period, the proportions of HIV-positive men on treatment have significantly increased in Adelaide (from 36.7% to 49.1%) and Sydney (from 52.4% to 62.4%). In Melbourne, however, the proportion of HIV-positive men on treatment has decreased from 53.8% in 2000 to 45.5% in 2009. A decrease was also observed in Canberra. It is interesting to note that, on average, in this statistically adjusted analysis, treatment uptake among HIV-positive men has been hovering around the 50% mark in

the last decade, despite relatively easy access to treatment in Australia. It should be noted that these figures for treatment usage are considerably lower than those found when using unadjusted raw data from the Gay Community Periodic Surveys. In last year's Annual Report of Trends of Behaviour, for example, the proportion of HIV-positive men receiving treatment in 2008 was in the range 65–74% (de Wit, Treloar & Wilson, 2009). Adjusting the raw data for age and recruitment venue, as we have done this year, greatly reduces the proportion of HIV-positive men who appear to be receiving treatment. This suggests there are substantial variations in HIV treatment access and uptake among HIV-positive men recruited from different venue types.

Since 2002, HIV-positive men have been asked to indicate their last HIV viral load test result when completing the surveys. Table 16 and Figure 14 show the proportions of HIV-positive men reporting a detectable viral load. Looking at the national trend, we can see that in general the proportion of HIV-positive men with a detectable viral load has been falling (from 38.6% in 2002 to 33.6% in 2009), presumably due to the availability of effective antiretroviral treatment. This long-term trend has been observed in Melbourne, Perth, Queensland and Sydney, although there have been fluctuations in Melbourne and Queensland in the last three years.

Table 15: HIV-positive men on antiretroviral treatment: GPCPS, 2000–2009

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		36.7		42.3		46.7		51.8		49.1	$\uparrow p < 0.001$	ns
Canberra <sup>1</sup>	38.8			41.3			41.2			20.2	$\downarrow p < 0.001$	–
Melbourne	53.8	44.2	52.5	42.7	54.6	38.9	44.4	50.1	52.1	45.5	$\downarrow p < 0.001$	$\downarrow p < 0.01$
Perth	48.5		38.8		58.8		59.1		48.6		$\updownarrow p < 0.001$	–
Queensland	48.4	44.5	39.4	45.4	54.5	50.7	50.2	45.5	56.9	48.8	$\updownarrow p < 0.001$	$\updownarrow p < 0.001$
Sydney	52.4	45.7	58.4	49.0	42.9	51.2	42.4	54.8	59.3	62.4	$\uparrow p < 0.001$	$\uparrow p < 0.002$
All six states/ territories	55.3	42.7	56.1	52.5	50.2	51.0	46.9	53.6	57.8	56.6	$\updownarrow p < 0.001$	ns

<sup>1</sup> Caution: small numbers of HIV-positive men in the Canberra samples may make data unreliable.

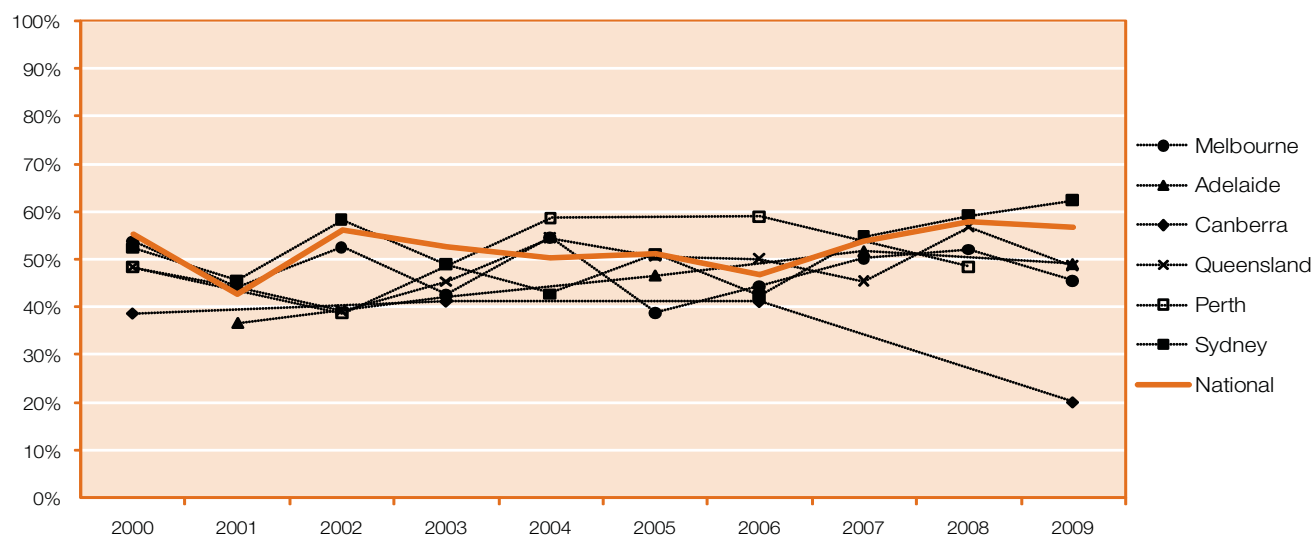


Figure 13: HIV-positive men on antiretroviral treatment: GCPS, 2000–2009

Table 16: HIV-positive men who reported a detectable viral load: GCPS, 2002–2009

	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide						19.7		17.9	ns	–
Canberra <sup>1</sup>								14.2	–	–
Melbourne		36.3	38.4	37.3	29.4	31.2	18.6	32.3	↓ $p < 0.001$	↕ $p < 0.001$
Perth	11.7		15.0		7.9		5.7		↓ $p < 0.001$	–
Queensland	39.4	32.7	29.4	25.1	33.8	29.3	19.1	32.3	↓ $p < 0.001$	↕ $p < 0.001$
Sydney		24.9	41.6	22.5	31.0	29.7	28.5	16.0	↓ $p < 0.001$	↓ $p < 0.001$
All six states/ territories	38.6	31.1	33.2	29.3	30.5	32.6	23.3	33.6	↓ $p < 0.001$	↕ $p < 0.001$

1 Caution: small numbers of HIV-positive men in the Canberra samples may make data unreliable.

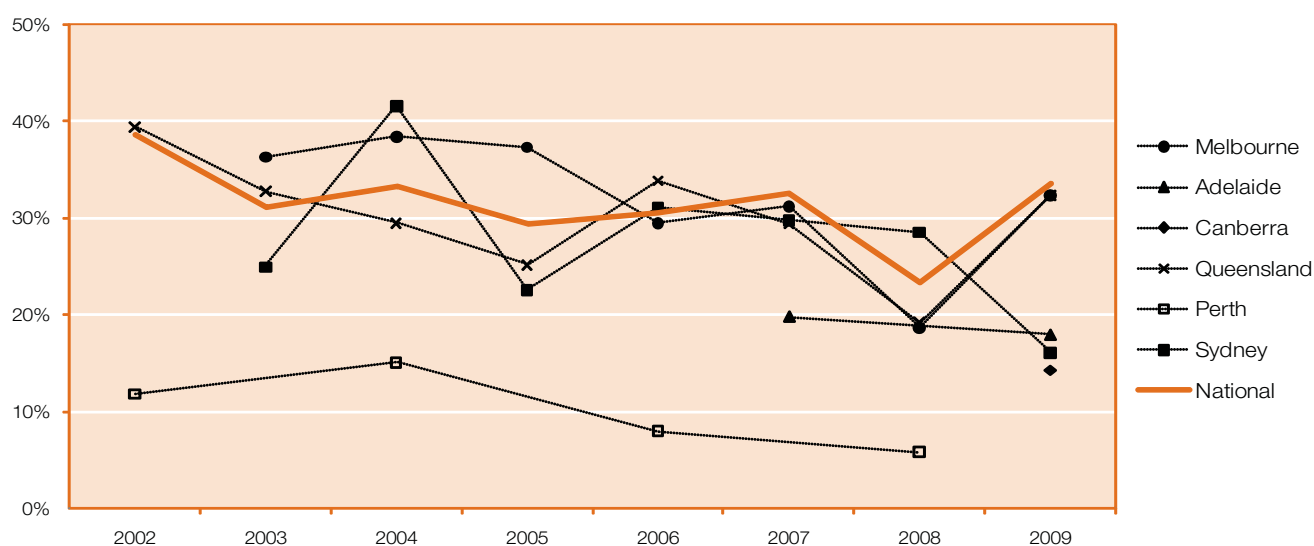


Figure 14: HIV-positive men who reported a detectable viral load: GCPS, 2002–2009



### 3.3 Men and women living heterosexually with HIV

Asha Persson

The Straightpoz Study is a qualitative longitudinal cohort study, extending from 2004 to 2010. During the course of the study, 48 HIV-positive heterosexuals and HIV-negative partners in NSW participated in up to three in-depth interviews. The study was conducted in collaboration with the Heterosexual HIV/AIDS Service NSW (Pozhet). The study included three phases across time, with each phase exploring a range of issues related to living with HIV among this population. The first phase of the study was completed in 2006, focusing on diagnosis, stigma, disclosure, relationships, sexuality, social connectedness and contact with services and the positive community. The second phase was completed in 2008, focusing on health, treatments, interactions with health workers/services, understandings of 'safe sex', and sexual practice. The third and final phase in 2009 revisited many aspects of living with HIV that were explored in detail in the previous two phases, with specific attention given to potential shifts in sexual practice and in understandings of 'safe sex' among the participants, due to the previous finding that unprotected sex was relatively common in serodiscordant relationships, and due to the release of the widely debated Swiss Consensus Statement in 2008.

One of the more interesting findings of the study identifies complex tensions between the participants' understandings of safe sex, their sexual practice, and partner testing. Nearly all participants interpreted safe sex to mean the use of condoms with any penetrative sex. But this textbook definition did not always translate into practice. Half the serodiscordant couples practised unprotected sex. Among those who were not in a relationship but who had been sexually active since diagnosis, nearly all had had sex with a known negative partner, with over half having had unprotected sex. However, they did not necessarily consider their sexual practice as unsafe, although some did, with most relying on alternative risk-reduction strategies, including withdrawal, putting a condom on before ejaculating, abstinence or condom use during menstruation or illness, no anal sex, and an undetectable viral load. These strategies were seen as reasonable precautions against the risk of transmission in light of current knowledge. A partner's ongoing HIV-negativity reinforced the sense that the right balance had been found between safety and acceptable risk.

Most of these couples drew on understandings of an undetectable viral load and reduced risk, which were similar to those outlined in the Swiss Consensus Statement, with the difference being that they believed undetectability made a positive partner less infectious, rather than non-infectious as claimed in the Swiss Statement. With the exception of one couple, in all couples who had unprotected sex, the positive partner was on treatment and had an undetectable viral load. However, not all positive partners who had an undetectable viral load had unprotected sex. Nor did any couple state that

an undetectable viral load was their reason for having unprotected sex. Indeed, it was difficult to ascertain to what extent an undetectable viral load was a driver of unprotected sex or to what extent it worked to reassure couples that what they were already doing was relatively safe. In fact, in practically all cases, unprotected sex appeared less driven by calculations of risk, than by complex dynamics around intimacy, stigma, gender, reproduction and a range of emotions and relationship priorities.

While unprotected sex among couples did not depend on the gender of the positive partner, heterosexual gender dynamics were at play in the couples' sexual practices, including a general lack of a safe-sex culture among heterosexuals and the idea that condoms were incompatible with romance and 'natural' sexual spontaneity. Unprotected sex should also be understood in the context of Australian heterosexual society where HIV remains an anomaly that is stigmatised and poorly understood. Negative partners were reluctant to position their positive partner as infectious, while for the positive partners, intimacy with and acceptance by a negative partner provided 'protection' from feelings of difference and disease, and thus a reassuring sense of 'normality'. In some couples, this desire for 'normality' removed any rationale for having protected sex. Unprotected sex was often framed by both partners as the negative partner's choice. Yet many positive partners were deeply ambivalent and described a tension between the pleasures of unprotected sex and the ambiguity within the relationship of ultimate responsibility for HIV transmission. Conversely, some negative partners queried whether their own sexual choices were subconsciously motivated by an attempt to protect their positive partner and to prove how much they loved them.

Most negative partners did not test regularly for HIV. There was no obvious parallel between testing and unprotected sex. In all phases of the study, regular and non-regular testing was fairly evenly distributed among couples who had unprotected and protected sex or no sex at all. This is indicative of the complex factors at play in partner testing. Some partners saw the test as meaningless because it could not confirm an HIV-negative status in real time. Others saw it as unnecessary if appropriate precautions were in place, while some did not see it as a priority or did not want to know their HIV status. Persistently negative tests were another reason for reduced testing. Other factors at play included the desire to not treat their positive partner as infectious and a lack of suitable health services for negative partners.

Two extensive research monographs were published in 2006 and 2009 and are available on the NCHSR website (Persson, Barton and Richards, 2006; Persson, Richards, Barton and Reakes, 2009). Research findings have also been disseminated through numerous national and international conference presentations, several articles in the HIV community media and in peer-reviewed academic journals. Further publications are in progress.

### 3.4 HIV and ageing: implications for general practice

Christy Newman, Michael Kidd, Robert Reynolds, Peter Canavan, Susan Kippax, and John de Wit

There are two ways in which 'HIV and ageing' affect general practice. The first is that as people with HIV get older, their health needs change and so does the kind of primary care they require. The second is that the general practice workforce supporting people with HIV in Australia is itself getting older, with a considerable number of those who have been providing HIV primary care for many years now heading toward retirement.

A concern that recurs in policy debates on HIV clinical care in Australia is that the number of general practitioners (GPs) training as HIV s100 prescribers and able to provide medical care and advice for the growing number of people living with HIV (PLHIV) may be insufficient to replace those retiring, reducing their working hours or changing their roles.

To explore this and related questions, the National Centre in HIV Social Research is leading a three-year study funded by the National Health and Medical Research Council to provide evidence about why and how general practitioners pursue a special interest in HIV medicine.

The research team also involves researchers from Flinders University, the National Association of People Living with HIV/AIDS, the Australasian Society for HIV Medicine, the Australian Federation of AIDS Organisations and the Royal Australian College of General Practitioners.

As a first step, we have interviewed 24 key informants in senior policy, advocacy and educational roles in all states and territories to identify key issues affecting the HIV general practice workforce in Australia. Participants included 17 men and 7 women with a range of professional backgrounds including medicine, allied health, public service and community advocacy. Five participants self-disclosed as HIV positive.

A central theme in those interviews was that HIV care needs are likely to change considerably over the coming years as the current cohort of PLHIV is getting older, and also as more people are becoming newly infected with HIV at an older age. In addition, the potential 'accelerated ageing' of PLHIV was identified as a concern in terms of bringing forward in time many of the health issues associated with ageing.

In combination, these issues were described as posing serious challenges to our nation's capacity to continue to provide quality primary care for PLHIV into the future. The focus therefore becomes how this perceived shift in the nature of HIV care will impact on the decision of GPs and other members of general practice teams to commence or continue working in this field.

This brings us to the second area in which 'ageing' is seen to affect the general practice workforce in Australia including the recruitment and retention of HIV s100 prescriber GPs. As with many other professional groups

in Australia and other developed nations, many GPs are planning to retire within the next decade, and many others plan to reduce their clinic hours or change their area of work. This has particular implications for the provision of HIV care, because of the significant role that many GPs have played in the provision of HIV care in Australia since the start of the epidemic.

Our key informant interviews suggested that 'ageing' issues are becoming central to the recruitment and support needs of the HIV general practice workforce in Australia. The next phase of our study comprises interviews with clinicians to explore this and related issues. We are hoping to interview current HIV s100 prescribers, other members of general practice teams who currently provide HIV care, GPs and other clinicians who once worked in HIV but have retired or moved into new areas, and GP registrars with an interest in HIV.

In the context of a national health workforce shortage and the growing pressures on both specialist and primary care funding arrangements in Australia, the Sixth National HIV/AIDS Strategy (2010-2013) of 'the recruitment and retention difficulties for Section 100 GP prescribers and clinicians with an interest in HIV'. Our study will provide critical evidence for how best to support GPs to continue to provide ongoing care for PLHIV in different parts of Australia. Of particular interest will be the experiences of GPs who have been working in with PLHIV for variable lengths of time, with different HIV caseloads and in both urban and regional settings.

One issue that may be of interest here is the belief held by some people that many of the GPs who have worked in the field since the 1980s have done so because of a sense of socio-political duty to the communities most affected by HIV, notably that of gay men. It may be that younger or more recently trained GPs will have different motivations, perhaps because many did not directly experience the emotional and political intensity of the first decade of the epidemic, or perhaps because the politics of sexual identity have also been changing since that time.

This study represents a unique collaboration between HIV social researchers, general practice researchers, partner organisations from the HIV and general practice sectors and general practitioners. In particular, including a consumer advocate on our core research team demonstrates the partnership that has been formed across our interdisciplinary team in order to genuinely represent the different voices of research, advocacy, policy and clinical practice.

This partnership will ensure that the outcomes of this study have a direct impact on our nation's policy and advocacy response to HIV, through the committed involvement of the peak organisations that have responsibility for representing PLHIV and the members of the general practice workforce who provide HIV care in Australia.

A version of this text was published in HIV Australia, volume 8.3.

### 3.5 Future developments

#### Impact of alcohol and drug use on the diagnosis and management of depression in gay men: a sub-study of the *Primary Health Care Project on HIV and Depression*

Christy Newman

The National Centre in HIV Social Research recently completed a three-year study called the Primary Health Care Project on HIV and Depression. This research provided preliminary insights into how depression is influenced by social, psychological and health-related features of gay men's lives. It also provided preliminary insights into how different patterns of alcohol and other drug use related to depression. In interviews with general practitioners we also identified some emerging themes relating to problematic levels of crystal (meth)amphetamine use in their gay and HIV positive male clients with depression.

With funding from *beyondblue*, the national depression initiative, we are now commencing further research in this area with the aim of:

1. exploring more closely the issues associated with alcohol and drug use in data collected on depression in gay men from the NHMRC-funded Primary Health Care Project on HIV and Depression;
2. developing and distributing appropriate recommendations for medical practitioners and other health professionals in relation to how alcohol and drug use might impact the diagnosis and management of depression in gay men.

Our approach will comprise:

1. producing new journal articles that focus on drug and alcohol use in the quantitative and qualitative data from our original study, which includes a survey of gay men with depression and interviews with general practitioners and with gay men with depression.
2. Presenting those papers as draft analyses (prior to submitting to journals) in a consultation workshop aimed at general practitioners, alcohol and drug counsellors who work with gay men and other medical practitioners, health professionals, community educators and policy makers interested in and/or attached to this area of work.

3. distributing a four-page summary report of key findings, including the final set of study recommendations as refined through the process of analysis and workshop consultation, aimed most directly at health care professionals who are involved in developing treatment and care plans for gay men with depression who have a history of problematic drug and alcohol use. Electronic copies will also be made available on the web.
4. publishing a set of articles in community media publications, including newspapers for gay men around Australia, and magazines for people living with HIV.

The following Expert Committee guides the study, made up of all Investigators and additional invited members with particular expertise in this topic area:

- Dr Christy Newman, Senior Research Fellow, NCHSR
- Dr Joanne Bryant, Research Fellow, NCHSR
- Dr Martin Holt, Senior Research Fellow, NCHSR
- Mr Peter Canavan, Senior Coordinator of the Health, Treatments and Research Unit at the National Association of People Living with HIV/AIDS
- \*Professor Susan Kippax, Professorial Research Fellow, SPRC, The University of New South Wales
- \*Professor Deborah Saltman AM, General Practitioner and Pro-Vice Chancellor Arts and Sciences at Southern Cross University
- \*Professor Michael Kidd AM, General Practitioner and Executive Dean of the Faculty of Health Sciences, Flinders University
- Dr Limin Mao, Research Fellow, NCHSR
- Ms Rebecca Gray, Research Assistant at NCHSR and a Research Officer and Group Facilitator at Relationships Australia
- Mr David McGuigan, Manager, HIV/STI Clinical Program, Australasian Society for HIV Medicine
- Ms Angela Matheson, Manager, Alcohol and Other Drugs Program, ACON
- \* Chief Investigators of the Primary Health Care Project on HIV and Depression

#### **Spotlight** HIV-positive people from culturally and linguistically diverse backgrounds: negotiating the intersections of migration, culture, gender and sexuality

Henrike Körner

##### Aims and background

The aim of this study is to explore how being HIV-positive, from an ethnic minority background, and a migrant interact to shape the lives of individuals. It will explore how these phenomena are interwoven and how their intersections are experienced by gay men, heterosexual men and heterosexual women from culturally and linguistically diverse backgrounds.

Language problems, insecure residency status, lack of familiarity with health care systems pose structural and cultural barriers to health care for men and women alike (Körner, 2007a), and knowledge about HIV from the country of origin as well as culture and belief systems continue to have a strong influence on migrants and how they experience living with HIV (Åsander, Belfrage, Pehrson, Lindstein, and Björkman, 2004). Disclosure of HIV status is intensely related to ethnicity, gender and sexual orientation. Gay men from ethnic minority backgrounds have much lower rates of disclosure than Caucasian gay men (Kennamer, Honnold, Bradford & Hendricks, 2000; Keogh, Henderson & Dodds, 2004). For women, disclosing HIV status is particularly problematic because of concerns about burdening others (Körner, 2007b) and fear of violence from their families (Anderson & Doyal, 2004). There are also differences according to gender and sexual orientation in the way HIV-positive people from migrant backgrounds use health services, with Caucasian gay men being self-directed, and Spanish-speaking Latina women's service access being driven by agencies (Takahashi & Rodriguez, 2002). There is so far only one study of HIV-positive African migrants in London that investigated systematically the interrelations of gender, sexuality, HIV-positivity and migration. Heterosexual African women faced a major moral dilemma in reconciling their HIV positivity with motherhood (Doyal, 2009). For heterosexual African men the main challenges were managing their illness and the economic and sexual expectations of what it means to be a man (Doyal, 2009). For African gay and bisexual men there was a constant need to manage the contradictory reality of being gay/bisexual, an African, and an HIV-positive person. (Paparini, Doyal, & Anderson, 2008).

## Significance and innovation

To date there is no research in Australia that systematically explores the experience of people with HIV from CALD backgrounds and the interrelationships between migration, ethnicity, gender and sexuality. To fill this gap, this study will take an intersectional approach.

Multiple marginalisation due to HIV-positive status, ethnicity, gender and/or sexuality require solutions that take into account the interaction of these contingencies. Intersectionality is both a theoretical concept and an approach to empirical research that pays attention to such interactions and acknowledges that different dimensions of social life cannot be neatly separated out into discrete categories (Brah & Phoenix, 2004; Hancock, 2007). As a concept, 'intersectionality' is preferable to 'difference', as 'difference' implies a norm and a deviation from this norm (Burman, 2004).

At a theoretical level, an intersectional study will provide a more nuanced picture of the gendered nature of the HIV-epidemic in Australia that goes beyond statistics of new diagnoses and country of birth. It will also allow us to develop a more nuanced understanding of HIV-related stigma that goes beyond 'sexual deviance'.

At a practical level, the findings from this study will enable the Multicultural HIV/AIDS and Hepatitis C Service (MHAHS) and other service providers to better promote their services to new potential clients from CALD backgrounds, contribute to needs-specific health promotion programs, and contribute to the capacity of ethnic communities in Sydney to address HIV-related stigma in their communities for example, by developing media campaigns.

## Qualitative research design

To explore HIV-positive people from CALD backgrounds' experiences of living as migrants, and as men and women with HIV, qualitative research methods will be used. A qualitative approach allows us to discover the thoughts and perceptions of research participants, the meanings they attach to their experiences and how this, in turn, influences their actions and their social lives (Minichiello, Aroni & Hays, 2008). Qualitative methods are also especially appropriate for the study of vulnerable people and sensitive topics (Liamputtong, 2007).

## Recruitment of participants

A purposeful sample of 30 participants (10 gay men, 10 heterosexual men and 10 heterosexual women) will be recruited among current and recently discharged clients of the MHAHS. Participants will be from a variety of ethnic backgrounds and the sample is designed to achieve diversity rather than representativeness.

## Data collection

Data will be collected through semi-structured in-depth one-on-one interviews. Interviews will involve mainly open-ended questions to afford participants the opportunity to speak about their perceptions, views, experiences in their own way. Topics to be explored in the interviews will include, but not be limited to the following: reasons for and circumstances of migrating to Australia; use of and pathways/referrals to health and social services; connectedness with other people from the same ethnic background/other ethnic backgrounds; changes in socializing since HIV diagnosis; old and new social networks; parenthood; work and career; hopes and expectations for the future; and for gay men: being gay in Australia compared to being gay in country of origin; connectedness with gay community.

Interviews will be conducted in participants' language of choice. All participants will know some English, but some will require language assistance from the bilingual co-workers of the MHAHS or from health care interpreters. Interviews will be audio recorded, with participants' written consent.

## Data analysis

Interviews will be transcribed verbatim. Transcripts will form the basis for analysis. Data analysis will be inductive and involve the identification of common themes (Braun & Clarke, 2006). Analysis will be iterative: as new themes emerge, transcripts will be re-examined in the light of these new themes.



# 4

## Drug use and drug treatment



### 4.1 Use of amyl nitrite

Martin Holt and Limin Mao

The drug most commonly used by Australian gay and other homosexually active men is the inhalant amyl nitrite (colloquially referred to as 'poppers'). Amyl nitrite is used by gay men both as a euphoric and as a muscle relaxant for anal sex. Here, we report amyl nitrite use as a general indicator of drug use among gay men.

Looking at Table 17 and Figure 15, we can see that amyl nitrite use has fallen nationally during the reporting period, from 37.6% in

2000 to 31.8% in 2009 (although there have been significant fluctuations in the last three years). The proportions of men reporting amyl nitrite use have been stable in Canberra and Sydney during the last ten years, although men in Sydney generally report the highest levels of use of the drug. Amyl nitrite use has markedly decreased in Melbourne and varied in the other states and territories. Over the last three years, amyl nitrite use has been stable in most states and territories except Adelaide where it declined from 21.5% to 17.5%. Men in Adelaide currently report the lowest level of use of amyl nitrite.

**Table 17: Men who reported using amyl nitrite in the six months prior to the survey: GCPS, 2000–2009**

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall Trend	Trend in last 3 years
Adelaide		22.4		15.9		16.1		21.5		17.5	↓ $p < 0.001$	↓ $p < 0.02$
Canberra				26.7			29.7			27.2	<i>ns</i>	–
Melbourne	37.3	46.3	35.3	34.6	34.5	33.6	38.8	32.7	35.8	31.1	↓ $p < 0.001$	<i>ns</i>
Perth	23.8		27.0		22.4		27.0		27.3		↓ $p < 0.03$	–
Queensland				32.7	32.1	40.4	26.7	29.5	32.9	30.7	↓ $p < 0.001$	<i>ns</i>
Sydney	42.4	42.2	42.7	42.9	43.1	38.9	37.7	40.5	40.9	41.1	<i>ns</i>	<i>ns</i>
All six states/ territories	37.6	41.6	37.6	33.6	33.6	35.6	34.8	33.0	36.9	31.8	↓ $p < 0.001$	↓ $p < 0.04$

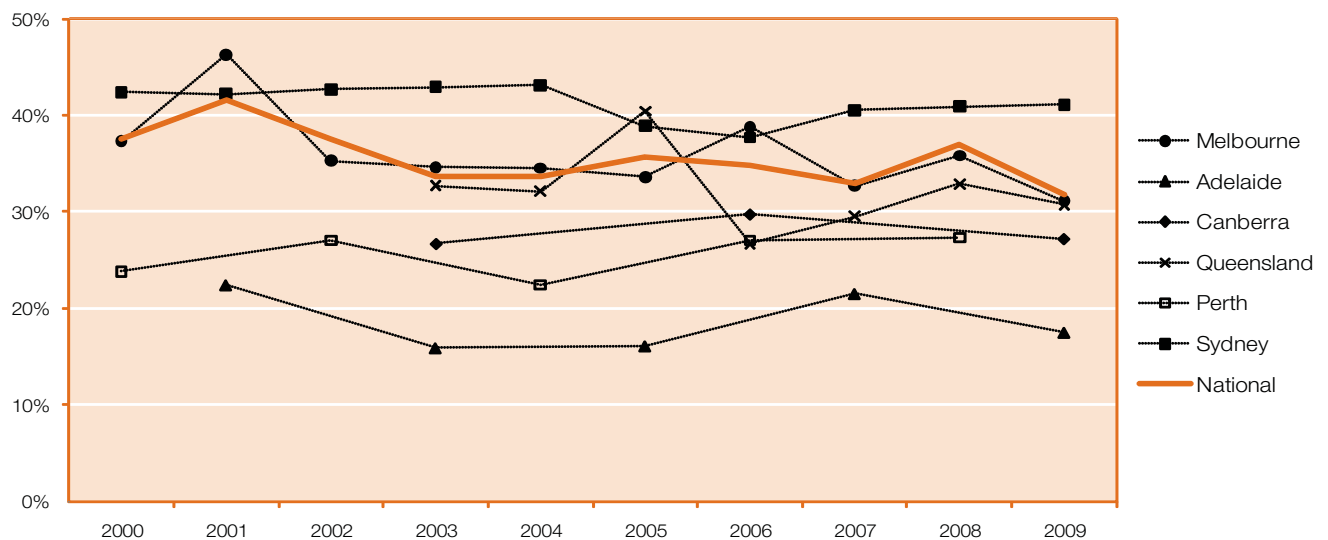


Figure 15: Men who reported using amyl nitrite in the six months prior to the survey: GCPS, 2000–2009

## 4.2 Drug injection

Martin Holt and Limin Mao

In stark contrast to the high prevalence of amyl nitrite use, injecting drug use (IDU) of any drug remains rare among gay men, although much higher than among the general population (see Table 18 and Figure 16). Nationally, the proportion of men reporting any IDU in the six months

prior to the survey has remained stable at around 5–6%. Injecting drug use is most commonly reported by men in Melbourne, Queensland and Sydney, and least commonly in Canberra. Within the ten-year observation period, the proportions of men reporting any IDU have fluctuated in most states and territories, except in Canberra and Perth. Over the last three years, the proportions of men reporting any IDU have also been stable in most states and territories except Queensland where it has increased.

Table 18: Men who reported any injecting drug use in the six months prior to the survey: GCPS, 2000–2009

	2000 %	2001 %	2002 %	2003 %	2004 %	2005 %	2006 %	2007 %	2008 %	2009 %	Overall trend	Trend in last 3 years
Adelaide		6.9		6.4		6.4		2.2		3.5	↗ $p < 0.001$	ns
Canberra				1.2			1.6			0.8	ns	-
Melbourne	5.5	5.6	7.1	5.0	4.2	5.2	8.4	5.4	6.2	6.2	↗ $p < 0.01$	ns
Perth	4.8		3.9		4.8		4.4		3.8		ns	-
Queensland	6.8	6.6	8.1	6.7	6.6	2.7	8.2	2.8	4.6	4.8	↗ $p < 0.001$	↑ $p < 0.04$
Sydney	5.1	6.1	4.1	6.2	8.3	4.8	5.3	5.8	6.5	6.2	↗ $p < 0.01$	ns
All six states/ territories	5.7	5.9	6.0	5.6	7.0	4.3	5.8	5.2	5.5	5.3	ns	ns

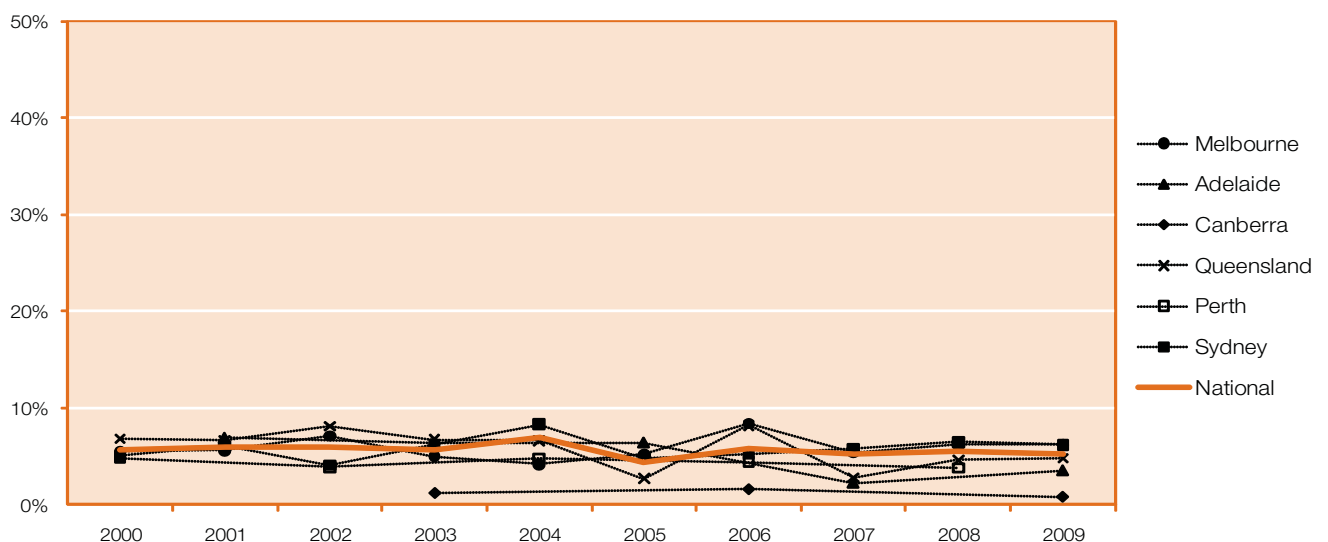


Figure 16: Men who reported any injecting drug use in the six months prior to the survey: GCPS, 2000–2009

### 4.3 Illicit drug use among young people attending music festivals

Hannah Wilson, Peter Hull, Joanne Bryant and Carla Treloar

There is strong evidence to suggest that illicit drug use is widespread and increasingly a normal part of the lives of young people in Australia. The group that is perhaps of most interest in this regard is 18- to 25-year-olds. However, there are few data that directly investigate drug use in this group. The Australian Secondary School Student Survey (White & Hayman, 2006) and the National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2008) are two major projects that have been conducted to provide detailed information about general patterns of drug use among the Australian population. However, the former is specifically targeted at a younger age group, while the sampling methods of the latter leave 18- to 25-year-olds potentially under-represented.

The Periodic Survey of Drug Use among Young People is an annual, cross-sectional study to monitor the frequency of drug use and types and quantity of drugs used by young people attending the Big Day Out music festival. The Big Day Out is a one-day festival attended by an estimated 30,000 people. While it cannot be assumed that those who attend music festivals are representative of young people in general, the study provides information about a sub-

population of young people. The project was piloted at the Big Day Out in Sydney in 2004 and additional data were collected at Splendour in the Grass in Byron Bay in 2004 and 2005. Since then data has been collected annually from the Sydney Big Day Out. In 2008 and 2009 the data collection also included the Gold Coast Big Day Out.

#### Big Day Out: Sydney, 2006–2009

In 2009, 451 respondents completed the survey in Sydney. Participants ranged in age from 16 to 67 years (mean age = 21.7 years). Just over half of respondents were female (57.9%) and the majority identified as straight/heterosexual (79.2%). Most were employed on at least a part-time basis (83.4%) and 47.2% reported education higher than year 12. Almost all respondents (95.6%) reported alcohol use in the 12 months preceding the survey. A quarter of respondents (25.9%) reported having smoked tobacco in the previous year.

Illicit drug use was common with 56.8% reporting use of any illicit drug in the preceding 12 months. Marijuana was the most commonly reported illicit drug used in this period (43.7%) followed by ecstasy (32.8%) and (meth)amphetamine (27.9%). Table 21 displays the recent use of illicit drugs among patrons surveyed at the Big Day Out festival in Sydney from 2006 to 2009. In 2009 there was a considerable and sharp increase in both cocaine and LSD use (from 3.6% and 4.2% in 2008 to 16.6% and 10.6% in 2009 respectively).

**Table 19: Big Day Out music festival patrons in Sydney who reported any recent illicit drug use, 2006–2009**

	2006 (N = 339) n (%)	2007 (N = 421) n (%)	2008 (N = 334) n (%)	2009 (N = 451) n (%)
Marijuana	159 (46.9)	185 (43.9)	106 (31.7)	197 (43.7)
Ecstasy	132 (38.9)	143 (34.0)	85 (25.4)	148 (32.8)
(Meth)amphetamine	131 (38.6)	116 (27.6)	78 (23.4)	126 (27.9)
Cocaine	31 (9.1)	28 (6.7)	12 (3.6)	75 (16.6)
LSD	23 (6.8)	15 (3.6)	14 (4.2)	48 (10.6)
Ketamine	17 (5.0)	8 (1.9)	10 (3.0)	30 (6.7)
Benzodiazepines	5 (1.5)	1 (0.2)	0 (0.0)	11 (2.4)
GHB	12 (3.5)	5 (1.2)	6 (1.8)	40 (8.9)
Heroin	2 (0.6)	4 (1.0)	0 (0.0)	11 (2.4)

The survey also included questions about the frequency of use of the most widely used drugs: marijuana, ecstasy and (meth)amphetamines. While substantial proportions of respondents used these drugs, a minority reported their use to be weekly or more frequent. For example, in 2009, 13.1% of recent marijuana users reported using marijuana once a week or more over the previous 12 months. Four per cent of recent (meth)amphetamine users and 5.3% of recent ecstasy users reported weekly or more frequent use of these respective drugs in the preceding 12 months.

In 2009, 21 respondents (4.7%) reported that they had ever injected an illicit drug and 20 respondents (4.4%) indicated that they had injected in the 12 months prior to the survey. The most commonly injected drug was (meth)

amphetamine (2.9%) followed by cocaine (0.9%) and LSD (0.9%).

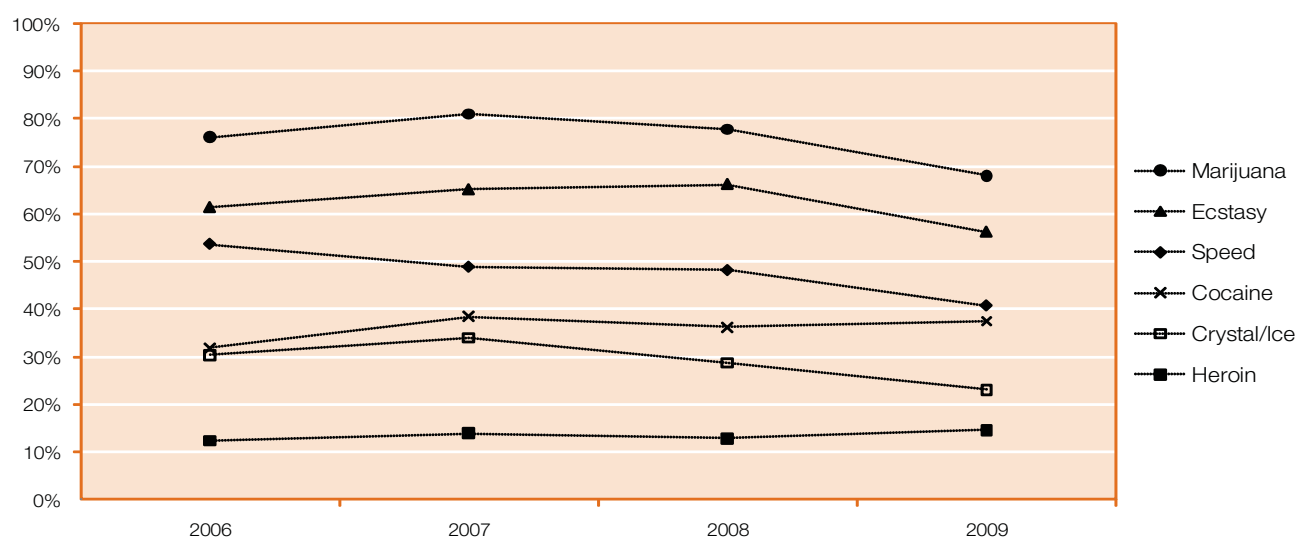
In general, respondents perceived illicit drugs to be easily accessible. In 2009, the majority of participants (72.9%) rated at least one illicit drug as being 'fairly easy' or 'very easy' to obtain, and about half (49.9%) rated at least three illicit drugs as 'easy' to obtain. Ease of acquisition was related to the type of drug. Marijuana, ecstasy and speed/amphetamines (not including (meth)amphetamine) were rated as the easiest to obtain by 68.1 %, 56.3%, and 40.8% of respondents respectively, while heroin was perceived as the least easy to obtain (14.6%). The perceived ease of availability of illicit drugs according to respondents in the 2006–2009 Big Day Out surveys is displayed in Figure 17.

**Table 20: Big Day Out music festival patrons in Sydney who reported any recent injecting of illicit drugs, 2006–2009**

	2006 (N = 339) n (%)	2007 (N = 421) n (%)	2008 (N = 334) n (%)	2009* (N = 451) n (%)
Ecstasy	4 (1.2)	0 (0.0)	0 (0.0)	2 (0.4)
(Meth)amphetamine	4 (1.2)	4 (1.0)	0 (0.0)	13 (2.9)
Cocaine	2 (0.6)	1 (0.2)	1 (0.3)	4 (0.9)
LSD	3 (0.9)	0 (0.0)	0 (0.0)	4 (0.9)
Ketamine	2 (0.6)	0 (0.0)	1 (0.3)	2 (0.4)
Benzodiazepines	1 (0.3)	1 (0.2)	1 (0.3)	3 (0.7)
GHB	3 (0.9)	0 (0.0)	1 (0.3)	2 (0.4)
Heroin	3 (0.9)	1 (0.2)	2 (0.6)	3 (0.7)
Other	0 (0.0)	0 (0.0)	1 (0.3)	3 (0.7)

\* Due to an error in the skip instructions of some surveys, there was 55.2% missing data.

Note: Respondents could report recently injecting more than one drug.

**Figure 17: Big Day Out music festival patrons in Sydney who reported each drug as 'fairly easy' or 'very easy' to obtain, 2006–2009**

### Big Day Out: Gold Coast, 2008–2009

In 2008 and 2009, the survey was conducted at the Big Day Out music festivals in the Gold Coast. In 2009, marijuana was the most commonly reported illicit drug used in the preceding 12 months (50.9%) (Table 21). This was followed by ecstasy (46.6%) and (meth)amphetamine (30.7%).

**Table 21: Illicit drug use among Big Day Out music festival patrons on the Gold Coast in the 12 months prior to the survey, 2008–2009**

	2008 (N = 445) n (%)	2009 (N = 348) n (%)
Marijuana	217 (48.8)	177 (50.9)
(Meth)amphetamine	139 (31.2)	162 (46.6)
Ecstasy	161 (36.2)	107 (30.7)
Cocaine	18 (4.0)	54 (15.5)
Heroin	3 (0.7)	3 (0.9)
LSD	14 (3.1)	65 (18.7)
Ketamine	8 (1.8)	13 (3.7)
Benzodiazepine	2 (0.4)	8 (2.3)
GHB	5 (1.1)	16 (4.6)

Similar to the pattern observed in Sydney, there was a considerable and sharp increase in both cocaine and LSD use between 2008 and 2009 (from 4.0% and 3.1% in 2008 to 15.5% and 18.7% in 2009 respectively).

Like the Sydney Big Day Out sample, respondents from the Gold Coast Big Day Out reported 'very easy' or 'fairly easy' access to illicit drugs (Table 22). Marijuana, ecstasy and (meth)amphetamine were rated as the easiest to obtain, while heroin was perceived as the least easy to obtain.

**Table 22: Illicit drugs reported as 'fairly easy' or 'very easy' to obtain by Big Day Out music festival patrons on the Gold Coast, 2008–2009**

	2008 (N = 445) n (%)	2009 (N = 348) n (%)
Marijuana	352 (79.1)	280 (80.5)
(Meth)amphetamine	248 (55.7)	157 (45.1)
Ecstasy	302 (67.9)	226 (64.9)
Cocaine	145 (32.6)	106 (30.5)
Heroin	66 (14.8)	39 (11.2)
LSD	153 (34.4)	119 (34.2)

## 4.4 Injecting drug use among people who obtain injecting equipment from pharmacies

Joanne Bryant, Hannah Wilson and Carla Treloar

While there is high quality information about the drug and injecting practices of people who use Needle and Syringe Programs (NSP) to obtain injecting equipment, little is known about those who use pharmacies for this purpose. For instance, we do not know whether pharmacy clients engage in riskier drug-using behaviours, or even whether they are a distinct or different group of people from NSP clients. Since 2006, data has been collected from people who obtain sterile needles and syringes from pharmacies in metropolitan Sydney and the Newcastle and Hunter regions of New South Wales. In 2009, the survey area was expanded to incorporate all regions of NSW. In 2009, the survey was also conducted in Western Australia.

### Pharmacy survey: New South Wales

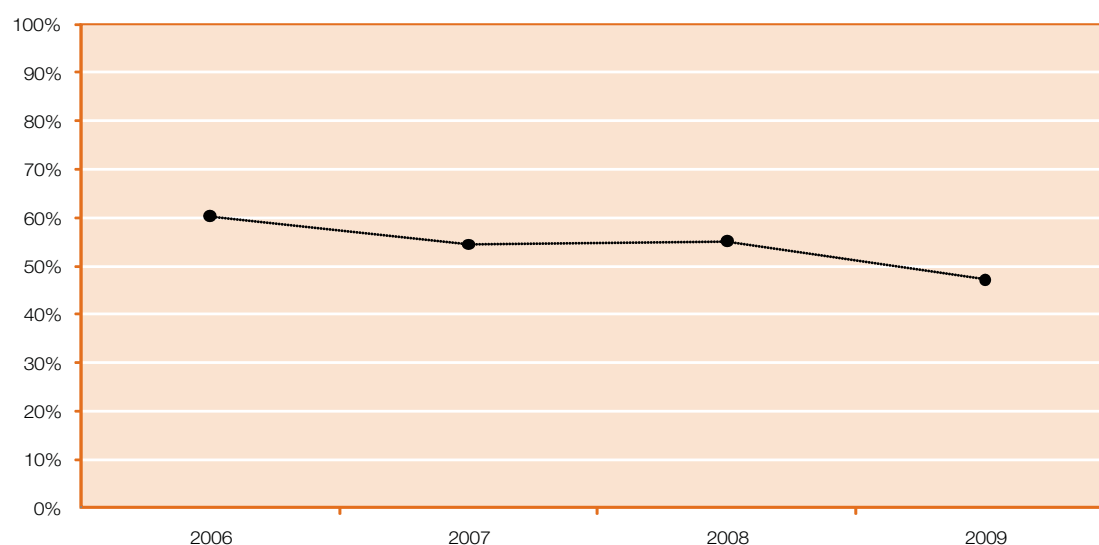
Forty pharmacies participated in the NSW survey in 2009, collecting a total of 490 surveys from clients of their NSP services. During the study period in December, pharmacy staff distributed a self-complete survey to each person

who bought or exchanged sterile needles and syringes. Respondents were given \$10 on return of their survey. In 2009, the response rate was 78.5%.

The mean age of respondents in 2009 was 35 years (range = 18–61 years). Sixty-one per cent ( $n = 256$ ) were male and the majority of respondents identified as straight/heterosexual (79.4%,  $n = 331$ ). Most respondents (51.8%,  $n = 216$ ) reported exclusive use of pharmacies in the previous month. However, a considerable proportion (40.0%,  $n = 167$ ) reported that they had used both an NSP and a pharmacy to obtain sterile needles and syringes in the previous month.

In 2009, the average duration of injecting reported by respondents was 16 years (range < 1–46 years). Just under half of respondents (47.2%,  $n = 197$ ) reported injecting daily or more frequently (Figure 18), and just over one in ten (13.9%,  $n = 58$ ) reported injecting three or more times most days. Between 2007 and 2009 there was an overall decline in the proportion of respondents reporting daily or more frequent injecting (trend  $\chi^2 = 3.9$ ,  $df = 1$ ,  $p = 0.05$ ) (Figure 18). This decline may be related to the change in sampling strategy in 2009 compared to previous years.

In 2009, over two-fifths of respondents (45.3%,  $n = 189$ ) reported they had never received treatment for their drug



**Figure 18: Daily or more frequent injecting among people using pharmacy equipment, NSW 2006–2009**

Note: 2006 data are from south east Sydney only; 2007–2008 data are from metropolitan Sydney and Hunter and Newcastle regions; and 2009 data are from all NSW

**Table 23: Treatment for drug use among people using pharmacy equipment, NSW 2006–2009**

	2006 ( <i>N</i> = 229) <i>n</i> (%)	2007 ( <i>N</i> = 660) <i>n</i> (%)	2008 ( <i>N</i> = 602) <i>n</i> (%)	2009 ( <i>N</i> = 417) <i>n</i> (%)
Yes, currently	51 (22.3)	272 (41.2)	226 (37.5)	147 (35.3)
Yes, in the past	83 (36.2)	115 (17.4)	134 (22.3)	42 (10.1)
No, never	84 (36.7)	250 (37.9)	212 (35.2)	189 (45.3)
Not reported	11 (4.8)	23 (3.5)	30 (5.0)	39 (9.4)

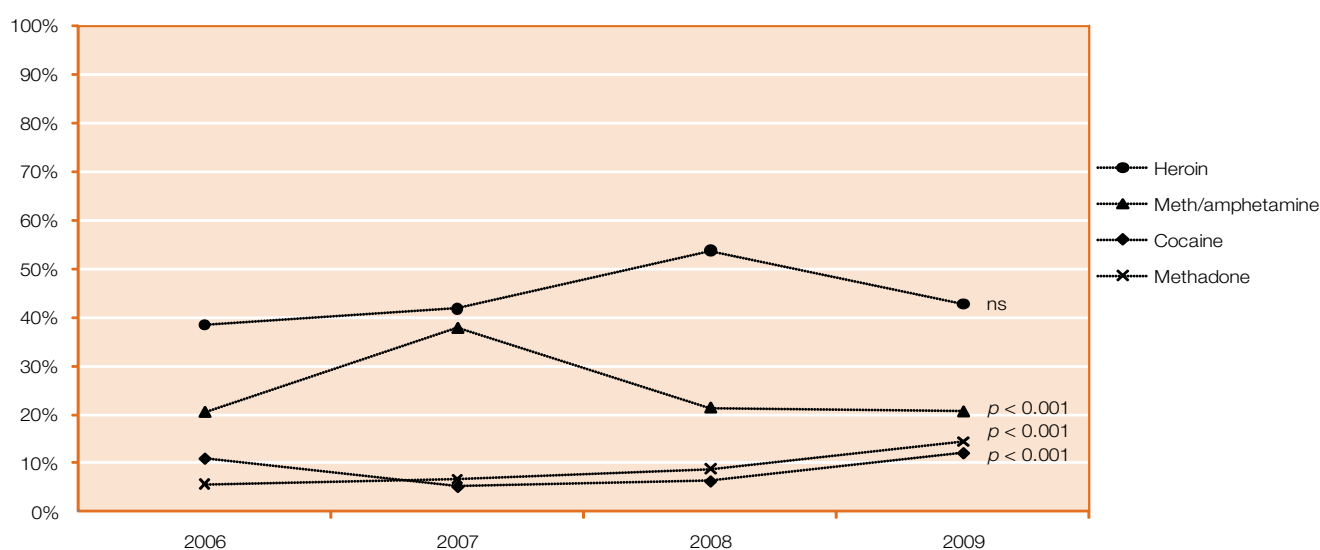
Note: 2006 data are from south east Sydney only; 2007–2008 data are from metropolitan Sydney and Hunter and Newcastle regions; and 2009 data are from all NSW



use. The high frequency of injecting among pharmacy clients and low prevalence of treatment suggests that despite being fairly entrenched and regular drug users, many are disconnected from important health services. The proportion currently in drug treatment declined significantly from 41.2% in 2007 to 35.3% in 2009 (trend  $\chi^2 = 9.5$ ,  $df = 1$ ,  $p = 0.002$ ) (Table 23).

Again this decline could be related to the change in sampling strategy between 2007–08 and 2009; however, the data clearly identifies a need to connect pharmacy clients to drug treatment services.

The drug most commonly reported to have been recently injected in 2009 was heroin (42.7%,  $n = 178$ ), followed by (meth)amphetamine (speed, base, ice) (20.6%,  $n = 86$ ), methadone (14.4%,  $n = 60$ ) and cocaine (12.0%,  $n = 50$ ) (Figure 19). Between 2007 and 2009, there was a significant increase in the use of cocaine and methadone, from 5.2% and 6.7% respectively in 2007 to 12.0% and 14.4% in 2009 (trend  $\chi^2 = 16.1$ ,  $df = 1$ ,  $p = 0.001$ ; trend  $\chi^2 = 17.0$ ,  $df = 1$ ,  $p = 0.001$ , respectively) (see Figure 19). There was a sharp decline in (meth)amphetamine use observed between 2007 and 2008, and the lower rate of (meth)amphetamine use was sustained in 2009 at 20.6% (see Figure 19).



**Figure 19: Drug most commonly injected among people using pharmacy equipment, NSW 2006–2008**

Note: 2006 data are from south east Sydney only; 2007–2008 data are from metropolitan Sydney and Hunter and Newcastle regions; and 2009 data are from all NSW

### Pharmacy survey: Western Australia

Thirty pharmacies participated in the Western Australian survey in 2009, collecting a total of 164 surveys from clients of their NSP services. During the study period in April, pharmacy staff distributed a self-complete survey to each person who bought sterile needles and syringes. Respondents were given \$10 upon return of their survey. The response rate was 31.6% which was much lower than that observed in NSW using the same data collection method. This could be related to a number of differences between NSW and WA respondents. For example, clients of WA pharmacies appear to visit pharmacies infrequently, with over half of respondents (54.9%,  $n = 90$ ) saying that they had visited a pharmacy for sterile needles less often than weekly. This may mean that respondents were unable to return to the pharmacy to submit their survey within the study period.

The average age of respondents was 32.4 years (range = 18–56). About two-thirds of the sample were male (64%,  $n = 105$ ) and most were heterosexual (82.3%,  $n = 135$ ). Very few of the respondents (6.1%,  $n = 10$ )

reported living outside of metropolitan Perth. Almost three-quarters (70.1%,  $n = 115$ ) of respondents reported having obtained injecting equipment exclusively from pharmacies in the previous month. This suggests that respondents are dependent on pharmacy services to obtain sterile injecting equipment.

Respondents reported that they had been injecting for an average of 12 years. The drug most commonly recently injected was (meth)amphetamine (58.5%,  $n = 96$ ) followed by heroin (30.5%,  $n = 50$ ). This is a different pattern to what is observed among NSW respondents whereby heroin is the most common drug injected followed by (meth)amphetamine. WA respondents reported injecting relatively infrequently, a little over a third (38.4%,  $n = 63$ ) stated having injected daily or more frequently. Again, this is different to what is observed among NSW respondents where approximately half report daily or more frequent injecting. Almost half of WA respondents (47.6%,  $n = 78$ ) reported having injected in public in the previous month, the most common public places being a car (38.4%,  $n = 63$ ) and/or a street, park or beach (29.3%,  $n = 48$ ).



Over half the respondents (56.1%,  $n = 92$ ) reported that they had never had treatment for their drug use. This is a substantially higher proportion than what is observed in other studies of people who inject drugs, such as the Australian NSP Survey. Part of this difference may be that the respondents in this sample had shorter injecting

histories and injected less frequently and therefore may have felt that they did not want or need treatment. However, as is shown among NSW pharmacy clients, it may be that clients of WA pharmacies are not well connected to important health services.

## Spotlight Injecting practices in hepatitis C discordant couples

Carla Treloar

The vast majority of new hepatitis C transmissions occur among people who inject drugs, particularly through practices such as sharing of needles, syringes and other injecting equipment. Behavioural surveillance data suggest that the majority of equipment sharing occurs between intimate partners. Despite this, very little research has focussed on intimate partnerships as a site of hepatitis C transmission or prevention. This is in part because people who inject drugs are conventionally understood to lack the capacity for romantic love and intimacy. Also, drug 'addiction' is produced as the antithesis of voluntariness, autonomy and authenticity, all of which feature strongly in Western understandings of romantic love. This study aims to fill existing gaps in the literature about the relationship between romantic love and injecting drug use and to explore injecting drug practices among partners in intimate relationships. Fifteen people who inject drugs, currently in long-term heterosexual relationships, were recruited for in-depth interviews which were recorded, transcribed verbatim and analysed thematically. The main findings of this study were that romantic love and intimacy figure prominently in the lives of people who inject drugs, and that romantic notions such as commitment, trust, care and support shape how individuals who inject drugs talk about serostatus with their partners and how they account for injecting practices. Moreover, injecting practices are co-produced within intimate relationships, shaped by perceptions of risk within and outside the relationship, ideas of intimacy, and the specific levels of skill and expertise within these relationships. These findings have important implications for harm reduction strategies, which, we suggest, have largely failed to take into account the intimate relationship as a source of injecting practice.

To augment this research we also conducted a process of research capacity building with needle and syringe program (NSP) staff. Participants for the research project were recruited from NSPs in the South Eastern Sydney and Illawarra regions. The research group conducted workshops with NSP staff to introduce both the project and the research design and methods. A second workshop was conducted to feed preliminary results back to NSP workers and to seek their input in interpretation of data. This process led to a third activity which was the collaborative production of a fact sheet for NSP workers. A member of the research team and a small group of NSP workers examined the findings and highlighted themes of direct interest and applicability to the work of NSP staff. The small group also developed statements of the implications of these findings for the work of front-line NSP staff. This NCHSR fact sheet has been widely distributed in the study region and is available online at: [http://nchsr.arts.unsw.edu.au/media/File/Injecting\\_practice\\_between\\_sexual\\_partners\\_paper.pdf](http://nchsr.arts.unsw.edu.au/media/File/Injecting_practice_between_sexual_partners_paper.pdf)

## 4.5 Future developments

### The exposure and transition study: exposure to injecting and hepatitis C among young people at risk

Joanne Bryant, Jeanne Ellard and Carla Treloar

This project builds on earlier work conducted by NCHSR that shows how many young people are exposed to injecting drug use through their social networks. While existing research provides some information about young people who are at risk for injecting, it generally uses data collected retrospectively from people who already inject rather than those who do not inject but are exposed to injecting. The aim of this study is to explore socially vulnerable young people's experiences with exposure to

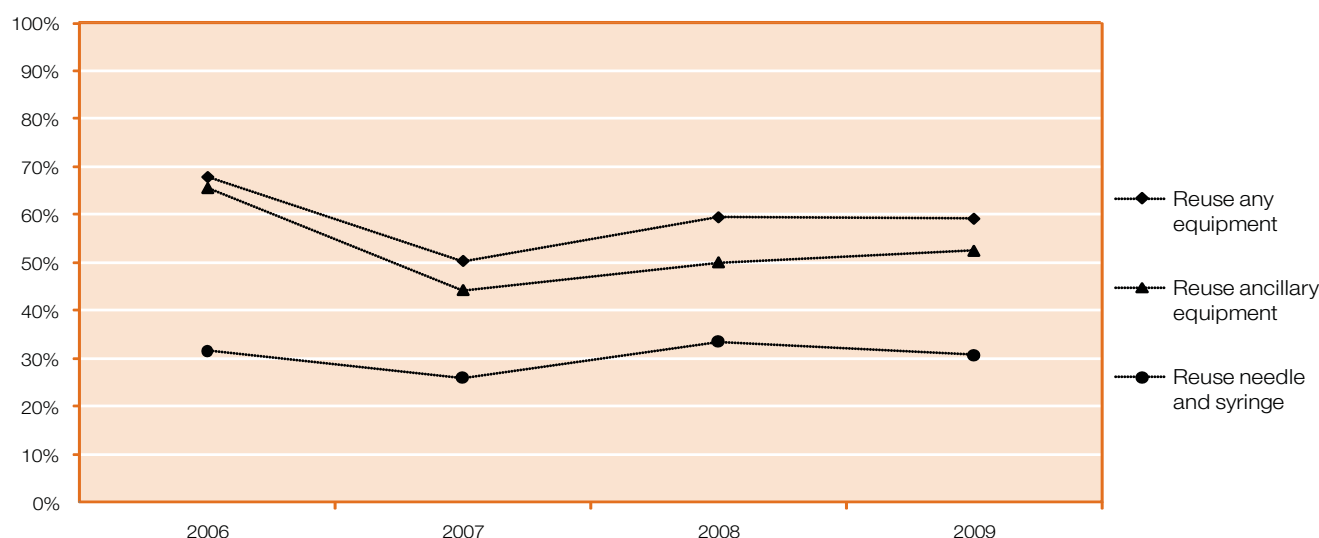
injecting, including the context in which exposure to injecting happens, their understandings about the risks of injecting drug use and acquiring hepatitis C, and their knowledge and opinions about blood-borne virus and drug related health services. Data collection will be cross-sectional and will comprise a mixed-method approach incorporating approximately 300 quantitative surveys and 30 qualitative in-depth interviews. Respondents will be recruited for the survey and the interview using respondent-driven sampling, which is a relatively new method of recruiting hard-to-reach populations. Data collection will begin in September 2010 and is expected to continue into 2011. The first results of the study will be disseminated in late 2011. It is expected that the study will provide information about how to maximise vulnerable young people's early introduction to harm reduction services. The study is funded by NSW Health.



When the sharing of any equipment is examined—needles and syringes and/or ancillary equipment—over half of the sample (59.2%,  $n = 213$ ) reported doing so in the last month, meaning many pharmacy clients engage in practices that put them at risk for contracting hepatitis C. Of respondents who had reused a needle and syringe already used by someone else, most reported they had done so after one other person (41.1%,  $n = 46$ ), and a

small proportion (11.6%,  $n = 13$ ) reported doing so after more than five other people.

While the proportion of respondents who reported reusing needles and syringes has remained steady since 2007 at about 30%, the reuse of ancillary equipment has increased significantly (trend  $\chi^2 = 8.2$ ,  $df = 1$ ,  $p = 0.004$ ) (Figure 20).



**Figure 20: Receptive sharing of needles and syringes, ancillary or any equipment among people using pharmacy equipment, NSW 2006–2009**

Note: 2006 data are from south east Sydney only; 2007–2008 data are from metropolitan Sydney and Hunter and Newcastle regions; and 2009 data are from all NSW

In 2009 half of respondents (50.0%,  $n = 211$ ) reported having had a test for hepatitis C in the previous 12 months, and 29.5% ( $n = 123$ ) reported being hepatitis C positive (Table 24). This data should be interpreted with caution since self-reported hepatitis C serostatus is known to have poor concordance with laboratory confirmed serostatus.

As in previous years, people recruited from pharmacies were highly knowledgeable about hepatitis C generally,

and hepatitis C transmission specifically. Most (around 80–90%) knew that hepatitis C was transmitted through the sharing of needles and syringes and other equipment used for injecting (Table 25). Fewer were aware that there was more than one type of hepatitis C or that treatment did not always cure hepatitis C (around two-thirds), indicating that the consequences of contracting hepatitis C may not be fully known.

**Table 24: Self-reported testing and hepatitis C status among people using pharmacy equipment, NSW 2006–2009**

	2006 ( $N = 229$ ) $n$ (%)	2007 ( $N = 660$ ) $n$ (%)	2008 ( $N = 602$ ) $n$ (%)	2009 ( $N = 417$ ) $n$ (%)
<b>Tested for hepatitis C</b>				
Yes, last year	144 (62.9)	364 (55.2)	326 (54.2)	211 (50.0)
> 1 year ago	59 (25.8)	208 (31.5)	156 (25.9)	126 (30.2)
Never tested	8 (3.5)	62 (9.4)	82 (13.6)	35 (8.4)
Unsure	10 (4.4)	11 (1.7)	17 (2.8)	27 (6.5)
Not reported	8 (3.5)	15 (2.3)	21 (3.5)	18 (4.3)
<b>Self-reported hepatitis C status</b>				
Positive	92 (40.2)	257 (38.9)	236 (39.2)	123 (29.5)
Negative	102 (44.5)	243 (36.8)	178 (29.6)	170 (40.8)
Don't know	12 (5.2)	26 (3.9)	26 (4.3)	14 (3.4)
Never tested	8 (3.5)	62 (9.4)	82 (13.6)	62 (14.9)
Not reported	15 (6.6)	72 (10.9)	80 (13.3)	48 (11.5)

Note: 2006 data are from south east Sydney only; 2007–2008 data are from metropolitan Sydney and Hunter and Newcastle regions; and 2009 data are from all NSW.

**Table 25: Knowledge of hepatitis C and the risks of transmission among people using pharmacy equipment, NSW 2006–2008**

Respondents who correctly identified that:	2006 (N = 229) n (%)	2007 (N = 660) n (%)	2008 (N = 602) n (%)	2009* (N = 417) n (%)
A person can get hepatitis C from sharing needles and syringes	199 (86.9)	583 (88.3)	517 (85.9)	252 (90.0)
It is unsafe to share other equipment (e.g. tourniquet, swab, filter, spoon) when injecting drugs	195 (85.2)	560 (84.8)	483 (80.2)	223 (80.8)
there is more than one type of hepatitis C	168 (73.4)	458 (69.4)	409 (67.9)	183 (65.8)
treatment does not always cure hepatitis C	158 (69.0)	458 (69.4)	359 (59.6)	179 (64.9)

\*In 2009 knowledge items contained 33% missing cases.

Note: 2006 data are from south east Sydney only; 2007–2008 data are from metropolitan Sydney and Hunter and Newcastle regions; and 2009 data are from all NSW

### Pharmacy Survey: Western Australia

Among respondents of the Western Australian survey, who had injected in the previous month ( $n = 145$ ), over a quarter (28.3%,  $n = 41$ ) said that they had reused a needle after somebody else had already used it and almost half (46.9%,  $n = 68$ ) reported having reused or shared at least one type of ancillary injecting equipment, such as spoons, filters, tourniquets, water and/or drug solution. Of respondents who had reused another's needle and syringe, most had done so after only one other person (41.5%,  $n = 17$ ), usually a friend (29.3%,  $n = 12$ ) or regular sex partner (29.3%,  $n = 12$ ). Over half of respondents in the WA survey who had injected in the previous month (52.4%,  $n = 76$ ) reported that they had cleaned a needle and syringe in the previous month.

Almost half the respondents (49.4%,  $n = 81$ ) reported having had a test for hepatitis C in the previous 12 months, but just over a quarter (25.6%,  $n = 42$ ) had

either never been tested or were unsure if they had been tested. This finding, together with the finding that the majority of this sample had never had treatment for drug use (see Chapter 4), speaks to a need to better connect clients of pharmacy NSP to other important blood-borne virus services. Of respondents who had ever had a test for hepatitis C (65.9%,  $n = 115$ ), only 12.2% ( $n = 14$ ) reported having a current hepatitis C infection, a prevalence that is much lower than what is observed in other samples of people who inject drugs. This is particularly surprising given that the average duration of injecting among this sample is 12 years. Future studies would be useful to determine the accuracy of this finding (given that the data is self-reported) and further explore how respondents are able to avoid infection.

Generally pharmacy clients had a good level of knowledge about how hepatitis C was transmitted, with about 80% correctly identifying that it could be contracted by sharing needles and/or other injecting equipment (Table 26).

**Table 26: Knowledge of hepatitis C and the risks of transmission among people using pharmacy equipment, Western Australia, 2009**

Respondents who correctly identified that:	2009 (N = 164) n (%)
A person can get hepatitis C from sharing needles and syringes	138 (84.1)
It is unsafe to share other equipment (e.g. tourniquet, swab, filter, spoon) when injecting drugs	131 (79.9)
There is more than one type of hepatitis C	100 (61.0)
Treatment does not always cure hepatitis C	99 (60.4)

## 5.2 Risk of hepatitis C among young people attending music festivals

Hannah Wilson, Peter Hull, Joanne Bryant and Carla Treloar

The Periodic Survey of Drug Use among Young People who attend music festivals maps drug use patterns and practices of young people. The survey also includes items to assess their knowledge of hepatitis C transmission routes. From 2006 to 2009, data were collected from the Big Day Out in Sydney. In 2008 and 2009, the data collection was expanded to also include the Gold Coast (also see Section 4.3).

### Sydney, 2006–2009: Knowledge of hepatitis C transmission

In general, knowledge of the role of injecting equipment in the transmission of hepatitis C was poorer than expected. In 2009, about two-thirds of participants (67.8%) knew that hepatitis C could be contracted via shared needles used for injecting drugs, but only about a third (35.9%) knew that it could also be transmitted via injecting equipment other than needles (Table 27). Knowledge of the possibility of hepatitis C transmission via tattooing was also poorer than expected whereby about a third did not know that hepatitis C could be transmitted by unsterile tattooing (Table 27).



**Table 27: Big Day Out music festival patrons in Sydney who correctly identified that hepatitis C transmission could occur by the following means, 2006–2009**

	2006 ( <i>N</i> = 339) <i>n</i> (%)	2007 ( <i>N</i> = 486) <i>n</i> (%)	2008 ( <i>N</i> = 334) <i>n</i> (%)	2009 ( <i>N</i> = 451) <i>n</i> (%)
Sharing toothbrushes/razors	140 (41.3)	173 (35.4)	120 (35.9)	195 (43.2)
Unsterile tattooing or body piercing	259 (76.4)	345 (71.0)	241 (72.2)	291 (64.5)
Sharing needles for injecting	283 (83.5)	362 (74.5)	262 (78.4)	306 (67.8)
Sharing injecting equipment other than needles	224 (66.1)	292 (60.1)	226 (67.9)	162 (35.9)

### Sydney and Gold Coast, 2009: Exposure to injecting

The 2009 survey collected data about young people's exposure to injecting drug use, either through friends or boyfriends/girlfriends injecting, or through having been offered drugs to inject. While injecting was relatively rare (section 4.3), a quarter of respondents reported that they had been exposed to injecting in the 12 months prior to the survey (26.1% for Gold Coast, 27.3% for Sydney) (Table 28). Being exposed to injecting through relationships with others is identified in the research

literature as one of the primary risk factors for initiation to injecting (Bryant and Treloar 2007; 2008; Day, Ross, Dietze & Dolan, 2005; Doherty, Garfein, Monterroso, Latkin, & Vlahov, 2000). The substantial proportion of respondents who reported exposure to injecting identifies a need for adequate harm reduction knowledge and skills among this group of young people. It may be that some of them are at risk for transitioning to injecting themselves; however, even if most never go on to inject, they are in a position to support other young people who are already injecting or who may start injecting.

**Table 28: Exposure to injecting drug use among Big Day Out music festival patrons, Sydney and Gold Coast, 2009**

	Gold Coast ( <i>N</i> = 348) <i>n</i> (%)	Sydney ( <i>N</i> = 451) <i>n</i> (%)
<b>Respondents who reported having in the last 12 months...</b>		
been offered drugs to inject	59 (17.0)	76 (16.9)
had a boyfriend/girlfriend who injected drugs	15 (4.3)	34 (7.5)
had friends who injected	54 (15.5)	72 (16.0)
Respondents who reported at least one of the above	91 (26.1)	123 (27.3)

## 5.3 Making decisions about hepatitis C treatment

Hannah Wilson, Max Hopwood, Peter Hull, Yvonna Lavis, Joanne Bryant, Carla Treloar

Over the past few years, researchers in the viral hepatitis program at NCHSR have been conducting a study looking at barriers and incentives to the uptake of hepatitis C treatment. This study is important because in proportion to the number of people with hepatitis C infection that could receive treatment, the number of those who have actually been treated to date is very low. Hypothetically, there are many reasons for why this is so, however little systematic evidence has been collected to identify the barriers to treatment uptake or how these barriers can be removed. Given the high prevalence and incidence of hepatitis C infection in the Australian population, and the projected rates of fibrosis, cirrhosis and end-stage liver diseases over the coming decade, there is a real need for increasing the number of people on treatment now. Increasing treatment uptake has become a national priority with a target of doubling the numbers over the next few years. To facilitate this, there has been a growing interest in devolving hepatitis C treatment away from its current exclusive focus on liver clinics and specialist physicians' practices to include specially trained general practitioners and

physicians working in opiate substitution treatment settings where a large number of people with hepatitis C attend.

Here, we report on findings from the quantitative data which was collected for this study via a self-complete questionnaire. In total, data from 633 people were analysed, including clients of needle and syringe programs (NSPs), methadone clinics, pharmacies that dispense methadone, and readers of Hepatitis NSW's *The Hep C Review*.

Just over half of survey participants were male (52.0%, *n* = 329) and half of all participants (49.9%, *n* = 316) reported having a spouse or long term partner. The mean age of survey participants was 42 years (*SD* = 11.4 years, range = 19–84 years). The majority were born in Australia (82.5%, *n* = 522) with about one in ten participants (9.8%, *n* = 62) indicating they were Aboriginal or Torres Strait Islander. Only a quarter of the participants (24.8%, *n* = 157) reported being employed (either full- or part-time). For the majority (70.5%, *n* = 446), Centrelink or other government payments were the main source of income. About two-fifths of participants (39%, *n* = 247) had completed Year 12 or had a university education while just under a third (31.0%, *n* = 196) had completed Year 10. A third (33.0%, *n* = 209) reported they were on a methadone program or other pharmacotherapy and almost half of all participants (44.5%, *n* = 282) reported having injected drugs in the six months prior to being surveyed.

## Clinical Factors

A participant's hepatitis C virus (HCV) genotype was significantly associated with their consideration of hepatitis C treatment ( $\chi^2 = 67.3$ ,  $df = 2$ ,  $p = < .001$ ). Participants who did not know their HCV genotype were less likely to consider treatment than those who did. Just under a third (30.4%) of participants who had considered hepatitis C treatment reported a HCV genotype of 1, 4, 6, 7, 8 or 9, while about 15% had genotype 2 or 3. The majority of respondents (89.6%) who had not considered hepatitis C treatment did not know their HCV genotype (Table 29).

## Considering hepatitis C treatment

Participants who reported considering hepatitis C treatment scored significantly higher on the perceived consequences scale than participants who had not considered treatment ( $M = 21.0$  versus  $19.5$ ,  $p < .001$ ) (Table 29). This suggests that participants who considered treatment perceived their infection to have serious consequences. Participants who considered hepatitis C treatment agreed that hepatitis C was causing difficulties for those close to them, strongly affected how others saw them, and believed that their infection had serious financial consequences, compared to those who had not considered treatment.

**Table 29: Clinical factors associated with having hepatitis C and consideration of hepatitis C treatment**

	Treatment considered		Total N (%)	$\chi^2$ p-value
	No n (%)	Yes n (%)		
Genotype:				$p < .001$
1, 4, 6, 7, 8 or 9	12 (6.9)	123 (30.4)	135 (23.4)	
2 or 3	6 (3.5)	63 (15.6)	69 (12.0)	
don't know	155 (89.6)	218 (54.0)	373 (64.6)	
Diagnosis of mental illness:				$ns$
yes	93 (55.0)	210 (54.3)	303 (54.5)	
no	76 (45.0)	177 (45.7)	253 (45.5)	
	Mean (SD)	Mean (SD)	Mean (SD)	$t$ -test p-value
Time since diagnosis (years)	10.5 (6.7)	11.6 (6.4)	11.3 (6.5)	$ns$
Perceived consequences	19.5 (4.4)	21.0 (4.7)	20.5 (4.6)	$p < 0.001$
Severity of symptoms	4.5 (5.9)	4.9 (5.7)	4.8 (5.8)	$ns$

## Deciding to have hepatitis C treatment

Participants' decisions to have hepatitis C treatment were significantly associated with their hepatitis C genotype ( $\chi^2 = 99.6$ ,  $df = 2$ ,  $p = < .001$ ). Over half (53.9%) of the participants who decided to have treatment reported a genotype of 1, 4, 6, 7, 8 or 9, while 70% of those who decided against treatment did not know their genotype (Table 30).

Participants who had decided to have treatment scored significantly higher on the perceived consequences

scale, perceiving their infection as having more serious consequences for their life, compared to those who decided against treatment ( $M = 22.3$  versus  $20.3$ ,  $p < .001$ ) (Table 30).

Similar to findings on the consideration of hepatitis C treatment, genotype and perceived consequences of hepatitis C were significantly associated with participant's decision to have hepatitis C treatment, which suggest that these clinical factors do not waver in importance between the process of considering hepatitis C treatment and deciding to have treatment.

**Table 30: Clinical factors associated with having HCV and the decision to have treatment**

	Treatment decided		Total N (%)	$\chi^2$ p-value
	Against n (%)	For n (%)		
Genotype:				$p < .001$
1, 4, 6, 7, 8 or 9	53 (19.7)	69 (53.9)	122 (30.7)	
2 or 3	26 (9.7)	37 (28.9)	63 (15.9)	
don't know	190 (70.6)	22 (17.2)	212 (53.4)	
Diagnosis of mental illness:				$ns$
yes	140 (54.7)	66 (53.2)	206 (54.2)	
no	116 (45.3)	58 (46.8)	174 (45.8)	
	Mean (SD)	Mean (SD)	Mean (SD)	$t$ -test p-value
Time since diagnosis (years)	11.4 (6.5)	12.1 (6.1)	11.5 (6.4)	$ns$
Perceived consequences	20.3 (4.4)	22.3 (4.8)	21.0 (4.7)	$p < .001$
Severity of symptoms	4.8 (5.6)	5.2 (5.9)	4.9 (5.7)	$ns$



## Social Factors

### Considering hepatitis C treatment

Participants who scored higher on a scale constructed to measure support from family and friends were significantly more likely to consider treatment, suggesting that people who received more emotional help and support from family members and have friends who they could talk to about their problems, were more likely to consider treatment than those who had less support from family and friends ( $M = 13.0$  versus  $11.9$ ,  $p = .015$ ;  $M = 13.2$  versus  $12.3$ ,  $p = .017$ , respectively) (Table 31).

Furthermore, disclosure was significantly associated with considering hepatitis C treatment. Participants who

were considering hepatitis C treatment scored higher on the disclosure scale, indicating a greater concern with disclosing their hepatitis C status or a stronger tendency toward non-disclosure, than those who had not considered treatment ( $M = 28.9$  versus  $27.1$ ,  $p < .002$ ) (Table 31).

### Deciding to have hepatitis C treatment

Only two social factors, support from family and friends, were significantly associated with the decision to have treatment ( $M = 13.6$  versus  $12.6$ ,  $p = .04$ ;  $M = 13.8$  versus  $12.9$ ,  $p = .03$ , respectively) (Table 32). Similar to the findings regarding considering treatment, participants who scored higher on the family and friends support scales were more likely to decide to have treatment.

**Table 31: Social factors associated with having hepatitis C and consideration of hepatitis C treatment**

	Treatment considered		Total <i>N</i> (%)	$\chi^2$ <i>p</i> -value
	No <i>n</i> (%)	Yes <i>n</i> (%)		
Felt discriminated against by doctor or health care worker:				<i>ns</i>
no	146 (88.0)	352 (90.5)	498 (89.7)	
yes	20 (12.0)	37 (9.5)	57 (10.3)	
	Mean ( <i>SD</i> )	Mean ( <i>SD</i> )	Mean ( <i>SD</i> )	<i>t</i> -test <i>p</i> -value
Support from family	11.9 (4.4)	13.0 (4.6)	12.6 (4.6)	$p < 0.015$
Support from friends	12.3 (3.8)	13.2 (3.9)	12.6 (3.9)	$p < 0.017$
Support from significant other	13.5 (4.0)	14.1 (4.4)	13.9 (4.3)	<i>ns</i>
Disclosure concern	27.1 (5.8)	28.9 (6.1)	28.3 (6.1)	$p < 0.002$
Severity of public attitudes	38.0 (11.4)	37.8 (9.6)	37.9 (10.1)	<i>ns</i>

**Table 32: Social factors associated with having hepatitis C and the decision to have hepatitis C treatment**

	Treatment decided		Total <i>N</i> (%)	$\chi^2$ <i>p</i> -value
	Against <i>n</i> (%)	For <i>n</i> (%)		
Felt discriminated against by doctor or health care worker:				<i>ns</i>
no	288 (89.4)	117 (92.1)	345 (90.3)	
yes	27 (10.6)	10 (7.9)	37 (9.7)	
	Mean ( <i>SD</i> )	Mean ( <i>SD</i> )	Mean ( <i>SD</i> )	<i>t</i> -test <i>p</i> -value
Support from family	12.6 (4.6)	13.6 (4.5)	13.0 (4.6)	$p < 0.04$
Support from friends	12.9 (3.8)	13.8 (3.9)	13.2 (3.9)	$p < 0.03$
Support from significant other	14.1 (4.4)	14.3 (4.3)	14.1 (4.4)	<i>ns</i>
Disclosure concern	28.9 (5.9)	28.9 (6.4)	28.9 (6.1)	<i>ns</i>
Severity of public attitudes	38.3 (9.4)	36.4 (9.9)	37.8 (9.6)	$p < 0.07$

## Personal Values

### Considering hepatitis C treatment

Participants' feelings about hepatitis C were significantly associated with considering treatment. Over half of participants (60.3%) who had considered hepatitis C treatment reported being constantly aware of the virus even when they were not experiencing symptoms. A similar proportion of participants who had not considered hepatitis C treatment reported hardly ever thinking about their hepatitis C infection, or only thinking about it when infection was causing symptoms (55.8%) ( $\chi^2 = 12.0$ ,  $df = 2$ ,  $p < .01$ ) (Table 33).

Participants who scored higher on the Emotional Representation scale, and therefore held more negative emotions towards hepatitis C, were significantly more likely to have considered hepatitis C treatment than those who scored lower on the scale ( $M = 19.8$  versus  $18.5$ ,  $p < .012$ ) (Table 3). Those who had considered hepatitis C treatment were more likely to have felt depressed when thinking about their hepatitis C infection, and to have felt angry, anxious and afraid of their infection.

Participants who had considered hepatitis C treatment were significantly more likely to score higher on the Personal Control scale than participants who had not considered treatment ( $M = 22.5$  versus  $21.8$ ,  $p = .04$ ) (Table 33).

Participants who had considered treatment were more likely to agree that there was a lot which they could do to control their symptoms and believed they had the power to influence aspects of their hepatitis C infection.

### Deciding to have hepatitis C treatment

No personal values, however, were significantly associated with the decision to have hepatitis C treatment (Table 34).

**Table 33: Personal values associated with having hepatitis C and consideration of hepatitis C treatment**

	Treatment considered		Total N (%)	$\chi^2$ p-value
	No n (%)	Yes n (%)		
Feelings about having hepatitis C				$p < 0.002$
always aware of the virus	73 (44.2)	323 (60.3)	305 (55.5)	
only when symptomatic	42 (25.5)	71 (18.4)	113 (20.5)	
hardly ever think about hep C	50 (30.3)	82 (21.3)	82 (24.0)	
	Mean (SD)	Mean (SD)	Mean (SD)	t-test p-value
Emotional Representation	18.5 (5.2)	19.8 (5.2)	19.4 (5.2)	$p < 0.012$
Personal Control (N = 547)	21.8 (4.2)	22.5 (3.9)	22.3 (4.0)	$p < .0.04$
Treatment Control (N = 543)	17.4 (3.2)	17.5 (3.6)	17.0 (3.5)	ns

**Table 34: Personal values associated with having hepatitis C and the decision to have treatment**

	Treatment decided		Total N (%)	$\chi^2$ p-value
	Against n (%)	For n (%)		
Feelings about having hepatitis C				
always aware of the virus	156 (61.2)	71 (57.3)	227 (59.9)	
only when symptomatic	44 (17.3)	26 (21.0)	70 (18.5)	
hardly ever think about hep C	55 (21.6)	27 (21.8)	82 (21.6)	
	Mean (SD)	Mean (SD)	Mean (SD)	t-test p-value
Emotional Representation	19.9 (5.0)	19.4 (5.6)	19.8 (5.2)	ns
Personal Control (N = 408)	22.8 (4.0)	22.4 (3.7)	22.7 (3.9)	ns
Treatment Control (N = 407)	17.3 (3.3)	17.7 (4.1)	17.4 (3.5)	ns

### Knowledge of both hepatitis C and hepatitis C treatment

#### Considering hepatitis C treatment

Participants who considered hepatitis C treatment scored significantly higher on questions pertaining to the knowledge of hepatitis C and hepatitis C treatment than those who had not considered treatment ( $M = 2.1$  versus  $1.5$ ,  $p < .001$ ;  $M = 10.7$  versus  $6.5$ ,  $p < .001$ , respectively) (Table 35).

#### Deciding to have hepatitis C treatment

Participants who decided to have treatment scored significantly higher on scales measuring knowledge of hepatitis C and hepatitis C treatment than those who decided against treatment ( $M = 2.5$  versus  $1.9$ ,  $p < .001$ ;  $M = 13.6$  versus  $9.3$ ,  $p < .001$ , respectively) (Table 36). Such results suggest that knowledge of both hepatitis C and hepatitis C treatment affects the consideration of treatment and the decision to have treatment.

**Table 35: Knowledge of both hepatitis C and hepatitis C treatment and consideration of hepatitis C treatment**

	Treatment considered		Total Mean (SD)	t-test p-value
	Not considered Mean (SD)	Considered Mean (SD)		
Knowledge of hepatitis C	1.5 (1.3)	2.1 (1.5)	1.9 (1.5)	$p < .001$
Knowledge of hepatitis C treatment	6.5 (5.0)	10.7 (5.7)	9.4 (5.8)	$p < .001$

**Table 36: Knowledge of both hepatitis C and hepatitis C treatment and the decision to have treatment**

	Treatment decided		Total Mean (SD)	t-test p-value
	No Mean (SD)	Yes Mean (SD)		
Knowledge of hepatitis C	1.9 (1.4)	2.5 (1.5)	2.1 (1.5)	$p < .001$
Knowledge of hepatitis C treatment	9.3 (5.5)	13.6 (4.9)	10.1 (5.7)	$p < .001$

The findings of the survey indicated that people who know and remember their genotype report a level of engagement with health services and their own state of health which is conducive to learning about hepatitis C treatment, and which can help them to consider their options, including deciding to commence treatment. Similarly, if people perceive that their infection has a range of health, social and economic consequences further down the track, then they are more likely to appreciate and consider the potential benefits of treatment. These clinical factors are important for both considering and deciding to have hepatitis C treatment.

With regard to social factors, the previously documented beneficial role of support from family and friends is also evident among this sample. Support can assist people while considering treatment and in their decision to commence treatment because they know that there will be a safety net available to them if, for example, treatment side effects become difficult to tolerate. Interestingly, people who were most concerned about the risks associated with disclosure of hepatitis C treatment were those who were considering treatment. It is likely that when weighing up the pros and cons of treatment, disclosure emerges as an issue which people come to realise will need to be broached.

People who thought a lot about their infection in this study tended to be the people who considered treatment and this was independent of whether or not they were experiencing symptoms. The finding accords with another result which shows that people who considered treatment also had a sense of personal control over hepatitis C infection. On the other hand, people who became depressed, anxious, angry or afraid when thinking about hepatitis C were more likely to have considered treatment as well, perhaps because they saw treatment as offering a way to ameliorate their concerns.

Finally, our survey results show an association between hepatitis C knowledge, considering treatment and having treatment. Similar to the findings regarding knowing one's genotype and the perceived consequences of hepatitis C infection, having a good knowledge about the condition—or conversely, not knowing anything about it—affects the resolve to either accept or reject treatment.

Therefore, factors which were associated with both considering and having treatment for hepatitis C are drawn from a range of clinical considerations, social conditions, personal values and knowledge which intersect in the lives and minds of individuals to produce a final decision.

## 5.4 Recovery from hepatitis C treatments

Max Hopwood

A recent study conducted by the National Centre in HIV Social Research (Hopwood, 2009) explored a range of health and quality of life outcomes among people who had completed treatments for hepatitis C infection. Most participants in this qualitative study came from New South Wales and Victoria and all had finished an interferon-based treatment for hepatitis C infection at least six months before being interviewed. The study included people who

had had a sustained response after treatment and those who had not.

The findings of this study indicated that, for at least some participants, having a sustained virological response to treatment resulted in renewed energy, significant improvement in mood, and relief from worrying about future health and social consequences, such as stigmatisation, of living with hepatitis C. However other participants with a sustained response reported no improvements in their health following treatment and some even said their health was worse after treatment. The main reason that participants attributed for their malaise was the continuation of side effects from the treatment drugs, which some believed had lasted for many months or even longer. Other participants were unsure of whether their ongoing ill-health was due to interferon and ribavirin, underlying liver damage caused by hepatitis C, or both. Regardless of the cause, the notion of treatment success was contested by participants; having a sustained response did not necessarily translate to feeling well. On the contrary, it could actually mean feeling worse than before treatment.

Similarly, among people classified as treatment non-responders, some were simultaneously coping with the emotional impact of both treatment failure and what they perceived to be the ongoing side effects of the regimen. Participants who did not clear hepatitis C often reframed treatment non-response/relapse in order to cope with the stress that it provoked. Reframing is an emotion-focused coping strategy whereby people eventually come to look at events in their lives from a different viewpoint. In this study, reframing indicated that participants had commenced a process of accepting their poor treatment outcome. Reframing was helped by factors like improved liver function test results and from learning about future treatments which promise to be more effective.

Of the 27 participants in this study, 25 reported persistent physical and psychological side effects/symptoms after completing treatments; some side effects/symptoms had persisted for months and even years. Even though most participants perceived a direct causal link between treatment and their ongoing symptoms, they said that specialist physicians rejected any association between the treatment regimen and their accounts of persistent side effects/symptoms. Several people reported new health problems emerging shortly after completing treatment; they attributed these to their treatment. In all, 11 participants said that their symptoms had lasted for up to one year after treatment and 14 participants said that their symptoms had lasted for more than one year after treatment. The most commonly reported ongoing side effects/symptoms were cognitive impairments like fatigue and 'brain-fog'. Ongoing physical symptoms like muscle aches and skin problems were also commonly reported. Persistent physical and psychological symptoms impacted on close personal relationships and everyday activities like sleeping, socialising and employment.

Participants said that prior to commencing treatment the informed consent procedures (of the clinics and private specialists) had not addressed the post-treatment period. Participants were not forewarned of the possibility of

ongoing side effects or ill health after treatment. Conversely, some were told to expect increased energy levels and improved health and quality of life from a sustained response to treatment. Similarly, the end of treatment was a time when participants' demand for information was high, however little or no information was provided by specialists about what to do and where to go if they experienced health problems. The clinic environment intimidated some participants and this was a barrier to seeking post-treatment information and medical care regarding persistent health problems. In most cases, access to clinics' staff, support and resources were severed after the administration of drugs had ceased. Participants were made to feel, or sometimes told, that since their treatment was over they were not to come back to the clinic.

According to the people in this study, the clinics and specialists' private practices had no comprehensive treatment termination protocols, that is, no end of treatment referrals, after-care, support, information or advice. This made re-adjustment to life after treatment difficult, particularly when treatment had failed and side effects/symptoms persisted. Finally, the post-treatment period was a time when participants often had to repair relationships with others which were in part damaged by the stress of undergoing treatment. But this process was also impeded by the lack of post-treatment information, advice, referrals, support and medical care to address ongoing symptoms and treatment failure.

The findings of this study suggest that significantly more resources need to be allocated toward increasing the range of post-treatment support and health care services available to people with hepatitis C. One such necessary support structure is a post-treatment survivorship program. Post-treatment impairments to health and quality of life, problems of attribution regarding symptoms, poor access to information, and re-adjustment to post-treatment life are all issues which could be addressed through an end-of-treatment information, care and support program. The findings of this study suggest that at least some people, perhaps many, would benefit from an end of treatment program which addresses treated individuals' ongoing health and informational needs. A program should be available to those people who feel that they need a period of further support after treatment, or who are manifestly experiencing treatment-related health problems that require ongoing medical care. Some aspects of the program, like post-treatment medical care, may be developed by clinicians and delivered by the treating specialist or liver clinics. Other aspects like post-treatment information and telephone-support services may be provided by the state-based hepatitis councils. A similar and successful program approach has been developed for survivors of cancer in the US and elsewhere. Development of a post-treatment program for both hepatitis C treatment responders and non-responders could be based on models used for other chemotherapy patients, and modified for the specific requirements of people who have completed hepatitis C treatments.

## 5.5 Future developments

### Evaluation of hepatitis C care and treatment

Carla Treloar

The National Centre in HIV Social Research has a range of active projects evaluating hepatitis C care and treatment services. Interest in new models of care has, in part, been driven by state and national imperatives to double the numbers of people undertaking treatment for hepatitis C to avert significant personal and health care burdens in decades to come. Conventionally, hepatitis C treatment has been available primarily through tertiary level hospital clinics. However, the imperative to increase the numbers of people having treatment has led to policy and practice innovations to extend the sites in which hepatitis C care and treatment can be accessed. For example, NCHSR is a partner on a large NHMRC Partnership Grant evaluating the provision of hepatitis C treatment in opiate substitution programs. This will include sites with additional peer support workers who are trained and supported by NUAA, the NSW drug user organisation. A qualitative evaluation of the experiences of clients and staff within opiate substitution clinics will be conducted by NCHSR with a sub-study evaluating the experiences of clients and staff within clinics offering peer support.

The National Centre in HIV Social Research will also conduct a qualitative evaluation of the ASHM-led program that trains general practitioners and other community-based medical practitioners in the initiation of hepatitis C treatment. The aim of this model, and that above, is to reduce the barriers to hepatitis C care and treatment by providing this in settings where people may feel more comfortable and have long standing relationships with the current health care workers.

Finally, NCHSR is also conducting an evaluation of a New Zealand community-based clinic that aims to increase care and treatment access for people who inject drugs living with hepatitis C. This clinic runs under the auspices of the major needle exchange in New Zealand's south island. The evaluation of this clinic includes a number of methods: a survey of needle exchange clients who do and do not attend the hepatitis C clinic; a survey at two time points of clinic clients; and a qualitative interview study of clients, staff, and health workers in associated fields.

Through this suite of independent but related projects, NCHSR will be leading the way in providing evaluation of these new models of hepatitis C care and treatment and providing recommendations of ways to improve care.

## Spotlight Qualitative research to enhance hepatitis C surveillance

Carla Treloar

This study was conducted in partnership with the Viral Hepatitis Epidemiology and Prevention Program at the National Centre in HIV Epidemiology and Clinical Research (Deacon, Newland, Harris, Treloar, and Maher, 2010). In NSW, hepatitis C has been the subject of specific surveillance and prevention programs for many years. Despite this experience and significant investment, there remain challenges both in understanding the epidemiology of this virus and in implementing effective prevention programs. This study aimed to enhance the public health surveillance program and contribute to the evidence base for hepatitis C prevention in NSW.

The project consisted of two phases. In the first, a methodology was developed and trialled to support an ongoing program of enhanced surveillance of hepatitis C virus (HCV) in NSW. A particular issue with the HCV surveillance system in NSW is that past HCV antibody negative test results held by laboratories for patients diagnosed with HCV are not usually passed to Public Health Units. It was hypothesised that systematic reporting of these past test results could potentially increase the number of newly acquired HCV cases identified. The substantial increase in the number of newly acquired HCV cases identified by utilising laboratory data indicates that, if used in addition to current reporting mechanisms, accessing laboratory data has the potential to increase both the proportion and yield of newly acquired cases in NSW.

The second phase of this project represents the first published qualitative study of the experience of seroconversion to hepatitis C among people who inject drugs in Australia. Understanding the factors which lead to a transmission event has the potential to inform prevention activities by, for example, changing the nature and content of information provided to PWID and/or changing the policies and programs including structural interventions, designed to prevent hepatitis C infection.

In-depth qualitative interviews were conducted with 24 people who self-reported hepatitis C seroconversion within the two years prior to recruitment. Participants were recruited via a range of mechanisms from a variety of locations throughout Sydney ( $n = 22$ ) and regional NSW ( $n = 2$ ).

While participants typically could not identify specific events which led to seroconversion, all identified a number of possible practices and settings in which infection may have occurred including constraints on availability of sterile injecting equipment and vulnerability to unsafe injecting practices prompted by opiate withdrawal. Reuse and sharing of equipment was influenced by the physical and social environment in which injecting drug use took place, the people that were involved, the ability of individuals to be vigilant and challenge the practices of others and a lack of awareness of HCV risk posed by using injecting equipment other than needles and syringes.

Further, the diagnostic experiences of participants were sub-optimal according to national testing guidelines. These data indicate a need for changes to existing hepatitis C prevention programs and policies designed to support improved diagnosis experiences.



# 6

## Current climate



### 6.1 Gay men: current challenges and emerging approaches in HIV prevention

John de Wit, Garrett Prestage, Ian Duffin

The early responses of gay communities to HIV are widely seen as outstanding examples of effective disease prevention. However, the current situation is one of resurgent epidemics of human immunodeficiency virus (HIV) and other sexually transmissible infections (STI) in gay communities in post-industrial countries worldwide (Sullivan et al., 2009; Hamers & Phillips, 2008; Van Griensven, de Lind, van Wijngaarden, Baral, and Grulich, 2009; Grulich & Kaldor, 2008) including Australia (Guy et al., 2008). This re-emergence has led some commentators to suggest that HIV prevention in gay men is faltering (Jaffe, Valdiserri, and DeCock, 2007). Rather than suggesting an HIV prevention failure, it is important to recognize the complexities of contemporary HIV prevention in gay men.

#### Evolving HIV epidemic

Since 2000 the annual number of new HIV diagnoses in Australia has increased by 38% (National Centre in HIV Epidemiology and Clinical Research [NCHECR], 2009). Recent trends in new HIV diagnoses differ across Australian jurisdictions. While the population rate of HIV diagnosis increased in Victoria, Queensland, South Australia and Western Australia, new notifications remained stable in New South Wales (Guy et al., 2007; NCHECR, 2009). Importantly, while national and state HIV strategies aim to contribute to a reduction in infections, this has not been achieved since the mid 1990s (Guy et al., 2008; NCHECR, 2009; Guy et al., 2007). Of concern is the possibility of increasing rates of unprotected anal intercourse with casual partners among HIV-negative men in some states (see 1.5 Risk and risk reduction with casual partners). Recent years have also brought steeply increased rates of STIs, in particular syphilis, among HIV-positive men (Jin et al., 2005; Jin et al., 2009b).



## Evolving prevention responses

From the days of the outbreak of AIDS in the early-mid 1980s, gay men have continually found ways to adapt their prevention responses to the evolving HIV epidemic. The uptake of HIV testing, and the resulting widespread knowledge of one's HIV status, in particular, have enabled many gay men to develop risk-reduction strategies (Jin et al., 2009a; Kippax, Crawford, Davis, Rodden, and Dowsett, 1993) that reduce the likelihood of HIV transmission while also ensuring that sex remains about more than HIV prevention (Race, 1993; Adam, Teva and de Wit, 2008). Notably, seroadaptive behaviours (Snowden, Raymond, & McFarland, 2009) such as negotiated safety, serosorting, strategic positioning, planned withdrawal or unprotected sex with positive partners with undetectable viral load, have allowed some men to lead more satisfying sex lives. However, while it has been important to show that risk-reduction strategies are rational and informed responses, they are not always enacted in reasoned ways and the evidence base for their efficacy is still limited ((Jin et al., 2009a). Furthermore, risk-reduction strategies based on HIV status and viral load bear the potential risk of contributing to a sexual divide in the gay community (Courtenay-Quirk, Wolitski, Parsons, and Gómez, 2006).

## Contemporary HIV prevention

HIV prevention today is perhaps more complex than it has ever been before and involves implementing responsive services and messages that support gay men with increasingly diverse prevention needs, preferences and practices. The daunting task of contemporary HIV prevention in gay men benefits from a sound understanding of the factors that shape men's sexual and risk (reduction) practices in different situations. This understanding remains limited and patchy. Importantly, traditional media and venue-outreach approaches can no longer ensure adequate coverage of HIV prevention for gay men. Gay men's HIV-prevention practices also no longer occur within the context of the same sense of 'community in adversity' that existed in the past and a conversation is needed regarding the ethics of HIV prevention, sexual practices and relationships (Race, 2003), that shape how gay men live when HIV is endemic and no longer carries the risks that it did.

## Current challenges

Since the advent of the HIV epidemic in gay men in the early 1980s, its meaning has evolved substantially, as have gay men's adaptive responses. Prevention, surveillance and social and behavioural research have often struggled to keep up with the pace of change and to remain relevant and useful in a timely way. The major challenge for the future is to reduce the rates of new infections in a context of increasingly diverse and complex prevention responses. The key to the success will continue be partnership and reflection, informed by strong research.

## 6.2 Assessing community support for harm reduction services: comparing two measures

Max Hopwood, Loren Brener, Andrew Frankland and Carla Treloar.

During session 2 of 2008, Dr Max Hopwood and Dr Loren Brener from NCHSR co-lectured an undergraduate SLSP3002 research methods course for the School of Social Sciences and International Studies. One aim of the course was to demonstrate how measures of support for sensitive social issues can be influenced by the way survey questions are phrased. We hypothesised that reported levels of community support for harm reduction services can be predicted by the language and information which is contained within survey items.

SLSP 3002 students obtained a convenience sample of 260 people attending UNSW's main campus during late 2008. Participants were randomly allocated to two groups: one received a survey which provided background information about harm reduction services (Survey 1), while the other group received a survey which provided no information about harm reduction services, referred specifically to heroin use and framed this as problematic (Survey 2). In both surveys, participants were asked to indicate their support for six harm reduction services.

Around 95% of participants in this study were aged between 17 and 30 years with about an equal proportion of women and men. No significant differences were found between the randomly allocated groups on any of the sample characteristics, including voting intention and religiosity ( $p < .05$ , assessed using  $\chi^2$  test for independence).

### Test of mean differences between groups receiving Survey 1 and Survey 2

To compare the mean scores of the two groups, an independent samples 't-test' was carried out on scale scores relating to support for harm reduction services. There were significantly higher levels of support for harm reduction services reported by the group who received Survey 1 ( $M = 14.2$ ,  $SD = 4.4$ ) than by the group who received Survey 2 ( $M = 17.5$ ,  $4.6$ ) ( $t(249) = -5.8$ ,  $p < .001$ ). The magnitude of the difference in the means was large ( $\eta^2 = .118$ ).

### Hierarchical multiple regression analysis

A hierarchical multiple regression analysis was conducted with the outcome variable (scores on the scale measuring support for harm reduction services) and other variables (age, gender, survey version, political orientation and the importance of religion) as predictors. To control for age and gender, these variables were entered in Block 1, with survey version, political affiliation and the importance of religion entered in Block 2. The control variables entered in Block 1

**Table 37: Extracts from Survey 1 and Survey 2****Survey 1 - Public opinion regarding harm reduction services**

Over the past three decades in NSW there have been needle and syringe exchanges where people who inject drugs can obtain clean needles and syringes. The aim of this is to limit the spread of AIDS by reducing needle sharing. Many people use the exchanges. They are strongly encouraged to bring back their used needles, but the system does not operate strictly as a one-for-one exchange.

Can you please indicate whether you support or oppose needle and syringe exchanges?

Strongly support	Support	Not sure, can't say	Oppose	Strongly oppose
1	2	3	4	5

**Survey 2 - Public opinion regarding harm reduction services**

Every year across Australia, hundreds of people die from heroin overdose and thousands more contract diseases like hepatitis C infection from injecting illicit drugs like heroin. Heroin use has been a major public health problem in this country for decades. Some people believe that heroin and other dangerous drugs are here to stay and that we should accept this while others believe strongly that our government is too soft on drugs. Some believe that with extra funding of police and customs Australia can rid itself of the problems associated with heroin use.

Thinking about the problems associated with heroin use, to what extent would you support or oppose measures such as ..?

	Strongly support	Support	Don't know can't say	Oppose	Strongly oppose
	1	2	3	4	5
1. Needle and syringe program					

**Table 38: Summary of hierarchical multiple regression analysis with survey version, political orientation and importance of religion as predictors of support for harm reduction services**

	<i>B</i>	<i>SE B</i>	$\beta$
<b>Block 1</b>			
Constant	15.79	1.21	–
Age	-0.52	0.49	-0.70
Gender	0.061	0.63	0.06
<b>Block 2</b>			
Constant	13.40	1.66	–
Age	-0.26	0.46	-0.03
Gender	0.83	0.58	0.09
Survey version	3.43	0.57	0.36*
Political orientation	-1.10	0.43	-0.15**
Importance of religion	-0.71	0.37	-0.12

$R^2 = 0.09$  for Step 1;  $\Delta R^2 = .17$  for Step 2 ( $<.001$ ). \*  $p < .001$ . \*\*  $p < .05$

(age and gender) accounted for less than 1% of the variance in the scale scores ( $R^2 = .008$ ). The three predictors of interest, entered in Block 2, accounted for a strong increase in the explained variance in scale scores, with the overall model significant ( $F(5,234) = 9.94$ ;  $p < .001$ ) and explained almost 18% of the variance in the data ( $R^2 = 0.175$ ).

Both survey version and political orientation were significant predictors of overall support for harm reduction services. Those who completed Survey 2, which included no explanatory information about the aims of each service, and framed heroin use as a social and public health menace, expressed significantly greater opposition to harm reduction services overall. With regard to political orientation, more voters from the right of the political spectrum expressed greater opposition than voters from the left of the political spectrum to harm reduction services, after adjusting for age and gender. Neither the control variables (age and gender) nor importance of religion were significant predictors.

## Conclusion

Measures of community support for harm reduction services are associated with political orientation; however, support in this study was effectively manipulated through survey design. The way survey items are framed influence reported levels of support for these services. This finding has implications for government policy regarding harm reduction approaches to illicit drug use especially given that harm reduction programs are politically sensitive. Care is needed when assessing measures of community support for harm reduction services, and when interpreting media reports of findings from surveys of illicit drug use.

# References

- Adam, P. C., Teva, I., & de Wit, J.B. (2008). Balancing risk and pleasure: sexual self-control as a moderator of the influence of sexual desires on sexual risk-taking in men who have sex with men. *Sexually Transmitted Infections*, 84, 463–467.
- Australian Federation of AIDS Organisations. (2010). *AFAO Policy Briefing Paper on Rapid HIV Testing*. Sydney: Australian Federation of AIDS Organisations.
- Anderson, J., & Doyal, L. (2004). Women from Africa living with HIV in London: a descriptive study. *AIDS Care*, 16(1), 95–105.
- Åsander, A. S., Belfrage, E., Pehrson, P. O., Lindstein, T., & Björkman, A. (2004). HIV-infected African families living in Stockholm/Sweden: their social network, level of disclosure and knowledge about HIV. *International Journal of Social Welfare*, 13, 77–88.
- Australian Government. (2006). *National HIV Testing Policy 2006*. Canberra: Australian Government Department of Health and Ageing.
- Australian Institute of Health and Welfare. (2008). *2007 National Drug Strategy Household Survey: detailed findings* (Drug statistics series no. 22). Canberra: Australian Institute of Health and Welfare.
- Birrell, F., Staunton, S., Debattista, J., Roudenko, N., Rutkin, W., & Davis, C. (2010). Pilot of non-invasive (oral fluid) testing for HIV within a community setting. *Sexual Health*, 7, 11–16.
- Brah, A., & Phoenix, A. (2004). 'Ain't I a woman?' Revisiting intersectionality. *Journal of International Women's Studies*, 5(3), 75–86.
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3, 77–101.
- Bryant, J., & Treloar, C. (2008). Initiators: An examination of young injecting drug users who initiate others to injecting. *AIDS and Behavior*, 12(6), 885–890.
- Bryant, J., & Treloar, C. (2007). The gendered context of initiation to injecting drug use: Evidence for women as active initiates. *Drug and Alcohol Review*, 26, 287–293.
- Burman, E. (2004). From difference to intersectionality: challenges and resources. *European Journal of Psychotherapy, Counselling & Health*, 6(4), 293–308.
- Chambers, D. L. (1994). Gay men, AIDS, and the code of the condom. *Harvard Civil Rights-Civil Liberties Law Review*, 29, 353–385.
- Chen, M. Y., & Estcourt, C. S. (2009). Time to roll out rapid testing for HIV? Yes, but with appropriate safeguards. *Sexual Health*, 6, 1–3.
- Courtenay-Quirk, C., Wolitski, R. J., Parsons, J. T., & Gómez, C. A. [Seropositive Urban Men's Study Team]. (2006). Is HIV/AIDS stigma dividing the gay community? Perceptions of HIV-positive men who have sex with men. *AIDS Education and Prevention*, 18, 56–67.
- Crawford, J., Kippax, S., Mao, L., Van de Ven, P., Prestage, G., Grulich, A., & Kaldor, J. (2006). Number of risk acts by relationship status and partner serostatus: Findings from the HIM cohort of homosexually active men in Sydney, Australia. *AIDS and Behavior*, 10, 325–331.
- Crawford, J. M., Rodden, P., Kippax, S., & Van de Ven, P. (2001). Negotiated safety and other agreements between men in relationships: risk practice redefined. *International Journal of STD & AIDS*, 12, 164–170.

Crawford, J., Kippax, S., Rodden, P., Donohoe, S., & Van de Ven, P. (1998). *Male Call 96: national telephone survey of men who have sex with men*. Sydney: National Centre in HIV Social Research, The University of New South Wales.

Day, C., Ross, J., Dietze, P., & Dolan, K. (2005). Initiation to heroin injecting among heroin users in Sydney, Australia: cross-sectional survey. *Harm Reduction Journal*, 2(2).

De Wit, J., Treloar, C., & Wilson, H. (Eds.) (2009). *HIV/AIDS, Hepatitis and Sexually Transmissible Infections in Australia: Annual Report of Trends in Behaviour 2009* (Monograph 4/2009). Sydney: National Centre in HIV Social Research, The University of New South Wales.

Deacon, R., Newland, J., Harris, C., Treloar, C., & Maher, L. (2010). *Hepatitis C seroconversion: using qualitative research to enhance surveillance*. Sydney: National Centre in HIV Epidemiology and Clinical Research and National Centre in HIV Social Research, The University of New South Wales.

Doherty, M. C., Garfein, R. S., Monterroso, E., Latkin, C., & Vlahov, D. (2000). Gender differences in the initiation of injection drug use among young adults. *Journal of Urban Health*, 77, 396–414.

Doyal, L. (2009). Challenges in researching life with HIV/AIDS: an intersectional analysis of black African migrants in London. *Culture, Health & Sexuality*, 11(2), 173–188.

Franco-Paredes, C., Tellez, I., & del Rio, C. (2006). Rapid HIV testing: a review of the literature and implications for the clinician. *Current HIV/AIDS Reports*, 3, 159–165.

Grulich, A. E., & Kaldor, J. M. (2008). Trends in HIV incidence in homosexual men in developed countries. *Sexual Health*, 5, 113–8.

Grulich, A., De Visser, R. O., Smith, A. M. A., Rissel, C. E., & Richters, J. (2003). Sexually transmissible infection and blood-borne virus history in a representative sample of adults. *Australian and New Zealand Journal of Public Health*, 27(2), 234–241.

Guy, R. J., McDonald, A. M., Bartlett, M. J., Murray, J. C., Giele, C. M., Davey, T. M., et al. (2008). Characteristics of HIV diagnoses in Australia, 1993–2006. *Sexual Health*, 5, 91–96.

Guy, R. J., McDonald, A. M., Bartlett, M. J., Murray, J. C., Giele, C. M., Davey, T. M., et al. (2007). HIV diagnoses in Australia: diverging epidemics within a low-prevalence country. *Medical Journal of Australia*, 187, 437–440.

Hamers, F. F., & Phillips, A. N. (2008). Diagnosed and undiagnosed HIV-infected populations in Europe. *HIV Medicine*, 9(Suppl. 2), 6–12.

Hancock, A. M. (2007). When multiplication doesn't equal quick addition: Examining intersectionality as a research paradigm. *Perspectives on Politics*, 5(1), 63–79.

Holt, M., & Keen, P. (2009). Challenges to rolling out rapid HIV testing in Australia. *Sexual Health*, 6, 101–102.

Hopwood, M. (2009). *Recovery from Hepatitis C Treatments* (Monograph 6/2009). Sydney: National Centre in HIV Social Research, The University of New South Wales.

Imrie, J., & Frankland, A. (Eds.). (2007). *HIV/AIDS, Hepatitis and Sexually Transmissible Infections in Australia: Annual Report of Trends in Behaviour 2007*. Sydney: National Centre in HIV Social Research, The University of New South Wales.

- Imrie, J., & Frankland, A. (Eds.). (2008). *HIV/AIDS, Hepatitis and Sexually Transmissible Infections in Australia: Annual Report of Trends in Behaviour 2008*. Sydney: National Centre in HIV Social Research, The University of New South Wales.
- Jaffe, H. W., Valdiserri, R. O., & DeCock, K. M. (2007). The re-emerging HIV/AIDS epidemic in men who have sex with men. *Journal of the American Medical Association*, 298, 2412–2414.
- Jin, F., Crawford, J., Prestage, G. P., Zablotska, I., Imrie, J., Kippax, S. C., et al. (2009a). Unprotected anal intercourse, risk reduction behaviours, and subsequent HIV infection in a cohort of homosexual men. *AIDS*, 23, 243–252.
- Jin, F., Prestage, G. P., Kippax, S. C., Pell, C. M., Donovan, B. J., Kaldor, J. M., et al. (2005). Epidemic syphilis among homosexually active men in Sydney. *Medical Journal of Australia*, 183, 179–183.
- Jin, F., Prestage, G. P., Zablotska, I., Rawstorne, P., Imrie, J., Kippax, S. C., et al. (2009b). High incidence of syphilis in HIV-positive homosexual men: data from two community-based cohort studies. *Sexual Health*, 6, 281–284.
- Kenamer, J. D., Honnold, J., Bradford, J., & Hendricks, M. (2000). Differences in disclosure of sexuality among African American and white gay/bisexual men: Implications for HIV/AIDS prevention. *AIDS Education and Prevention*, 12(6), 519–531.
- Keogh, P., Henderson, L., & Dodds, C. (2004). *Ethnic minority gay men: Redefining community, restoring identity*. London: Sigma Research.
- Kippax, S., Crawford, J., Davis, M., Rodden, P., & Dowsett, G. (1993). Sustaining safe sex: a longitudinal study of a sample of homosexual men. *AIDS*, 7, 257–263.
- Kippax, S., Noble, J., Prestage, G., Crawford, J., Campbell, D., Baxter, D., et al. (1997). Sexual negotiation in the AIDS era: negotiated safety revisited. *AIDS*, 11, 191–197.
- Körner, H. (2007a). 'If I had my residency I wouldn't worry': Negotiating migration and HIV in Sydney, Australia. *Ethnicity and Health*, 12(3), 205–225.
- Körner, H. (2007b). Negotiating cultures: Disclosure of HIV-positive status among people from ethnic minorities in Sydney. *Culture, Health & Sexuality*, 9(2), 137–152.
- Liamputtong, P. (2007). *Researching the Vulnerable*. London: Sage.
- Minichiello, V., Aroni, R., & Hays, R. (2008). *In-depth Interviewing* (3rd ed.). Frenchs Forest, Sydney: Pearson Education Australia.
- National Centre in HIV Epidemiology and Clinical Research. (2009). *HIV/AIDS, Viral Hepatitis and Sexually Transmissible Infections in Australia: Annual Surveillance Report 2009*. Sydney: National Centre in HIV Epidemiology and Clinical Research, The University of New South Wales.
- National Centre in HIV Social Research. (Ed.). (1999). *HIV/AIDS & Related Diseases in Australia: Annual Report of Behaviour 1999*. Sydney: National Centre in HIV Social Research, The University of New South Wales.
- National Centre in HIV Social Research. (Ed.). (2000). *HIV/AIDS, Hepatitis C & Related Diseases in Australia: Annual Report of Behaviour 2000*. Sydney: National Centre in HIV Social Research, The University of New South Wales.



National Centre in HIV Social Research. (Ed.). (2001). *HIV/AIDS, Hepatitis C & Related Diseases in Australia: Annual Report of Behaviour 2001*. Sydney: National Centre in HIV Social Research, The University of New South Wales.

Paparini, S., Doyal, L., & Anderson, J. (2008). 'I count myself as being in a different world': African gay and bisexual men living with HIV in London. An exploratory study. *AIDS Care*, 20(5), 601–605.

Pedrana, A., Stoové, M., Guy, R., El-Hayek, C., Prestage, G., Wilson, K., et al. (2008). *'Suck it and see': estimating HIV prevalence and unrecognised HIV infection among men who have sex with men in Victoria*. Melbourne: Burnet Institute.

Persson, A., Barton, D., & Reakes, K. (2006). *Men and women living heterosexually with HIV: The Straightpoz Study, Volume 2* (Monograph 2/2006). Sydney: National Centre in HIV Social Research, The University of New South Wales.

Persson, A., Richards, W., Barton, D., & Reakes, K. (2009). *Men and women living heterosexually with HIV: The Straightpoz Study, Volume 1* (Monograph 1/2009). Sydney: National Centre in HIV Social Research, The University of New South Wales.

Pitts, M., Smith, A., Mitchell, A., & Patel, S. (2006). *Private lives: a report on the health and wellbeing of GLBTI Australians* (Monograph Series 57). Melbourne: The Australian Research Centre in Sex, Health & Society.

Prestage, G., Ferris, J., Grierson, J., Thorpe, R., Zablotska, I., Imrie, J., et al. (2008). Homosexual men in Australia: population, distribution and HIV prevalence. *Sexual Health*, 5, 97–102.

Prestage, G., McCann, P. D., Hurley, M., Bradley, J., Down, I., & Brown, B. (2010). *Pleasure and sexual health: The PASH study*. Sydney: National Centre in HIV Epidemiology and Clinical Research.

Race, K. D. (2003). Revaluation of risk among gay men. *AIDS Education and Prevention*, 15, 369–381.

Rawstorne, P., Holt, M., Kippax, S., Worth, H., Wilkinson, J., & Bittman, M. (2009). *e-male survey 2008: key findings from a national online survey of men who have sex with men in Australia* (Monograph 3/2009). Sydney: National Centre in HIV Social Research, The University of New South Wales.

Rawstorne, P., Treloar, C., & Richters, J. (Eds.). (2005). *HIV/AIDS, Hepatitis and Sexually Transmissible Infections in Australia: Annual Report of Behaviour 2005*. Sydney: National Centre in HIV Social Research, The University of New South Wales.

Richters, J. (Ed.). (2006). *HIV/AIDS, Hepatitis and Sexually Transmissible Infections in Australia: Annual Report of Trends in Behaviour 2006*. Sydney: National Centre in HIV Social Research, The University of New South Wales.

Snowden, J. M., Raymond, H. F., & McFarland, W. (2009). Prevalence of seroadaptive behaviours of men who have sex with men, San Francisco, 2004. *Sexually Transmitted Infections*, 85, 469–476.

STD Services. (2009). *Quarterly surveillance report* (No. 54). Adelaide: STD Services.

STIGMA. (2009). *Sexually transmitted infection testing guidelines for men who have sex with men*. Sydney: Sexually Transmissible Infections in Gay Men Action Group.



- Sullivan, P. S., Hamouda, O., Delpech, V., Geduld, J. E., Prejean, J., Semaille, C., et al. (2009). Re-emergence of the HIV epidemic among men who have sex with men in North America, Western Europe, and Australia, 1996–2005. *Annals of Epidemiology*, 19, 423–431.
- Takahashi, L. M., & Rodriguez, R. (2002). Access redefined: service pathways of persons living with HIV and AIDS. *Culture, Health & Sexuality*, 4(1), 67–83.
- Van de Ven, P., Prestage, G., Knox, S., & Kippax, S. (2000). Gay men in Australia who do not have HIV test results. *International Journal of STD & AIDS*, 11, 456–460.
- Van de Ven, P., Rawstorne, P., Crawford, J., & Kippax, S. (2001). *Facts & figures: 2000 Male Out survey* (Monograph 2/2001). Sydney: National Centre in HIV Social Research, The University of New South Wales.
- Van de Ven, P., Rawstorne, P., & Treloar, C. (Eds.). (2002). *HIV/AIDS, Hepatitis C & Related Diseases in Australia: Annual Report of Behaviour 2002*. Sydney: National Centre in HIV Social Research, The University of New South Wales.
- Van de Ven, P., Rawstorne, P., Treloar, C., & Richters, J. (Eds.). (2003). *HIV/AIDS, Hepatitis C & Related Diseases in Australia: Annual Report of Behaviour 2003*. Sydney: National Centre in HIV Social Research, The University of New South Wales.
- Van de Ven, P., Rawstorne, P., Treloar, C., & Richters, J. (Eds.). (2004). *HIV/AIDS, Hepatitis & Sexually Transmissible Infections in Australia: Annual Report of Behaviour 2004*. Sydney: National Centre in HIV Social Research, The University of New South Wales.
- Van Griensven, F., de Lind van Wijngaarden, J. W., Baral, S., & Grulich, A. (2009). The global epidemic of HIV infection among men who have sex with men. *Current Opinion in HIV and AIDS*, 4, 300–307.
- White, V., & Hayman, J. (2006). *Australian secondary school students' use of over-the-counter and illicit substances in 2005*. Melbourne: Cancer Council of Victoria.