HIV/AIDS, hepatitis and sexually transmissible infections in Australia Annual report of trends in behaviour 2009

Edited by John de Wit Carla Treloar Hannah Wilson



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National Centre in HIV Social Research

in collaboration with Australian Research Centre in Sex, Health and Society National Centre in HIV Epidemiology and Clinical Research



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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 serostatus a person's antibody status in relation to HIV infection, i.e. HIV-negative (confirmed by testing), HIV-positive (confirmed by testing) or unknown (i.e. untested)

 $\boldsymbol{MSM}\xspace$ men who have sex with men

n denotes the frequency of responses or classifications.

N denotes the denominator in each quantitative analysis of proportions.

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

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Preface

This report HIV/AIDS, hepatitis and sexually transmissible infections in Australia: Annual report of trends in behaviour 2009 is the 11th 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.

Unless stated otherwise, all data reported are for the fiveyear period 2004–2008. This review builds on the previous reports in this series by comparing data from the past year with data from the previous four. 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 ten reports in this series, the first of which was titled HIV/AIDS and related diseases in Australia: Annual report of behaviour 1999 (Imrie & Frankland, 2007, 2008; National Centre in HIV Social Research, 1999, 2000, 2001; Rawstorne et al., 2005; Richters, 2006; Van de Ven et al., 2002a, 2003, 2004).

Much of the work of the 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* 2009 compiled by the National Centre in HIV Epidemiology and Clinical Research (NCHECR) (National Centre in HIV Epidemiology and Clinical Research, 2009).

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 practice and partnerships among gay-identified and other men who have sex with men

Overall, the sexual practices and partnerships among gayidentified men who participated in the Gay Community Periodic Surveys have remained stable in recent years.

Sexual partnerships

Regular partnerships The proportion of homosexually active men in the periodic surveys who reported having had sex with a regular partner remained stable at around 65% during the period from 2004 to 2008. The only states where there were significant increases in this proportion were Sydney (p < .001) and Queensland (p < .01).

Casual partnerships Approximately 60% to 70% of the men in the periodic surveys reported having had sex with a casual partner in the six months prior to data collection. In all surveys, these proportions showed minor fluctuations in the period from 2004 to 2008; only in Sydney has this proportion declined significantly (p < .001).

Sex with regular and casual partners More than onethird of the men in the periodic surveys reported having had sex with both regular and casual partners. Between 2004 and 2008 no significant changes were observed in this indicator in the different states, except in Queensland where the proportion of men having had sex with both regular and casual partners significantly increased (p < .05).

Sexual practices

Anal intercourse More than 80% of homosexually active men reported having engaged in any anal intercourse in the six months prior to data collection. This figure shows considerable stability overall in the period from 2004 to 2008, with no significant trends emerging in any of the states.

Unprotected anal intercourse Approximately one in two participants in the periodic surveys reported having engaged in any unprotected anal intercourse (UAI). Data showed a significant upward increase in Queensland in the proportion of men who reported having had any unprotected anal intercourse (p < .001) between 2004 and 2008. In other states the proportions of men engaging in unprotected anal intercourse have stabilized at about 50%.

Unprotected anal intercourse with regular partners

More than half of the men with regular partners reported having had any unprotected anal intercourse with their regular partners (UAIR). This proportion has been stable since 2004 in most surveys. Only in Queensland (p <. 05) and Perth (p <. 05) has there been a significant upward trend.

Unprotected anal intercourse with casual partners

About one-third of the men who reported having had casual partners had engaged in any unprotected anal intercourse with their casual partners (UAIC). In the period from 2004 to 2008 there was a significant decline in the UAIC rate in Sydney (p < .01) and a significant increase in Queensland (p < .01); no changes were observed in other surveys.

Between 2004 and 2008, HIV-positive men were more likely than HIV-negative men to engage in UAIC. In Sydney there continued to be a significant decrease in UAIC among HIV-negative men (p < .05), but significant increases were observed in Queensland (p < .01) and Perth (p < .01).

Seroconcordance and unprotected anal intercourse in regular relationships HIV-positive men continued to be more likely to engage in UAIR with a partner of similar serostatus. It is, however, noteworthy that in 2008 more than half of the HIV-positive men in Queensland reported having engaged in UAI with their HIV-negative regular partners. The proportions in other states in 2008 were between 33% and 38%.

Sexual agreements

An agreement to have unprotected anal intercourse within a relationship can be considered a safe-sex agreement only if both partners have been tested for HIV and each knows their partner's HIV status.

- More than one-fifth of the HIV-positive men in seroconcordant relationships who participated in the periodic surveys reported having safe-sex agreements. There have been no significant changes in these proportions since 2004.
- Seventy to 75% of HIV-negative men in seroconcordant relationships reported having safe-sex agreements. This proportion has remained stable over time, apart from in Melbourne where there was a significant increase (p < .05) between 2004 and 2008.

- At least one-fourth of the men in serononconcordant relationships reported having a safe-sex agreement. There have been no statistically significant changes in these proportions since 2004 in any of the states.
- In all Gay Community Periodic Surveys there were small increases in the proportion of men with negotiated safety agreements who reported breaking these agreements and engaging in UAIC. In Queensland, this increase was statistically significant (p < 0.05).

Testing for HIV and other sexually transmissible infections

HIV testing

There has been a consistent upward trend in all states in the proportion of men who reported ever having been tested for HIV. Over the past five years, Sydney (p < .001), Queensland (p < .05) and Perth (p < .05) had the most significant increases in the proportion of men who reported having ever been tested for HIV. Among those men who reported ever having been tested for HIV, about half reported being tested for HIV in the six months prior to data collection (p < .01). Trends in the proportion of non-HIV-positive men who had been tested for HIV in the six months prior to data collection were generally stable.

Among homosexually active men under the age of 25 there has been a stable increase in the proportion of men tested for HIV across all states. In Sydney (p < .05) and Queensland (p < .01) this upward trend was statistically significant during the period from 2004 to 2008.

Testing for sexually transmissible infections

Over the past five years there has been a significant increase in the proportion of men who reported having had individual tests for STIs. However, there was little change in the proportion of men reporting 'any STI test other than HIV' across all surveys during the period between 2004 and 2008.

The rates of any testing for STIs have remained stable over time, suggesting that gay men are having more comprehensive STI screening rather than there being an increase in the overall numbers of men testing for STIs.

Living with HIV

Uptake of antiretroviral treatment, and viral load

In all behavioural surveys, approximately two-thirds of HIVpositive men reported being on ART in 2008. No significant trends have emerged since 2004, with the exception of an increase in the proportion of HIV-positive men on ART in Sydney. There is substantial regional variation in the proportion of men using ART, mainly due to relatively low numbers of HIV-positive participants, particularly in smaller surveys (e.g., Perth). The majority of men using antiretroviral therapy had undetectable viral load, and these proportions were significantly higher compared with men who were not on treatment. Between 2004 and 2008, the proportion of men with undetectable viral load among those on antiretroviral treatment continued to grow significantly in all states surveyed in 2008.

Drug use and drug treatment

Recreational drug use among homosexually active men

From 2004 to 2008, at least one in two men who participated in the Gay Community Periodic Surveys reported any illicit drug use. Sydney has consistently had the highest prevalence of illicit drug use. Over the past five years, all surveys showed decreasing rates of illicit drug use, with Melbourne showing the most significant decline (p < .001). Less than 6% of the homosexually active men reported any injecting drug use in the six months prior to data collection.

Illicit drug use among young people attending music festivals

In 2008 the annual Periodic Survey of Drug Use among Young People, which had previously been conducted only in Sydney, was expanded to include the Gold Coast and Melbourne. Illicit drug use was common among young people attending music festivals in each of these locations, but injecting drug use was rare. Marijuana continued to be the most commonly reported illicit drug used in the preceding 12 months (Sydney, 31.7%; Gold Coast, 48.8%; Melbourne, 50.0%). This was followed by ecstasy and amphetamine/methamphetamine, which were used by between one-quarter and one-third. In general, respondents perceived illicit drugs to be easily accessible. Marijuana and ecstasy were rated as the most easy to obtain, while heroin was perceived the least easy.

Injecting drug use among people who use pharmacy equipment in New South Wales

In 2008, among those who obtained needles and syringes from community pharmacies, the average duration of injecting reported by respondents was 16 years (range 0–58 years). The frequency of injecting has remained relatively steady since 2006 with between 50% and 60% of respondents reporting daily or more frequent injecting. The drug most commonly reported to have been recently injected in 2008 was heroin (by 53.7%), followed by meth/ amphetamine (speed, base, ice; by 21.4%). Between 2007 and 2008, there was a marked increase in heroin as the drug most commonly reported to have been recently injected, coupled with a parallel marked decrease in injection of meth/ amphetamine. Since 2006 the proportion of respondents reporting that they have never received treatment for their drug use has remained relatively steady at about one-third.

Hepatitis infections

Knowledge of risk factors for hepatitis C transmission among people who use pharmacy equipment

Data from 2008 indicate that, as in previous years, the incidence of sharing needles and syringes and ancillary injecting equipment is high among pharmacy clients. A third of respondents (32.4%, n = 181) reported having

reused a needle and syringe in the previous month that someone else had already used. When the sharing of any equipment—needles and syringes and/or ancillary equipment—is examined, over half of the sample (57.7%, n = 322) report doing so in the month prior to being surveyed. Between 2007 and 2008 there was an increase in the proportion of respondents saying they had reused a needle and syringe in the previous month that someone else had already used and in the proportion saying they had reused or shared ancillary equipment.

In 2008 over half of respondents (54.2%, n = 326) reported having had a test for hepatitis C in the previous 12 months, and 39.2% (n = 236) reported being hepatitis C positive. As in previous years, pharmacy clients were highly knowledgeable about hepatitis C generally and hepatitis C transmission specifically. Fewer were aware that there was more than one type of hepatitis C or that treatment did not always cure hepatitis C.

Knowledge of hepatitis C among young people attending music festivals

In general, knowledge of the role of injecting equipment in the transmission of hepatitis C was high among young people attending music festivals. In 2008, most participants (78.4%) knew that hepatitis C could be contracted via shared needles used for injecting drugs, and two-thirds (67.9%) knew that it could be transmitted via injecting equipment other than needles. However, almost 30% did not know that hepatitis C could be transmitted via unsterile tattooing or body piercing. Also, while injecting was relatively rare, a considerable proportion of respondents reported that they had been exposed to injecting (42.1% for Melbourne, 53.1% for Gold Coast, 45.6% for Sydney), either through having friends or boyfriends/girlfriends who injected or through having been offered drugs to inject.

Sexual practice and partnerships



1.1 Gay-identified and other men who have sex with men

Iryna Zablotska, Andrew Frankland and Evelyn Lee

Data on homosexually active men described in this report come mainly from Gay Community Periodic Surveys in the state and territory capitals of Australia. Previous studies undertaken by NCHSR of the general Australian population (Smith et al., 2003) and of homosexually active men (Kippax et al., 1994; Crawford et al., 1998; Van de Ven et al., 2001) have consistently demonstrated that targeted studies in capital cities tend to reach men who are more likely to be closely attached to gay communities than is the case for homosexually active men elsewhere. Characteristically, community-attached gay men tend to have more gay friends, spend more time with gay men and have sex only with other men. Data from statebased studies such as the Gay Community Periodic Surveys mainly involve men recruited from gay communities. Other

studies undertaken by NCHSR, such as the e-male survey, described in more detail elsewhere in this report, specifically try to include men who are less attached to the gay community and whose experiences may be significantly different from those of other homosexually active men.

The Sydney Gay Community Periodic Surveys, funded by the NSW Department of Health, have been carried out in Sydney every six months since February 1996. Results from these surveys have been reported as regular updates and as annual summary reports (Zablotska et al., 2008). In this report, bi-annual Sydney Gay Community Periodic Survey data are aggregated and reported as annual figures.

Funded by the respective state and territory health departments, Gay Community Periodic Surveys are also carried out annually in Melbourne (Frankland et al., 2008a) and Queensland (Frankland et al., 2009), and every two years in Adelaide (Frankland et al., 2008b) and Perth (Zablotska et al., 2009). The Canberra survey is carried out every three years (Zablotska et al., 2007). The annual Queensland Gay Community Periodic Survey has covered Brisbane, the Sunshine Coast and the Gold Coast every year since 1998, with Cairns included from 1999.

In each of the periodic surveys, men are asked about their sexual practice in the six months prior to interview. Key behavioural indicators include:

- the proportion of men having regular and/or casual partners
- the proportion of men engaging in any unprotected anal intercourse (UAI)
- the proportion of men engaging in unprotected anal intercourse with regular partner(s) (UAIR)
- the proportion of men engaging in unprotected anal intercourse with casual partner(s) (UAIC).

The proportions of men engaging in these practices over the period 2004–2008 are reported in the sections that follow.

Partnerships among men: regular and casual

Table 1 shows the proportion of men who had sex with either regular or casual partners or with both regular and casual partners in the six months prior to data collection. The categories presented in this table are not mutually exclusive; men who had sex with both regular and casual partners are also counted as having had sex with each type of partner separately.

Over the past five years, the proportion of homosexually active men in the periodic surveys who reported having had sex with a regular partner has remained fairly stable at around 65% in most of the states. Nevertheless, data for Sydney (p < .001) and Queensland (p < .01) showed moderate but significant upward trends.

Across all states more than half of the men in the periodic surveys reported having had sex with a casual partner in the six months prior to data collection. A statistically significant decline was observed in Sydney (p < .001) over the period 2004 to 2008, while the moderate changes in the other states were non-significant.

More than one-third of the men in the periodic surveys reported having had sex with both regular and casual partners in the six months prior to data collection. Between 2004 and 2008, data for most states showed non-significant increases in the proportion of men who reported having had sex with both regular and casual partners. Only in Queensland was the increasing trend statistically significant (p < .05).

	20	04	2	005	20	06	200)7	20	08
	Ν	%	Ν	%	N	%	Ν	%	Ν	%
(a) Regular partner(s)										
Sydney	2821	61.6	3413	60.1	3732	63.3	2342	65.4	2222	63.5
Melbourne	1962	65.0	1804	64.6	1988	65.7	2043	64.0	2036	63.0
Queensland	1667	61.8	1382	61.6	1276	62.4	1417	64.4	1243	63.6
Perth	1014	65.3			927	64.9			750	64.8
Adelaide			629	65.2			527	61.3		
Canberra					282	66.0				
(b) Casual partners										
Sydney	2821	69.7	3413	70.0	3732	68.8	2342	65.0	2222	66.2
Melbourne	1962	68.2	1804	68.5	1988	65.9	2043	66.4	2036	70.3
Queensland	1667	69.3	1382	70.5	1276	66.8	1417	69.2	1243	69.1
Perth	1014	61.2			927	61.9			750	58.9
Adelaide			629	64.1			527	62.4		
Canberra					282	59.2				
(c) Both regular and casu	ual partners									
Sydney	2821	38.9	3431	37.7	3732	39.7	2342	39.6	2222	39.5
Melbourne	1962	42.0	1804	41.9	1988	40.2	2043	38.7	2036	41.7
Queensland	1667	40.3	1382	42.5	1276	40.0	1417	44.3	1243	42.3
Perth	1014	37.1			927	37.1			750	38.1
Adelaide			629	37.8			527	36.0		
Canberra					282	34.4				

Table 1: Proportion (%) of men who had engaged in sex with (a) regular partner(s), (b) casual partners, and (c) both regular and casual partners: Gay Community Periodic Surveys, 2004–2008

Note: Data are based on questions about sexual behaviour with regular and/or casual partners

6

Sexual practices: anal intercourse

Tables 2 and 3 show the proportions of men in different states who reported having engaged in any anal intercourse and any unprotected anal intercourse in the six months prior to data collection.

More than 80% of homosexually active men reported having engaged in any anal intercourse in the six months prior to data collection. Data show considerable stability overall, with no states showing a significant trend during the period 2004 to 2008 (Table 2).

Apart from Queensland, which showed a significant upward trend in the proportion of men who reported having engaged in any unprotected anal intercourse with either regular or casual partners, trends in the other states appear to have levelled off at just under 50% in the past five years (Table 3).

Table 4a (based on total samples) and Table 4b (based on restricted samples of those men who reported having had any sex with *regular* partners) show the proportions of men who reported any UAIR, including anal intercourse without ejaculation, during the six months prior to data collection.

Over the past five years, the proportion of men who reported any unprotected anal intercourse with their regular partners remained stable at around 40%. In Queensland, where increases in this proportion were observed in previous years, a downward change was observed in 2008 compared to the previous year (p < .01). Figure 1 graphically presents the data from Table 4a.

Table 2: Proportion (%) of men who had engaged in any anal intercourse, based on all men who participated: Gay Community Periodic Surveys, 2004–2008

	2004		20	2005		2006		2007		08
	N	%	N	%	N	%	N	%	Ν	%
Sydney	2821	83.5	3413	83.7	3732	83.9	2342	82.2	2222	81.8
Melbourne	1962	79.4	1804	81.7	1988	81.7	2043	80.9	2036	79.9
Queensland	1667	80.6	1382	80.5	1276	80.3	1417	81.0	1243	82.1
Perth	1014	77.6			927	78.5			750	75.5
Adelaide			629	79.2			527	73.8		
Canberra				282	77.3					

Table 3: Proportion (%) of men who had engaged in any unprotected anal intercourse, based on all men who participated: Gay Community Periodic Surveys, 2004–2008

	2004		2005		2006		2007		2008	
	N	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	2821	49.3	3413	48.2	3732	47.3	2342	47.4	2222	47.3
Melbourne	1962	45.3	1804	47.5	1988	48.6	2043	45.9	2036	45.9
Queensland	1667	46.3	1382	44.4	1276	47.9	1417	50.9	1243	48.5
Perth	1014	45.8			927	49.7			750	48.5
Adelaide			629	46.1			527	47.1		
Canberra					282	45.4				

Table 4a: Proportion (%) of men who had engaged in any unprotected anal intercourse with regular partners (UAIR), based on all men who participated: Gay Community Periodic Surveys, 2004–2008

	2004		2005		2006		2007		2008	
	Ν	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	2821	36.1	3413	35.2	3732	35.1	2342	37.4	2222	36.9
Melbourne	1962	36.5	1804	37.2	1988	38.6	2043	34.4	2036	35.2
Queensland	1667	34.9	1382	33.1	1276	36.7	1417	39.0	1243	37.9
Perth	1014	36.6			927	39.6			750	40.3
Adelaide			629	37.0			527	36.0		
Canberra				282	37.6					

Analyses were also conducted on the restricted samples of men who reported having had any sex with *regular* partners (Table 4b). The data in Table 4b therefore provide a more accurate representation of the sexual practices and sexual risks that occur in the context of men's regular relationships. Changes from the previous year in the proportion of men engaging in UAIR are minimal and non-significant in most states. However, during the period 2004 to 2008, data show a sustained increase in Queensland (p < .05) and Perth (p < .05) (Table 4b).

Table 5a (based on total samples) and Table 5b (based on restricted samples of those men who reported having had any sex with *casual* partners) show the proportions of men who reported having engaged in any UAIC, including anal intercourse without ejaculation, during the six months prior to data collection.

In all states around one in five men reported having had any UAIC in the six months prior to data collection. Trends in most states remained stable over the last five years. Sydney showed a decreasing trend (p < .001) while in Queensland this proportion increased significantly (p < .05). Figure 2 graphically presents the data from Table 5a.

Table 5b shows further analysis conducted among men who reported any sex with a casual partner in the six months prior to data collection and reports the proportion of these men who had engaged in any UAIC, including anal intercourse without ejaculation, during this period.

Compared to the previous year, there are minimal changes in the proportion of men engaging in UAIC across all states. In the past five years, trend figures show statistically significant increases in this indicator in Queensland (p < .01) and Perth (p < .01) and no significant changes in the other states (Table 5b).



Figure 1: Proportion (%) of men who had engaged in any unprotected anal intercourse with regular partners (UAIR), based on all men who participated: Gay Community Periodic Surveys, 2004–2008

Table 4b: Proportion (%) of men who had engaged in any unprotected anal intercourse with regular partners (UAIR), among men who had had sex with a regular partner (i.e. restricted sample): Gay Community Periodic Surveys, 2004–2008

	2004		2	2005		2006		2007		2008	
	Ν	%	Ν	%	N	%	N	%	Ν	%	
Sydney	1738	58.6	2051	58.6	2362	55.4	1532	57.2	1410	58.2	
Melbourne	1276	56.2	1165	57.6	1307	58.8	1308	53.7	1283	55.9	
Queensland	1031	56.4	851	53.8	796	58.8	912	60.5	791	59.5	
Perth	662	56.0			602	61.0			486	62.1	
Adelaide			410	56.8			323	58.8			
Canberra				186	57.0						

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Table 5a: Proportion (%) of men who had engaged in any unprotected anal intercourse with casual partners (UAIC), based on all men who participated: Gay Community Periodic Surveys, 2004–2008

	2004		2005		2006		2007		2008	
	Ν	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	2821	22.4	3413	21.4	3732	20.8	2342	19.3	2222	19.3
Melbourne	1962	17.9	1804	20.3	1988	19.2	2043	19.4	2036	20.6
Queensland	1667	21.7	1382	22.1	1276	23.1	1417	25.1	1243	24.6
Perth	1014	17.4			927	20.7			750	20.1
Adelaide			629	15.6			527	19.3		
Canberra				282	14.5					



Figure 2: Proportion (%) of men who had engaged in any unprotected anal intercourse with casual partners (UAIC) in the six months prior to the survey, based on all men who participated: Gay Community Periodic Surveys, 2004–2008

Table 5b: Proportion of men who reported any unprotected anal intercourse with casual partners (UAIC), among me	en who
had had sex with a casual partner (i.e. restricted sample): Gay Community Periodic Surveys, 2004-2008	

	2004		20	2005		06	2007		2008	
	Ν	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	1966	32.2	2388	30.5	2568	30.3	1523	29.7	1470	29.1
Melbourne	1338	26.2	1235	29.7	1310	29.1	1357	28.7	1431	29.4
Queensland	1156	31.2	974	31.3	852	34.6	980	36.3	859	35.6
Perth	621	28.3			574	33.4			441	34.2
Adelaide			403	24.3			329	31.0		
Canberra					167	24.6				

Table 6 shows the proportion of men who reported any UAIC during the six months prior to data collection, by state and HIV status of the respondents.

Data for the past five years revealed that in most states, HIV-positive men were two times more likely to engage in UAIC than HIV-negative men. The proportion of HIV-positive men who engaged in UAIC increased significantly in Queensland (p < 0.05) while changes in other states were not statistically significant.

In most states there has been a moderate rise over the past five years in the proportion of HIV-negative men who reported having engaged in UAIC in the six months prior to being surveyed. Only in Sydney has the proportion of men who reported having engaged in UAIC declined (p < .05) during this period. In contrast, both Queensland and Perth, which have the highest proportion of HIV-negative men who reported engaging in UAIC, showed statistically significant upward trends.

Seroconcordance and unprotected anal intercourse in regular relationships

Table 7 shows that HIV-positive men whose regular partners were also HIV-positive reported the highest rates of UAIR across all states. Over the last five years there have been no statistically significant changes in this indicator in any of the states. Similarly, no statistically significant change was observed in the proportion of HIV-positive men who reported having had UAIR with their HIV-negative regular partners. It is noteworthy that in 2008 more than half of the HIV-positive men in Queensland reported having engaged in UAI with their HIV-negative regular partners. The proportions in other states in 2008 were between 33% and 38%.

1.2 Sexual risk reduction practices

Iryna Zablotska, Andrew Frankland and Evelyn Lee

Gay men have adopted various strategies to minimise the risk of HIV transmission during sexual contact in addition to explicit safe-sex agreements with their regular partners. Many men restrict their UAI only to men whom they believe to be HIV seroconcordant (Van de Ven et al. 1998; Parsons et al. 2005; Mao et al. 2006; Xia et al. 2006). Also, between some serodiscordant partners the use of strategic positioning, whereby HIV-negative men take the insertive position and HIV-positive men take the receptive position during UAI, has been observed (Parsons et al. 2005; Van de Ven et al. 2002b).

Table 6: Proportion (%) of men who had engaged in any unprotected anal intercourse with casual partners (UAIC), by HIV serostatus of respondent, among men who had had sex with a casual partner (i.e. restricted sample): Gay Community Periodic Surveys, 2004–2008

	20	004	2	005	20	006	200)7	2	008
	N	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney										
HIV-positive	325	55.7	381	54.1	398	52.0	208	58.2	215	54.4
HIV-negative	1469	27.8	1802	25.9	1954	26.3	1171	23.9	1155	24.9
Melbourne										
HIV-positive	125	47.2	127	50.4	120	57.5	125	54.4	123	56.9
HIV-negative	1050	23.8	932	27.7	1014	26.4	1021	26.0	1105	26.9
Queensland										
HIV-positive	98	48.0	66	45.5	55	58.2	64	64.1	59	61.0
HIV-negative	896	29.0	761	30.5	659	33.1	778	34.8	684	34.0
Perth										
HIV-positive	29	17/29			35	16/35			27	13/27
HIV-negative	484	26.7			441	31.7			341	35.0
Adelaide										
HIV-positive			27	6/27			34	7/34		
HIV-negative			310	25.8			252	32.5		
Canberra										
HIV-positive					9	3/9				
HIV-negative					140	22.9				

Note: Data exclude men whose HIV serostatus was unknown either because they reported that they had not been tested or because they did not provide this information. Percentages are not reported when the number of men is small, which makes the calculation of a proportion unreliable. Instead, the actual numbers are provided (e.g.17/29).

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Table 7	7: Proportion	(%) of HIV-p	ositive men	who had e	engaged in	unprotected	anal int	tercourse	with their	regular	partner,
by HIV	serostatus o	of partner: Ga	ay Communit	y Periodio	c Surveys,	2004–2008					

	20	004	2	2005	20	006	20	07	2	008
	Ν	%	N	%	N	%	N	%	Ν	%
Sydney										
HIV-positive partner	89	74.2	86	73.7	101	79.2	68	85.3	61	80.3
HIV-negative partner	79	39.2	89	38.2	109	38.5	67	43.3	69	37.7
Partner of unknown HIV status	16	50.0	15	53.3	15	53.3	9	33.3	6	50.0
Melbourne										
HIV-positive partner	38	68.4	35	80.0	50	86.0	32	78.1	45	80.0
HIV-negative partner	32	9/32	33	15/33	30	15/30	29	11/29	32	34.4
Partner of unknown HIV status	4	2/4	7	5/7	4	1/4	7	4/7	7	3/7
Queensland										
HIV-positive partner	33	25/33	20	14/20	19	16/19	17	16/17	23	20/23
HIV-negative partner	27	11/27	22	8/22	17	7/17	24	11/24	13	7/13
Partner of unknown HIV status	8	4/8	4	4/4	3	2/3	5	3/5	4	4/4
Perth										
HIV-positive partner	9	9/9			5	3/5			9	8/9
HIV-negative partner	17	5/17			15	6/15			6	2/6
Partner of unknown HIV status	3	1/3			2	0/2			1	1/1
Adelaide										
HIV-positive partner			3	2/3			11	10/11		
HIV-negative partner			10	8/10			11	3/11		
Partner of unknown HIV status			0	0			1	0/1		
Canberra										
HIV-positive partner					3	2/3				
HIV-negative partner					7	4/7				
Partner of unknown HIV status					1	0/1				

Note: Percentages are based on the numbers of men who had a regular partner of the specified HIV serostatus and who had any unprotected intercourse with these partners in the six months prior to data collection. Percentages are not reported when the number of men is small, which makes the calculation of a proportion unreliable. Instead, the actual numbers are provided (e.g.3/11).

Agreements among homosexually active men regarding unprotected anal intercourse

Earlier research at NCHSR highlighted the importance of risk reduction strategies in preventing HIV transmission, including agreements about sex such as 'negotiated safety' (Kippax et al., 1993; 1997; Van de Ven et al., 1999; Crawford et al., 2001). A safe-sex agreement is defined as a clear, spoken agreement between partners about anal intercourse within the relationship as well as a clear, spoken agreement that there will be no unprotected anal intercourse with casual partners outside the relationship. In a recent paper, Prestage et al. (2008) examined trends in safe-sex agreements among gay men with regular partners in Sydney, Melbourne and Queensland. This analysis suggested an increase in the proportion of men in HIV-negative seroconcordant relationships and about three-quarters of these men had negotiated an agreement about sex within their relationship. There was little change over time in the likelihood of having negotiated such agreements. There were, however, changes in the nature of these agreements. Over time, more men in HIV-serodiscordant relationships agreed to have unprotected anal intercourse within the relationship

(p < .001). Furthermore, increasing proportions of men in HIV-negative seroconcordant relationships agreed on a monogamous arrangement with their regular partner (p < .001), while fewer men in general specified consistent condom use with casual partners (p < .001). Some of these changes in negotiated agreements represent an increase in the potential for HIV transmission.

Table 8 shows, separately for men in HIV-seroconcordant and HIV-serononconcordant relationships, the percentage of men with regular partners who had safe-sex agreements with their partners.

Substantially fewer men identified themselves as being in HIV-positive seroconcordant relationships than in HIVnegative seroconcordant or in nonconcordant relationships. The number of men who identified themselves as being in HIV-positive seroconcordant relationships remained small and therefore proportions reported for this group fluctuate. In the states with relatively large sample sizes (i.e., Sydney and Melbourne), between one-third and over half of men in HIV-positive seroconcordant relationships reported having safe-sex agreements with their partner. The trends over time are not significant. Among men who reported being in HIV-negative seroconcordant relationships more than 70% reported having a safe-sex agreement with their partner. In most states there were no significant changes in this indicator over time; only in Melbourne was the upward trend statistically significant (p < .05).

Between 2004 and 2008 there was a relatively small change in the trend figures for serononconcordant couples who reported having safe-sex agreements with their partners. No statistically significant changes were observed in any of the states.

Negotiated safety and unprotected anal intercourse with casual partners

Table 9 shows the proportion of HIV-negative men who had a negotiated safety agreement with their HIV-negative regular partners and who broke that agreement and engaged in unprotected anal intercourse with one or more casual partners.

Findings from all states show that about 8% to 15% of men who had a negotiated safety agreement broke it. The trend figures are not significant in most states, except

Table 8: Proportion (%) of men who had engaged in sex with a regular partner and who had 'safe-sex'	agreements, by
HIV serostatus of relationship: Gay Community Periodic Surveys, 2004–2008	

	20	2004		005	20	06	200)7	2	2008	
	N	%	N	%	N	%	N	%	Ν	%	
Sydney											
HIV-positive concordant	89	50.6	86	40.7	101	46.5	68	44.1	61	54.1	
HIV-negative concordant	744	75.7	880	73.9	1047	72.5	558	75.6	687	75.8	
Nonconcordant	342	33.9	407	32.9	476	33.8	257	28.0	294	37.8	
Melbourne											
HIV-positive concordant	38	57.9	35	48.6	50	38.0	32	59.4	45	37.8	
HIV-negative concordant	554	70.8	458	72.1	569	74.7	558	76.2	536	74.6	
Nonconcordant	288	31.9	267	36.7	284	32.4	317	30.3	310	33.6	
Queensland											
HIV-positive concordant	33	17/33	20	9/20			17	6/17	23	14/23	
HIV-negative concordant	446	69.1	364	69.8			350	72.9	308	75.3	
Nonconcordant	261	28.0	189	41.3			206	31.1	172	37.8	
Perth											
HIV-positive concordant	9	2/9			5	4/5			9	2/9	
HIV-negative concordant	332	74.1			277	75.8			221	71.5	
Nonconcordant	158	31.0			138	24.6			117	25.6	
Adelaide											
HIV-positive concordant			5	5/5			11	9/11			
HIV-negative concordant			189	79.4			162	71.6			
Nonconcordant			102	27.5			74	32.4			
Canberra											
HIV-positive concordant					3	3/3					
HIV-negative concordant					99	71.7					
Nonconcordant					29	7/29					

Note: Data regarding men in positive–positive and negative–negative seroconcordant relationships are presented separately. Men who reported being in serodiscordant and serononconcordant relationships are combined in one category (nonconcordant). From 2006 onwards, questions to elicit information about agreements were not included in the Queensland Periodic Survey. Percentages are not reported when the number of men is small, which makes the calculation of a proportion unreliable. Instead, the actual numbers are provided (e.g. 2/9).

Table 9: Proportion (%) of men who had engaged in unprotected anal intercourse with a casual partner, among HIVnegative men who reported having a negotiated safety agreement with their regular partner: Gay Community Periodic Surveys, 2004–2008

	2004		2005		200)6	2007	7	20	08
	N	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	311	9.3	346	5.2	367	7.1	215	6.1	276	7.6
Melbourne	213	4.7	184	6.5	217	4.6	217	5.5	213	8.0
Queensland	132	3.8	117	6.8			133	6.8	113	13.3
Perth	129	7.8			121	8.3			96	11.5
Adelaide			92	9.8			65	4.6		
Canberra					33	0				

Note: Questions to elicit information about agreements with regular partners were not included in the Queensland survey in 2006.

for Queensland (p < .05) which showed a statistically significant increase over the past five years.

A prospective cohort study of HIV-negative homosexual men in Sydney (the Health in Men cohort), which collected data between 2001 and 2007, recently revealed that the risk of HIV infection in men who used negotiated safety as a risk reduction strategy was lower than that for men who reported UAI without risk reduction (Jin et al, 2009). Negotiated safety may also provide some protection from the transmission of STIs other than HIV (particularly syphilis) within regular relationships (Jin et al, under review). This protective effect of negotiated safety may be due to a combination of two factors under the conditions of negotiated safety: fewer sex partners outside regular relationships and restriction of unprotected anal intercourse with casual partners if such are allowed by agreements.

Undetectable viral load as an approach to reducing HIV risk among gay men

The use of HIV antiretroviral therapy has resulted in stable or declining viral load among HIV-positive gay men (Falster et al. 2008). A recent statement of the Swiss AIDS Commission concludes that effective antiretroviral treatment resulting in undetectable viral load makes the transmission of HIV unlikely (Vernazza et al. 2008). This supports the use of information regarding viral load as part of risk reduction between serodiscordant partners. Based on the argument that HIV-positive individuals with undetectable viral load are very unlikely to transmit virus to their sexual partners, some individuals and couples may choose to dispense with condoms.

Data from the two completed prospective gay community cohort studies (the Health in Men and the Positive Health studies) and the Gay Community Periodic Surveys have been analysed recently to examine the association between viral load and UAI within HIV-serodiscordant regular partnerships. Amongst the HIV-negative respondents, serodiscordant UAI was more likely to be reported when the men believed their HIV-positive regular partner had an undetectable rather than a detectable viral load (p = 0.002). Amongst the HIV-positive respondents, the likelihood of serodiscordant UAI was not related to men themselves reporting having an undetectable or a detectable viral load.

1.3 Future developments

Online sexual chatting and sexual risk taking among MSM

Philippe Adam and John de Wit

During the last decade or so, the increasing popularity of the internet as a way to meet potential partners for male-to-male sex has in many western industrialised countries coincided with an increase in sexual risk taking and in HIV and STI incidence among MSM (Guy et al., 2008; Hall et al., 2008; Hamers & Phillips, 2008). Whereas reported findings from individual studies have been somewhat mixed, a recent meta-analysis found that MSM who use the internet to look for sex partners are more likely to engage in unprotected anal sex (Liau et al., 2006). The association between meeting partners online and risk-taking is, however, mostly seen as simply an effect of increased opportunities or as a reflection of men's more general, offline sexual and risk practices (e.g., Bolding et al., 2005): through the internet some MSM may have access to a much larger number of (potential) sex partners, including men seeking UAI. What is missing is an understanding of the social and psychological mechanisms through which computer-mediated online conversations may, in addition to other factors, exert an influence on sexual risk-taking in MSM.

'Barebacking' (i.e. intentionally looking for unprotected sex), is often presented as the explanation for high levels of UAI among MSM who meet their partners online (Berg, 2008). In contrast, our previous research suggests that the occurrence of risk-taking among MSM is more often unplanned than premeditated (Adam et al., 2008), and may instead reflect decision-making in-the-heat-of-the-moment (Ariely & Loewenstein, 2006). In a further, exploratory study conducted among 2572 gay men in France who had met sexual partners online (Adam et al., manuscript in preparation), almost all participants reported going online to chat without intending to have UAI. However, these same men often were willing to share fantasies around unprotected sex with chat partners. This virtual fantasising about UAI was found to substantially contribute to risktaking, over and above men's (prior) intention to use condoms.

In our forthcoming cybersex study we will further explore the dynamics of online sexual conversations and their in-real-life (IRL) consequences among MSM living in New South Wales. A major focus of interest of this study is the notion that the dynamics of online chatting produce sexual scripts (e.g., Gagnon & Simon, 1973) that are deliberate and premeditated in only some cases. Some men may indeed proactively evoke online sexual expectations, desires, practices and scenarios to explicitly negotiate the content of face-to-face sexual encounters ahead of time, whether they want to have protected or unprotected intercourse and engage with risk-reduction strategies or not. Based on previous work, however, we propose that in most online conversations the interaction dynamics are far more impulsive or reactive (i.e. spontaneous). Due to the technology of Instant Messaging, the anonymity of computer-mediated sexual conversation (CMSC), and the specific sexual and psychological needs that men may seek to meet through chatting online, some individuals will have the tendency to 'let (their) fingers do the typing' (Kholos Wysocki, 1998) and to escalate in terms of the content that is exchanged during CMSC. As we do not expect that all individuals have the same propensity for engaging in impulsive/reactive chats and for consequently engaging in risk-taking IRL, moderating factors will also be studied, using qualitative as well as quantitative methods.

Spotlight *e-male* survey 2008: the internet as a source of social capital for a diverse range of men who have sex with men

Martin Holt, Patrick Rawstorne and Susan Kippax

The *e-male* survey, a national online survey of men who have sex with men (MSM) in Australia, was conducted between February and April 2008 (Rawstorne et al, 2009). Two of the aims of the study were to assess the profile of men attracted to an online survey and whether the internet facilitates social capital (a sense of trust, reciprocity and social support) between MSM (for an overview of social capital, see Field, 2003).

Diversity of an online sample

Prompted by a range of online and offline advertising, over 4000 men were attracted to the survey site (www.e-male. com.au). These men completed either a quantitative survey (n = 3,457) or a subsection of open-ended, qualitative items (n = 491). Key characteristics of the quantitative survey participants can be seen in Table 10.

Table 10: Characteristics of participants in the e-male survey 2008

	n	%	
Age			
Under 25	854	24.7	
25–39	1334	38.6	
40 and over	1269	36.7	
Sexual identity			
Gay/Homosexual/Queer	2723	78.8	
Bisexual/Heterosexual/Other	734	21.2	
Regional area			
Capital city of state or territory	2118	61.3	
Major regional centre	726	21.0	
Smaller city/Town	468	13.5	
Rural or remote area	145	4.2	
HIV status			
Untested/Unknown	822	25.4	
HIV-negative	2131	66.0	
HIV-positive	278	8.6	

Note: These categories are not mutually exclusive.

Like other studies conducted online, the *e-male* survey attracted a broader and more diverse sample of MSM than traditional behavioural surveillance surveys which rely on community- and venue-based recruitment mechanisms. In particular, e-male attracted large proportions of young and bisexual men, MSM living outside metropolitan areas, and men who had never been tested for HIV. These groups of men are often under-represented in city-based behavioural surveillance surveys. The participant profile confirms that online recruitment is a valuable way to reach MSM who are less connected to traditional, offline gay-community activities.

The internet and social capital

The e-male project employed a range of measures to assess the ways in which internet use may produce social capital for MSM (for more detail see Rawstorne et al, 2009). One of the assumptions we made was that social capital would be related to 'gay-community attachment' (men's involvement with, and social connections to, other gay men), but that there would be specific online forms of these social connections. We therefore assessed the characteristics of MSM with and without online and offline friendships with other gay and bisexual men.

We found that men with no online or offline gay or bisexual friends appeared to be the most socially isolated, with some of the smallest social networks and the lowest levels of trust in, connectedness to, and involvement with, others. Although these men made use of the internet it did not appear to help build their social capital with MSM or other people. In contrast, participants with any online gay or bisexual friends reported the largest and most diverse social networks. Men with online gay and bisexual friends appeared to have successfully used the internet as a tool to build or sustain bridging social capital—connections with diverse groups of men and women. Finally, men who had offline (but not online) gay or bisexual friends most closely resembled what we tend to think of as 'traditional' gay-community-attached men. These men had the smallest social networks but relatively consistent levels of trust and reciprocity across these networks, suggestive of bonding social capital with like-minded others. While these men were using the internet for a variety of social and sexual purposes, they were not making use of it to diversify their gay and bisexual friendship networks.

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2 Testing for HIV and other STIs



2.1 Trends in testing for HIV and STIs in the Gay Community Periodic Surveys

Iryna Zablotska, Andrew Frankland and Evelyn Lee

HIV Testing

From 2004 to 2008, HIV testing among men who had previously never tested HIVpositive was more common than testing for other STIs and this remained stable over the period. Table 11 shows that in most Gay Community Periodic Survey samples, over 80% of the respondents reported having been tested for HIV at some point in time (also see Figure 3). The highest levels of HIV testing coverage were observed in Sydney and Queensland (about 93%). In the last five years, significant increases in HIV testing coverage were observed in Sydney, Queensland and Perth, while other states showed no significant change.

Table 11: Proportion (%) of men who had ever been tested for HIV: Gay Community Periodic Surveys, 2004–2008

	2004		20	2005		06	200)7	20	08
	N	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	2821	88.7	3413	82.1	3732	85.5	2342	92.4	2222	93.4
Melbourne	1962	86.7	1804	86.1	1988	85.2	2043	87.5	2036	88.3
Queensland	1667	82.1	1382	80.6	1276	80.6	1417	90.4	1243	92.8
Perth	1014	76.7			927	80.0			750	82.4
Adelaide			629	81.7			527	88.8		
Canberra					282	85.8				

Note: From 2007 onward, two separate items ('Have you ever been tested for HIV antibodies?" and "When were you last tested for HIV antibodies?") were combined to obtain a more accurate indication of HIV testing prevalence.

Table 12 shows the proportion of respondents who had been tested for HIV in the six months prior to the surveys, among men who reported ever having had an HIV test. Overall, between 40% and 55% of respondents had been tested during the previous six months. Across the states this proportion appears to have levelled off over the past five years. In the 2008 Sydney Gay Community Periodic Survey, the proportion of men tested for HIV in the six months prior to the surveys was significantly lower than in the 2007 survey. This was compensated by a higher proportion of men tested seven to 12 months before the survey, so that the proportion of men tested in the 12 months prior to the survey remained stable over the fiveyear period of observation.

Table 13 shows levels of HIV testing among young men (less than 25 years of age). In 2008, all surveys show that



Figure 3: Proportion (%) of men who had ever been tested for HIV: Gay Community Periodic Surveys, 2004–2008

Table 12: Proportion (%) of men who had recently been tested for HIV, among men who had ever had an HIV test: Gay Community Periodic Surveys, 2004-2008

	2004		2005		2006		2007		2008	
	Ν	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	2116	54.2	2583	53.3	2861	54.0	1792	53.3	1736	47.5
Melbourne	1513	46.9	1369	43.2	1514	44.1	1530	46.5	1552	48.5
Queensland	1271	48.8	1053	52.3	999	53.6	1092	53.7	970	55.3
Perth	780	41.2			698	39.5			558	41.8
Adelaide			484	48.8			415	50.4		
Canberra					238	40.3				

Table 13: Proportion (%) of men under the age of 25 who had ever been tested for HIV: Gay Community Periodic Surveys, 2004–2008

	2004		2005		2006		200	2007		2008	
	N	%	Ν	%	Ν	%	Ν	%	Ν	%	
Sydney	295	74.2	287	67.2	437	73.0	245	80.8	268	81.3	
Melbourne	342	75.4	293	64.8	364	69.8	362	71.8	370	72.2	
Queensland	434	67.1	374	69.8	383	67.9	400	83.0	320	85.3	
Perth	218	60.1			206	61.2			198	65.2	
Adelaide			149	66.4			125	82.4			
Canberra					26	18/26					

Note: Percentages are not reported when the number of men is small, which makes the calculation of proportions unreliable.

more than two-thirds of the young respondents reported ever having been tested for HIV. During the period from 2004 to 2008, trend figures show statistically significant upward trends in Sydney (p < .05) and Queensland (p < .01), but no significant changes in other states.

Testing for STIs other than HIV

Among men who had been tested for STIs other than HIV, blood and urine sample tests were the most common tests undertaken (see Table 14).

	2004	2005	2006	2007	2008
	%	%	%	%	%
Sydney	N = 2821	N = 3413	N = 3732	N = 2342	N = 2222
	31.9	30.3	41.4	42.0	43.5
Inroat swap	38.7	40.6	46.5	44.9	46.9
Penile swab	30.7	31.0	35.1	34.5	37.0
Urine sample	46.2	46.8	53.1	51.8	54.4
Blood test	54.3	54.7	57.4	55.2	58.6
Any swab or urine test	52.1	52.7	57.5	55.6	57.8
Any test	66.4	65.6	68.8	66.9	69.0
Melbourne	N = 1962	<i>N</i> = 1804	<i>N</i> = 1988	N = 2043	N = 2036
Anal swab	25.1	30.5	34.3	35.2	37.7
Throat swab	31.1	36.3	38.6	39.3	40.5
Penile swab	26.2	30.3	31.0	31.2	31.2
Urine sample	40.3	44.3	44.3	45.6	49.0
Blood test	53.0	50.6	51.5	49.1	49.1
Any swab or urine test	46.4	49.2	49.8	50.2	52.3
Any test	63.4	62.0	61.8	61.1	60.9
Queensland	<i>N</i> = 1667	<i>N</i> = 1382	<i>N</i> = 1276	<i>N</i> = 1417	<i>N</i> = 1243
Anal swab	18.8	23.1	26.9	29.4	33.2
Throat swab	27.4	32.1	34.2	37.5	40.0
Penile swab	23.0	25.8	27.0	27.7	31.4
Urine sample	42.7	46.8	44.0	46.4	50.4
Blood test	56.0	55.4	51.8	55.1	54.8
Any swab or urine test	47.4	50.5	48.0	51.0	52.3
Any test	65.3	65.1	60.8	64.4	64.0
Perth	<i>N</i> = 1014		<i>N</i> = 2821		<i>N</i> = 750
Anal swab	16.3		19.8		28
Throat swab	21.7		23.3		31.0
Penile swab			18.1		24.5
Urine sample	38.2		38.0		45.3
Blood test	52.0		47.9		47.1
Any swab or urine test	40.5		41.1		47.3
Any test	57.8		56.4		56.3
Adelaide		<i>N</i> = 629		N = 527	
Anal swab		32.4		38.5	
Throat swab		36.1		42.3	
Penile swab		30.5		33.4	
Urine sample		44.7		50.3	
Blood test		51.3		54.8	
Any swab or urine test		48.5		53.3	
Any test		61.8		65.1	
Canberra			N = 282		
Anal swab			32.3		
Throat swab			34.4		
Penile swab			24.8		
Urine sample			42.9		
Blood test			53.4		
Any swab or urine test			44.3		
Any test			57.1		

Table 14: Proportion (%) of men who had been tested for STIs: Gay Community Periodic Surveys, 2004-2008

Note: The *N* given in this table is the total number of men surveyed. Perth 2004 data was recoded to make it more consistent with data from previous years; the percentages may therefore differ from those published previously.

Over the past five years the proportions of men who reported having undergone individual tests have continued to grow in all states. However, the rates of having any of the STI tests have remained stable over time, suggesting that gay men are undertaking more comprehensive STI screening without there being an actual increase in the proportion of men undergoing STI testing.

In Sydney, the apparent increase in comprehensive STI testing of gay men is happening at a time when rises in STI incidence and prevalence have also been observed (National Centre in HIV Epidemiology and Clinical Research, 2008). These increases in testing are hence most likely explained by improved screening and comprehensive testing in line with STI testing guidelines (Bourne et al., 2008) and the impact of education campaigns.

During the last five years, STI testing rates have significantly increased among men in Sydney and Queensland who had multiple sex partners (Table 15).

Of some concern is the consistent proportion of one-third of men who do not report any STI testing in the year prior to the survey. Of equal concern are the apparent missed opportunities to screen men who have an HIV test for other STIs and, similarly, to screen men who have STI tests for HIV. Of the men in our sample who were tested for HIV in the 12 months prior to the survey, 80% to 90% also reported undergoing STI testing, while the remaining 10% to 20% did not (data not shown). Of non-HIV-positive men who reported any STI test in the past year, similar proportions (80% to 90%) reported also having had an HIV test (data not shown). Although these data do not enable us to determine if the HIV and STI testing occurred simultaneously, the discrepancy in reported rates of testing for both HIV and STIs over the same time period suggests that important opportunities to increase the coverage of STI and HIV screening are being missed. Given the commonality of sexual transmission risk factors for HIV and STI, these data indicate that there is scope for community health promotion efforts to promote comprehensive STI/ HIV testing to both gay men and health practitioners.

2.2 Knowledge of the availability of nonoccupational post-exposure prophylaxis following potential sexual exposure to HIV, among homosexually active men

Iryna Zablotska, Andrew Frankland and Evelyn Lee

Awareness of non-occupational post-exposure prophylaxis (NPEP) and its availability has increased at all survey sites over the past five years (see Table 16). Men participating in the Sydney Gay Community Periodic Surveys have traditionally reported the highest levels of awareness of NPEP. In 2008, questions to elicit information about awareness of NPEP were included only in the Queensland and Perth periodic surveys. Both states show that close to 60% of the respondents are aware of NPEP, and awareness has increased significantly in the past five years.

	20	04	2	005	20	06	200)7	20	08
	Ν	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney										
One	241	53.7	275	51.1	318	55.7	220	51.4	195	55.9
2 to 10	644	66.8	822	66.8	983	69.8	587	69.7	382	68.1
More than 10	517	75.0	588	73.8	633	80.4	358	80.8	489	77.0
Melbourne										
One	157	48.0	128	45.1	205	52.0	186	46.9	201	47.7
2 to 10	466	64.8	403	62.8	432	60.5	497	63.5	284	58.7
More than 10	381	72.7	353	73.2	349	74.4	319	75.8	462	71.1
Queensland										
One	125	52.3	112	57.7	111	50.4	125	53.0	130	57.3
2 to 10	296	58.8	252	63.3	203	62.5	266	67.7	219	67.0
More than 10	455	76.2	361	70.4	297	66.1	265	73.3	297	70.0
Perth										
One	100	49.5			102	50.5			74	45.4
2 to 10	241	58.6			202	57.4			147	61.8
More than 10	129	73.3			108	65.8			112	75.2
Adelaide										
One			67	49.6			69	53.9		
2 to 10			176	65.2			138	71.9		
More than 10			61	70.9			65	73.0		
Canberra										
One					34	45.3				
2 to 10					60	65.9				
More than 10					38	73.1				

Table 15: Prevalence of testing for STIs other than HIV, among men who were not HIV-positive, by number of partners: Gay Community Periodic Surveys, 2004–2008

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Table 16: Proportion (%) of men who were aware of non-occupational post-exposure prophylaxis (NPI	EP): Gay
Community Periodic Surveys, 2004–2008	

	20	04	2	005	200	06	200)7	20	008
	Ν	%	Ν	%	Ν	%	Ν	%	N	%
Sydney	2699	65.6								
Melbourne	1803	52.7			1816	57.3	1876	57.6		
Queensland	1611	45.6					1339	53.1	1165	58.5
Perth	911	26.0			863	48.2			725	56.8

Note: Questions about NPEP were not asked in the periodic surveys in 2005. In 2006, questions about NPEP were asked only in the Melbourne and Perth surveys. In 2007, questions about NPEP were asked only in the Melbourne and Queensland surveys. In 2008, questions about NPEP were asked only in the Queensland and Perth surveys.

2.3 Culturally and linguistically diverse (CALD) community periodic survey

Henrike Korner

The primary aim of this project was to provide benchmark data on HIV knowledge and perceptions, use of health services, and sexual behaviours of migrants during visits to their countries of birth of four purposefully-selected CALD communities: Thai, Cambodian, Sudanese and Ethiopian. Selection of these communities was based on a range of factors including the prevalence of HIV in home countries as well as in Australia, migration history and size of population in Australia.

The project was undertaken by the Multicultural HIV/ AIDS and Hepatitis C Service (MHAHS) and NCHSR. From the outset it was vital for both organisations to receive the support and endorsement of the communities for the project. Reference groups from the four target communities which included community leaders, religious leaders, community activists and community workers as well as some MHAHS co-workers were established. Initial meetings were conducted with the reference groups to discuss the project and its implications for the respective communities. Recruitment strategies were identified and it was agreed that co-workers from the relevant language backgrounds as well as some reference group members would lead the recruitment and assist participants to complete the questionnaires. It was further agreed that the reference groups provide access and encourage members of their respective communities to be part of the research.

A total of 286 participants were recruited over a period of three months: 102 Thai, 84 Cambodian, 51 Ethiopian and 49 Sudanese. This was 14 participants short of the targeted total of 300 participants (the study was designed as a pilot study and the target was to recruit 100 participants each from Thai and Cambodian communities and 50 each from Ethiopia and Sudan). There was a high response rate of more than 95% in all communities except for the Cambodian community, where 18 out of the total of 104 potential participants approached declined to participate in the survey. Participants were recruited mainly at places of worship, community events and other social gatherings. All participants were asked to complete a short, self-administered questionnaire which took about 20 to 25 minutes to complete. The questionnaire was developed collaboratively by NCHSR and MHAHS and covered five areas: basic demographic and socio-economic information, access to and use of health services, knowledge and awareness of HIV/AIDS, perceptions of stigma and discrimination, and travel patterns between Australia and country of birth, including sexual practices during such travels.

Knowledge and awareness about HIV/AIDS was very high in all four communities; the majority of participants knew how HIV was transmitted and how one could protect oneself against infection. In addition to the high level of knowledge and awareness about HIV, there was consensus across the four groups that testing for HIV was important. Despite these positive views, however, there appeared to be a void between HIV knowledge and practice to prevent HIV infection. For example, there was limited use of condoms despite the high level of knowledge that HIV could be prevented by consistent condom use. There were also a relatively small number of participants who had ever been tested for HIV despite the view of the vast majority that testing for HIV was important. All these point to a somewhat limited personal initiative to prevent HIV infection. In general, it seems people see HIV as real but also as something far removed from them; thus, they see it as a disease that affects 'other people' but not them.

There were some conflicting results as far as HIV-related stigma and discrimination is concerned. On the one hand, participants had positive views about people with HIV/AIDS, observing overwhelmingly that those people deserved support, not condemnation. On the other hand, about 43% of participants thought people with HIV/AIDS brought shame to themselves and their families, which is difficult to reconcile with their positive views about people living with HIV. Further investigation is required to understanding more broadly the degree of HIV-related stigma and discrimination in these communities in order to develop appropriate interventions. On the issue of disclosing HIV status, the majority of participants were in favour of disclosing one's status to a sexual partner. However, about 56% also thought people with HIV should disclose their status to other people (apart from sexual partners). The reasons behind these views were not explored; nonetheless, they could offer additional insights into what people think about living with HIV.

The study does challenge some of the assumptions about HIV in CALD communities and thus lays a solid foundation for further research. In particular, it debunks the widely held notion that CALD communities are too sensitive and generally unwilling to engage with HIV. On the contrary, the findings of this study suggest that CALD communities are willing to deal with HIV prevention in no significantly different terms than other communities. However, researchers must be willing to adapt their research methods and invest in the training and development of those individuals and organisations that already have the cultural competence to engage with culturally and linguistically diverse populations.

Culturally and linguistically diverse communities need to be engaged appropriately in key aspects of HIV research in which they are the subjects. Their level of involvement and support will ultimately determine the success or failure of the research. Similarly, it is important that HIV surveys in CALD communities are not reduced to a one-off study but carried out periodically so that changing trends in attitude and behaviour can be succinctly established and appropriate policy responses developed.

2.4 Future developments

Promoting STI testing in MSM and young people

Philippe Adam and John de Wit

Increased notifications of various types of STIs have been observed among MSM in New South Wales and other Australian jurisdictions, which may have contributed to the increases in HIV incidence observed in some states. However, despite several initiatives in recent years, coordinated by the STIs in Gay Men Action (STIGMA) group, there are barriers that continue to prevent a significant number of MSM from (regularly) visiting sexual health-service providers. As a result, these men do not benefit from timely STI testing and subsequent treatment. STI testing is also suboptimal among young people, who acquire a substantial proportion of all new STI infections. Moreover, in NSW and other Australian jurisdictions, diagnoses of STIs in heterosexual adolescents and young adults have steadily increased over the last decade, underscoring the importance of testing for and treatment of STIs.

A better understanding of the reasons why the promotion and delivery of STI testing among MSM and young people alike is needed to inform social marketing and other behaviour-change interventions. There is, however, currently little information available regarding barriers and facilitators of STI testing from national and international research to guide new prevention activities. In 2009 NCHSR will initiate two comprehensive studies to assess, among other things, the factors that influence decisions to access STI testing in MSM and young people. Both studies will employ multi-method approaches including literature research, in-depth interviews and quantitative surveys to contribute to a comprehensive understanding of barriers and facilitators of STI testing-psychological, social and structural. Importantly, the study will also assess the contributions of these potential barriers to and facilitators of STI testing.

The studies will run in 2009 and 2010 and be conducted in collaboration with the NSW Sexually Transmissible Infections Programs Unit and the South Eastern Sydney and Illawarra Area Health Service HIV/AIDS and Related Programs (HARP) Unit.

3 Living with HIV



3.1 Uptake of antiretroviral treatment, and viral load

Iryna Zablotska, Andrew Frankland and Evelyn Lee

Antiretroviral treatment (ART) has been widely taken up by HIV-positive people in Australia. Across all states, more than two-thirds of all HIV-positive men reported being on ART in 2008 (see Table 17 and Figure 4). Although this proportion has increased in all states, the trend was statistically significant only in Sydney surveys (p < 0.05).

Table 18 presents data from Gay Community Periodic Surveys on the proportion of men living with HIV/AIDS who reported having an undetectable viral load. The majority of men using ART had undetectable viral loads, and the proportions of men with undetectable viral loads were significantly higher amongst those on ART compared with those not on treatment. During 2004-2008, the proportion of men with undetectable viral loads among those on ART continued to grow significantly in all states surveyed in 2008.

Table 17: Proportion (%) of men living with HIV/AIDS who were on combination antiretroviral therapy (ART): Gay Community Periodic Surveys, 2004–2008

	20	04	20	005	20	06	200)7	20	08
	N	%	Ν	%	Ν	%	Ν	%	Ν	%
Sydney	416	66.1	483	64.2	516	65.7	286	66.8	294	73.5
Melbourne	159	60.4	162	58.6	153	58.8	150	64.0	152	65.1
Queensland	122	63.9	81	55.6	68	64.7	88	64.8	84	70.2
Perth	49	71.4			41	78.0			31	74.2
Adelaide			36	69.4			43	81.4		
Canberra					16	16/16				

Note: Percentages should be treated with caution as they are based on small numbers of participants. Percentages are not reported when the number of men is small, which makes the calculation of a proportion unreliable. Instead, the actual numbers are provided (e.g.16/16).



Figure 4: Proportion (%) of men living with HIV/AIDS who were on combination antiretroviral therapy (ART): Gay Community Periodic Surveys, 2004–2008

Table 18: Proportion (%) of men living with	HIV/AIDS who had an undetectable v	riral load: Gay Community Periodic
Surveys, 2004–2008		

	20	104	2	2005	20	06	200)7	21	008
	N	%	N	%	N	%	N	%	N	%
Sydney										
Using ART	267	77.5	306	81.7	330	85.2	187	85.0	210	88.1
Not using ART	141	24.8	167	21.6	172	18.0	89	22.5	76	13.2
Melbourne										
Using ART	94	72.3	95	83.2	89	80.9	96	84.4	98	93.9
Not using ART	61	16.4	63	11.1	63	34.9	54	13.0	51	25.5
Queensland										
Using ART	78	80.8	45	84.4	44	75.0	57	77.2	58	84.5
Not using ART	44	12/44	34	13/34	24	6/24	31	3/31	25	8/25
Perth										
Using ART	35	82.9			31	93.5			22	100.0
Not using ART	12	4/12			9	2/9			8	2/8
Adelaide										
Using ART							35	94.3		
Not using ART							8	1/8		

Note: Percentages should be treated with caution as they are based on small numbers of participants. Percentages are not reported when the number of men is small, which makes the calculation of a proportion unreliable. Instead, the actual numbers are provided (e.g. 4/12).

3.2 The Straightpoz Study: men and women living heterosexually with HIV

Asha Persson

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The Straightpoz Study is a qualitative longitudinal study which to date includes 47 HIV-positive heterosexuals and HIV-negative partners in NSW. The study is being conducted in collaboration with the Heterosexual HIV/ AIDS Service NSW (Pozhet). The study includes three phases across time, with each phase exploring a range of issues related to living with HIV among the population described above. The first phase was completed in 2006 and focused on diagnosis, stigma, disclosure, relationships, sexuality, social connectedness and contact with services and the positive community. The first Straightpoz monograph was launched in November 2006. The second phase of the study was completed in 2008, and focused on health, treatments, interactions with health workers/services, understandings of 'safe sex', and sexual practice. An extensive research monograph was published in 2009. Both monographs are available on the NCHSR website.

The third and final phase of the study is currently under way. It focuses primarily on changes over time in relation to the many aspects of living with HIV that were explored in detail in the previous two phases. Specific attention is being given to potential shifts in sexual practice and in understandings of safe sex among the participants. This is because of the study's previous finding that unprotected sex was relatively common in serodiscordant relationships and because of the release of the widely debated Swiss Consensus Statement last year (which stated that individuals with undetectable viral load and no STI cannot transmit HIV during sex). The current interviews seek to ascertain to what extent participants are aware of the Swiss Statement, how they interpret it and what impact it might have on their sexual practice, which is one of the main concerns around the Swiss Statement. As of May 2009, interviews with men and women who have previously participated in the study are nearly completed. A preliminary analysis of these interviews shows that hardly anyone had read, heard or been informed by health workers or other service providers about the Swiss Statement, including serodiscordant couples who were trying to conceive. At the interview, all study participants were given extensive information about the statement, including materials outlining the debate for and against it. Irrespective of their own sexual practice, nearly all were sceptical of the statement's prevention message, and described it as having little direct relevance to their sexual decision-making. Most argued that they would need 'a lot more evidence' before they believed in its claims or, in the case of those who had protected sex, before they would consider changing their sexual practice. At the same time, many commented favourably on the statement's potential to de-stigmatise people with HIV. In addition, while not endorsing the statement, others saw it as a welcome disruption to decades of 'rigid' prevention messages with the potential to encourage debate about a more realistic and diverse approach to HIV prevention.

Recruitment of additional participants will commence in mid-2009. Research findings will be disseminated and published through a range of forums and media throughout 2009 and 2010.

3.3 Prevalence, nature and recommendations for clinical management and self-management of depression for people with HIV

Susan Kippax, Christy Newman and Limin Mao.

This study aimed to describe, measure and compare depression among HIV-positive and HIV-negative gay men; describe the ways in which depression is managed by general practitioners (GPs) and gay men themselves; and develop the research capacity and skills of GPs to assess and manage depression among gay men. Extensive data were collected through interviews and surveys of patients and GPs conducted through seven high HIV-caseload general practices in Sydney, Adelaide and a rural-coastal town in New South Wales. The patient survey included a short self-screening tool for depression, the PHQ-9, as well as items for measuring social and behavioural factors associated with depression. Patients were invited to selfreport symptoms of depression and their treating GP provided a clinical assessment and treatment history of depression. Data on management of depression and HIV were extracted from clinical notes.

The study found that among men accessing urban general practices, gay self-identified men were more likely to suffer from major depression than men in the general population. Nearly 25% who attended the four high HIVcaseload general practices in Sydney and Adelaide and completed the depression screening questionnaire had major depression at the time of the survey. The key social factors independently associated with a current episode of major depression among gay men, based on the PHO-9 self-screening tool, included: younger age, lower income, recent major adverse life events, adopting denial and isolation as ways to cope with stress, less social support, less gay-community involvement, and recent sexual difficulties. While significantly more HIV-positive gay men suffered from major depression (30%), HIV-status was not independently associated with major depression.

GPs working in high HIV-caseload general practice settings in Australia have a heightened awareness for detecting depression in gay men, which is demonstrated in a high level of concordance (over 60%) between GP assessments and patient screening for depression. Depression is regularly discussed by both GPs and gay men in these high HIV-caseload general practice settings. Although management strategies are negotiated collaboratively, gay men hold a diversity of attitudes to medications, talking therapies and behavioural interventions. Self-management strategies are not a major part of gay men's experiences of depression; however, both GPs and their patients believe that reducing drug and alcohol use and increasing exercise are important aspects of depression management.

The findings highlight the important link between socioeconomic hardship, interpersonal isolation, personal withdrawal and major depression for gay men, regardless of HIV-status. The study also provides further evidence of health inequity affecting gay men in Australia. The high rates of depression among both HIV-positive and HIV-negative gay men are likely to be related to the marginalisation and discrimination experienced by gay men. Finally, this the first study of its kind in Australia to include a qualitative component, and this has made it possible to explore in-depth the complex issues related to the marginalisation and discrimination of gay men, and how this relates to the experience and management of depression.

3.4 Future developments

Investigating the capacity of the general practitioner workforce to meet ongoing HIV primary care needs in Australia

Christy Newman

The population of people living with HIV/AIDS in Australia is increasing and ageing, requiring an expert primary care workforce to provide HIV clinical care into the future. Yet the numbers of GPs training as s100 prescribers may be insufficient to replace those leaving to retire or change jobs. NCHSR is leading a new study to provide critical and timely evidence on why and how GPs pursue or continue careers in HIV in different caseload and geographical settings across Australia.

Funded by the National Health and Medical Research Council (NHMRC), this three-year study aims to:

- identify the key factors that influence the decision of Australian GPs to pursue or continue careers in HIV clinical care, given the increasing number and age of people living with HIV/AIDS (PLWHA) in Australia
- compare the professional interests and aspirations of GPs who have worked in HIV medicine for various lengths of time
- examine barriers and incentives to providing HIV care in different primary-care settings, including in areas of high and low HIV caseloads, and in urban and regional Australia.

In achieving these aims, it is hoped the findings of this study will also produce new knowledge on the role of GPs in maintaining and enhancing the health of PLWHA in Australia.

Data collection will comprise in-depth interviews and an archival review of published materials about HIV medicine and general practice. The interview component will recruit a minimum of 70 participants, including:

- key informants (*n* = 15) with expertise in HIV-clinical care and/or general practice from policy, advocacy, community and government organisations
- current s100-prescriber GPs (*n* = 25) working in different states, in urban and regional settings and with high and low HIV caseloads, with many or few years in the field and undergraduate training in Australia or overseas

- ex-s100-prescriber GPs (n = 10), that is, GPs who have left this area of work
- health professionals and other members of the general practice team with an interest in HIV (n = 10), eg. non-s100-prescriber GPs and non-medical practitioners
- GP registrars (*n* = 10) who have expressed an interest in a vocational placement in HIV.

The archival component will target HIV streams and workshops at GP conferences, HIV streams in tertiary medical education, promotion of HIV specialisation in professional medical contexts, HIV-related educational materials for GP continuing medical education, community and mainstream print media reports on HIV and general practice, and policy and advocacy reports on HIV clinical care in Australia.

A broad and multidisciplinary team of investigators has been brought together to work on this important topic, including HIV, general practice and social researchers, general practitioners, and people living with HIV. Importantly, this is one of the first, if not the first, times the NHMRC has funded a grant with a consumer as a chief investigator, which is a remarkable event in Australian health and medical research. Organisations represented in the research team include the University of New South Wales, Flinders University, the National Association of People Living with HIV/AIDS, the Australasian Society for HIV Medicine Inc, the Australian Federation of AIDS Organisations and the Royal Australian College of General Practitioners.

In the context of a shortage in the national health workforce, this study will provide critical evidence for how best to support GPs to provide ongoing care for the growing and ageing population of PLWHA in Australia. Of particular value will be evidence of the experiences of GPs who have been working in the area for variable lengths of time, and those with different caseloads of HIV-positive patients. Of great significance in the Australian context are the experiences of GPs working in both urban and regional settings. While the focus is HIV, findings will be directly relevant to other areas of clinical care, particularly chronic illness and care for disadvantaged populations. The study will provide evidence for the increasingly important issue of ensuring quality in chronic disease management by supporting and growing the health workforce responsible for maintaining that quality. It will also have significant implications for understanding whether attachment to an area of specific interest influences retention in the health workforce more broadly.

Spotlight Viral families: analysing kinship discourse in HIV transmission

Dean Murphy, Jeanne Ellard and Kylie Valentine

Phylogenetic analysis is the calculation of genetic distance between viral strains. This analysis can determine the degree of relatedness between two samples of HIV. In Australia and elsewhere it has been used forensically to attempt the criminal prosecution of people for transmission of HIV. The *Viral families* project is a pilot qualitative study investigating two social and political dimensions of this technology: the potential for new forms of *social* connection and belonging; and the potential for new forms of *biological identity*.

Kinship

The term kinship denotes a sense of connectedness or relatedness, but a more profound connection than one based simply on choice. In fact, as Haraway (1997) defines it, kinship can be described as a 'technology for producing the material and semiotic effect of natural relationship, or shared kind'. In relation to HIV, kinship may now be created through the knowledge of having the same viral strain. This is based on the concept of 'genetic families' or 'informational families', which has already been documented in relation to genetic disorders and predispositions—to particular cancers for example. A genetic family is a 'family whose members are proved or presumed to be genetically related, [and] is at once held together by the substance people ascribe to genes and by the information that these genes supposedly contain' (Strathern, 2005).

The aim of the first phase of the study was to identify discourses of kinship in print media coverage of HIV transmission cases (in the major Australian daily newspapers between mid-2006 and mid-2008) and on the public areas of three gay chat sites with a focus on 'barebacking' (intentional unprotected sex). We examined 'cases' of intentional HIV transmission or acquisition to explore for use of familial and genealogical tropes, especially in relation to HIV infection, as well as 'bug-chasing' and 'gift-giving' (intentional HIV transmission) discourses. The four themes that emerged from chat sites and recent Australian media were reproduction and family/kinship; specific or individualised forms of HIV; a sense of universal or undifferentiated HIV; and viral agency.

Reproduction and kinship

Two high profile legal cases dominated the media during this period. Quite pronounced in one of these cases was the language of human reproduction, kinship and fertility, for example through the terms 'breed/ers' and the related term, 'seed'. There were also references to the father–son relationship with the defendant as the genitor, for example 'you will be daddy's little pos boy.' The language of human reproduction and kinship was also pronounced on the barebacking websites sites. Again the terms 'breed' and 'seed' were the most common references. 'Breed', however, is not always used to suggest HIV transmission only. It is sometimes used for ejaculation in general.

Individualised virus

There was some discussion of specific viral strains in the South Australian case in particular—including a reference to it having recently-arrived in that state. Additionally, there were references to individualised virus in reporting of the previous federal government's plan to create a database of all people with HIV—ostensibly to see where new infections were originating. The websites provided several examples of individualised virus. In these quotes there were references to many HIV viruses. Also, there is a sense of changes to HIV over time on a population level. And references to re-infection or cross-infection suggest an overlapping of different viral strains. 'The viral strain that you possess' denotes a very specific form of individualised and 'pure virgin' HIV and is also suggestive of a particular unadulterated form of the virus.

Universal virus

However, most media references to HIV transmission or acquisition (whether intentional or not) did not differentiate between different viral strains. In these cases, HIV was the same no matter when or where or from whom it was acquired. We refer to this as universal or undifferentiated HIV. On the websites, too, universal or undifferentiated notions of HIV were common. So, references to 'the virus' occur throughout, and even expressions such as 'the big bad bug'.

Viral agency

The final theme that appeared in the websites was that of agency, where HIV is sometimes described as being wilful, or having a mind of its own, which usually fits in with the enactment of the virus as being of a quite specific type. In these examples there is a sense of HIV as active and agentive—it has abilities (to evade, to resist, and to take precedence) and to teach, or rather to refuse to be taught. The result of this idea of an individualised active virus is that there is a sense of the body—or the person living with HIV—as somehow being passive, or being acted on.

The second phase of the study will involve interviews with HIV-positive gay men to explore their understandings of the implications of this technology. Findings from this phase will be published in 2010.

4 Drug use and drug treatment

4.1 Recreational drug use among homosexually active men

Iryna Zablotska, Andrew Frankland and Evelyn Lee

The use of illicit drugs among homosexually active men in Australia, and particularly among gay-community-attached men, is higher than among the general population (Australian Institute of Health and Welfare, 2005). Table 19 shows the proportion of men who reported having used at least one non-prescription illicit drug in the six months prior to the survey.

From 2004 to 2008, at least one in two men who participated in the Gay Community Periodic Surveys reported using any illicit drug, and the majority of users reported using two or more drugs (Table 19). Comparatively, Sydney has had the highest rate of illicit drug use, but in both Sydney and Melbourne there has been a significant decline in illicit drug use rates over the last five years. No significant changes have been observed in the other states.

To determine the effects of illicit drugs as risk factors for HIV seroconversion, analyses were recently conducted using data from the community-based cohort of HIVnegative homosexually active men in Sydney (Health in Men cohort) which collected data during 2001-2007. This study revealed that illicit drug use was associated with unprotected anal intercourse with casual partners (p < 0.001). Use of each illicit drug, individually, was associated with an increased risk of HIV infection, and this risk increased with greater frequency of use. The association between drug use and increased risk of HIV infection was strongest for drugs used specifically to enhance sexual pleasure. Within more adventurous gay-community subcultures, the interconnectedness of sexual behaviour and drug use may provide a key to understanding HIV risk and is an appropriate priority in HIV-prevention efforts in this population (Prestage et al, 2009).

Table 19: Proport	tion (%) of men who	had used illicit drugs	: Gay Community	Periodic Surveys, 2004–2008

	20	04	20	005	20	06	200	7	20	08
	Ν	%	Ν	%	N	%	N	%	N	%
Any drug use										
Sydney	2821	70.8	3413	69.9	3732	69.1	2342	67.7	2222	66.1
Melbourne	1962	60.6	1804	63.2	1988	60.0	2043	59.8	2036	59.1
Queensland	1667	60.6	1382	57.2	1276	61.4	1417	60.4	1243	60.8
Perth	1014	56.2			927	56.7			750	56.0
Adelaide			629	62.6			527	52.4		
Canberra					131	46.5				
Used more than one drug										
Sydney	2821	55.1	3413	54.3	3732	54.8	2342	50.1	2222	47.6
Melbourne	1962	42.7	1804	46.1	1988	44.4	2043	41.0	2036	37.7
Queensland	1667	41.9	1382	38.1	1276	42.0	1417	42.6	1243	40.4
Perth	1014	37.4			927	36.8			750	36.7
Adelaide			629	46.1			527	29.8		
Canberra					282	24.8				

4.2 Injecting drug use among homosexually active men

Iryna Zablotska, Andrew Frankland and Evelyn Lee

Most Gay Community Periodic Surveys also ask respondents about injecting drug use. Rates of injecting drug use were generally very low. In 2008, less than 6% of the men reported any injecting drug use in the six months prior to data collection (Table 20). Over the past five years, most surveys showed decreasing rates of injecting drug use, with statistically significant declines (p < .001) observed in Sydney and Queensland.

4.3 Illicit drug use among young people attending music festivals

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. Thus, the drug-use behaviour of this group has received only limited attention.

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 an interesting 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 and the Big Day Out in Sydney in 2006 and 2007. In 2008 the data collection was expanded to include the Big Day Out in Sydney, the Gold Coast and Melbourne.

Table 20: Proportion (%) of men who had injected at least one drug in the six months prior to the survey: Gay Community Periodic Surveys, 2004–2008

	20	04	20	005	200)6	200	7	20	08
	N	%	Ν	%	N	%	N	%	N	%
Sydney	2821	6.8	3413	5.2	3732	5.2	2342	6.0	2222	5.7
Melbourne	1962	5.0	1804	4.7	1988	4.4	2043	4.7	2036	4.7
Queensland	1667	5.7	1382	5.1	1276	7.1	1417	5.6	1243	4.7
Perth	1014	4.2			888	5.2			750	4.0
Adelaide			629	4.6			527	2.6		
Canberra					282	1.8				

Note: As of 2006, questions relating to drug use were changed in all periodic surveys; data for 2006, 2007 and 2008 are therefore not directly comparable to those of previous years.

Big Day Out: Sydney, 2006-2008

In 2008, 334 respondents completed the Big Day Out survey in Sydney. Participants ranged in age from 16 to 53 years (mean age = 22.8 years). Just over half of respondents were female (54.8%) and the majority identified as straight/ heterosexual (89.5%). Most were employed on at least a part-time basis (87.1%) and 50.3% reported education higher than year 12. Almost all respondents (94.9%) reported alcohol use in the 12 months preceding the survey. Regular tobacco use was reported by 20.7% of the sample.

Illicit drug use was common, with about 4 in every 10 respondents (42.5%) reporting use of any illicit drug in the preceding 12 months. Marijuana was the most commonly reported illicit drug used in the preceding 12 months (31.7%), followed by ecstasy (25.4%) and amphetamine/ methamphetamine (23.4%). Recent use of cocaine, LSD, ketamine and GHB was reported by less than 5% of respondents. No respondents reported using heroin or benzodiazepines in 2008. Table 21 displays recent use of illicit drugs among patrons surveyed at the Big Day Out music festival in Sydney in 2006 to 2008.

The survey also included questions about the frequency of use of the most widely used drugs; marijuana, ecstasy and amphetamines. While substantial proportions of respondents used these drugs, a minority reported their use to be weekly or more frequent. For example, in 2008, 25.5% of recent marijuana users reported using marijuana once a week or more over the previous 12 months. Thirteen percent of recent amphetamine/ methamphetamine users and 14.3% of recent ecstasy users reported weekly or more frequent use of these respective drugs in the preceding 12 months.

Injecting drug use among this sample was uncommon; in 2008 only nine respondents (2.7%) reported that they had ever injected an illicit drug and only three respondents (0.9%) indicated that they had injected in the 12 months prior to the survey. In the most recent National Drug Strategy Household Survey, 2.6% of Australians aged 20 to 29 reported ever injecting illicit drugs, with 1.0% reporting injection of illicit drugs in the previous 12 months (Australian Institute of Health and Welfare, 2008). In the 2008 sample, one person reported injecting heroin, one person reported injecting heroin, cocaine, Ketamine, benzodiazepines and GHB, and a third person reported injecting an 'other' drug. Table 22 shows recent injecting drug use of respondents who attended the Big Day Out in Sydney in 2006 to 2008. Among recent injectors (n = 3)surveyed in 2008, one reported reusing a needle and syringe and one reported reusing a filter.

	2	006	20	007	2	008
	N =	339	N =	421	N =	= 334
	n	%	n	%	n	%
Marijuana	159	46.9	185	43.9	106	31.7
Ecstasy	132	38.9	143	34.0	85	25.4
Amphetamine	131	38.6	116	27.6	78	23.4
Methamphetamine	30	8.8	-	-	-	-
Cocaine	31	9.1	28	6.7	12	3.6
LSD	23	6.8	15	3.6	14	4.2
Ketamine	17	5.0	8	1.9	10	3.0
Benzodiazepines	5	1.5	1	0.2	0	0.0
GHB	12	3.5	5	1.2	6	1.8
Heroin	2	0.6	4	1.0	0	0.0

Table 21: Proportion (%) of participants who had recently used any recent illicit drug, among Big Day Out music festival in Sydney, 2006–2008

Note: As of 2007 data for amphetamine and methamphetamine are combined.

Table 22: Proportion (%) of participants who ha	ad recently injected illicit drugs	, among Big Day	Out music fe	estival
patrons in Sydney, 2006–2008				

	20 N =)06 339	20 N =	07 : 421	200 N = 3	8 334
	п	%	п	%	п	%
Ecstasy	4	1.2	0	0.0	0	0.0
Methamphetamine	4	1.2	4	1.0	0	0.0
Cocaine	2	0.6	1	0.2	1*	0.3
LSD	3	0.9	0	0.0	0	0.0
Ketamine	2	0.6	0	0.0	1*	0.3
Benzodiazepines	1	0.3	1	0.2	1*	0.3
GHB	3	0.9	0	0.0	1*	0.3
Heroin	3	0.9	1	0.2	2*	0.6
Other	0	0.0	0	0.0	1	0.3

* One respondent reported injecting each of these drugs.

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In general, respondents perceived illicit drugs to be easily accessible. In 2008, the majority of participants (82.0%) rated at least one illicit drug as being 'fairly easy' or 'very easy' to obtain, and about 4 in every 10 (39.9%) 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 methamphetamine) were rated as the easiest to obtain (by 77.8 %, 66.2%, and 48.2% of respondents respectively), while heroin was perceived as the least easy to obtain (by 12.9%). The perceived ease of availability of illicit drugs according to respondents in the 2006 to 2008 Big Day Out surveys is displayed in Figure 5.

Big Day Out: Gold Coast and Melbourne, 2008

In 2008, the survey was expanded to include the Big Day Out music festivals in Melbourne and the Gold Coast. At both locations marijuana was the most commonly reported illicit drug used in the preceding 12 months (50.0% in Melbourne and 48.8% in the Gold Coast) (Table 23). This was followed by ecstasy (32.4% in Melbourne and 36.2% in the Gold Coast) and meth/amphetamine (29.1% in Melbourne and 31.2% in the Gold Coast).

Like the Sydney Big Day Out sample, respondents in Melbourne and Gold Coast reported 'very easy' or 'fairly easy' access to illicit drugs (Table 24). Marijuana, ecstasy and meth/amphetamine were rated as the easiest to obtain, while heroin was perceived as the least easy to obtain. Table 23: Proportion (%) of participants who had used illicit drugs in the 12 months prior to the survey, among Big Day Out music festival patrons in Melbourne and Gold Coast, 2008

	Mel N =	bourne = 278	Gold N =	l Coast = 445
	п	%	п	%
Marijuana	139	50.0	217	48.8
Meth/amphetamine	81	29.1	139	31.2
Ecstasy	90	32.4	161	36.2
Cocaine	15	5.4	18	4.0
Heroin	2	0.7	3	0.7
LSD	13	4.7	14	3.1
Ketamine	7	2.5	8	1.8
Benzodiazepine	2	0.7	2	0.4
GHB	4	1.4	5	1.1

Table 24: Proportion (%) of participants who found various illicit drugs 'fairly easy' or 'very easy' to obtain, among Big Day Out music festival patrons in Melbourne and Gold Coast, 2008

	Melt N =	oourne 278	Golc N =	l Coast = 445
	n	%	п	%
Marijuana	212	76.3	352	79.1
Meth/amphetamine	120	43.2	248	55.7
Ecstasy	164	59.0	302	67.9
Cocaine	84	30.2	145	32.6
Heroin	37	13.3	66	14.8
LSD	62	22.3	153	34.4



Figure 5: Proportion (%) of participants who found various illicit drugs 'fairly easy' or 'very easy' to obtain, among Big Day Out music festival patrons in Sydney, 2006–2008

4.4 Injecting drug use among people using pharmacy equipment in New South Wales

Joanne Bryant, Peter Hull, 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 was collected from people who obtain sterile needles and syringes from pharmacies in metropolitan Sydney and the Newcastle and Hunter regions. Thirty-five pharmacies participated in the survey in 2008, collecting a total of 670 surveys from injecting drug users. During the study period, 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 2008, the response rate was 78.6%.

The mean age of respondents in 2008 was 35 years (range: 18–78 years). Sixty-five per cent (n = 391) were male and the majority of respondents identified as straight/ heterosexual (81.7%, n = 492). Most respondents (63.9%, n = 385) reported that they had used both an NSP and a pharmacy to obtain sterile needles and syringes in the previous month. However, a considerable proportion (22%,

n = 133) reported exclusive use of pharmacies in the previous month.

In 2008, the average duration of injecting reported by respondents was 16 years (range 0–58 years). Over half of respondents (55.2%, n = 332) reported injecting daily or more frequently (Figure 6), and almost one in five (17.8%, n = 07) reported injecting three or more times most days. The frequency of injecting has remained relatively steady since 2006, with between 50% and 60% of respondents reporting daily or more frequent injecting (Figure 6).

In 2008, over one-third of respondents (35.2%, n = 212) reported that they had never received treatment for their drug 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. Since 2006 the proportion of respondents reporting that they had never received treatment for their drug use has remained relatively steady at about one-third (Table 25).

The drug most commonly reported to have been recently injected in 2008 was heroin (53.7%, n = 323), followed by meth/amphetamine (speed, base, ice) (21.4%, n = 129), methadone (8.8%, n = 53) and cocaine (6.3%, n = 38) (Figure 7). However, between 2007 and 2008 there was a marked increase in heroin as the drug most commonly reported to have been recently injected (41.8%, n = 276 in 2007; 53.7%, n = 323 in 2008), coupled with a marked decrease in meth/amphetamine (37.9%, n = 250 in 2007; 21.4%, n = 129 in 2008) (Figure 7).





Note: 2006 data are from south east Sydney only. In other years data are from metropolitan Sydney and the Hunter and Newcastle regions.

Table 25: T	reatment for	^r drug use,	among peo	ple using	pharmacy	equipment,	2006-2008
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Treatment for drug use	20 N =)06 = 229	20 N =	07 660	2008 N = 602		
	n	%	n	%	n	%	
Yes, currently	51	22.3	115	17.4	134	22.3	
Yes, in the past	83	36.2	272	41.2	226	37.5	
No, never	84	36.7	250	37.9	212	35.2	
Not reported	11	4.8	23	3.5	30	5.0	

Note: 2006 data are from south east Sydney only. In other years data are from metropolitan Sydney and the Hunter and Newcastle regions.



Figure 7: Drug most recently injected, among people using pharmacy equipment, 2006–2008

Note: 2006 data are from south east Sydney only. In other years, data are from metropolitan Sydney and the Hunter and Newcastle regions.

Spotlight Perceptions of AOD nurses' attitudes as predictors of client outcomes in residential drug treatment programs

Loren Brener and Ilyse Resnick

Drug treatment retention and completion has consistently been associated with positive post-treatment outcomes including improved mental and physical health status, positive changes in drug use, decreases in criminal activity related to drug use and increased employment (Moos & Moos, 2003). Hence, understanding the factors that may contribute to treatment retention and completion is important, especially in the light of consistent reports of high drop-out rates among clients in drug treatment (Stark, 1992). Studies have identified a range of client-centred variables which are associated with treatment drop-out. These include being male, being of younger age, being of minority group status, greater cognitive dysfunction (Anderson & Berg, 2001; Claus & Kindleberger, 2002; Maglione et al. 2000), lower severity of substance use possibly associated with lower motivation for treatment (Evans et al., 2009; Ryan et al., 1995), and antisocial and borderline personality disorders (Daly & Pelowski, 2000). In contrast, little emphasis has been placed on program- and staff-related factors which may be involved in treatment drop-out, despite the noted potential significance of both of these in contributing to client retention in drug treatment (Claus & Kindleberger, 2002).

Staff interactions with their clients are an important factor in the quality of care that is provided to people in drug treatment (Caplehorn et al, 1997; Reid et al, 2000). As injecting drug use is a highly stigmatised behaviour, the possibility exists that the attitudes of health-care workers towards people who use illicit substances may be influenced by the very negative societal views of illicit drug use and stereotypical representation of drug users in the media (Room, 2005). Research has found unconscious biases exist amongst health-care workers working with injecting drug users who report no conscious negative attitudes towards injecting drug using clients (Brener et al., 2007). Health-care workers have also reported that injecting drug users are often the most difficult client group to work with and that they expect them to be more dangerous, less cooperative, more aggressive, less truthful, less likely to complete their treatment and more demanding than other clients (Brener, von Hippel et al., in press). If clients are not treated in a caring, non-discriminatory manner by their health-care workers they will not feel positively about their health-care sector can impact on both receipt of care and health-seeking behaviour. People who fear discrimination may be less likely to disclose their health condition if it is associated with the stigma (i.e. injecting drug use and hepatitis C) and hence may be less likely to receive appropriate care for that condition. It is also highly likely that those who fear discrimination from medical staff, will be less likely to access health care (Facione et al., 2002).

The aim of this study was to assess variables that predict treatment outcome for injecting drug users (IDU) in residential rehabilitation treatment programs. One hundred and seventeen clients in residential rehabilitation facilities in Sydney were asked a series of questions assessing drug history, severity of drug use, treatment history, attitudes towards staff and treatment readiness. Clients were then followed up three months later to assess their progress in treatment: whether they were still in treatment, had completed treatment, or had dropped-out of treatment. Perceptions of staff attitudes toward IDUs were found to be a significant predictor of successful retention or completion of treatment, and this effect was independent of the other measures (e.g. severity of drug use). Clients who felt that staff discriminated against them were less likely to complete treatment. Hence, reports by clients of perceived discrimination by staff are strongly linked to client retention and completion of drug treatment. These findings point to the need for staff at alcohol and other drug facilities to be aware of the potential health consequences for clients of perceived discrimination. Similarly, staff need to take into account any history of discrimination and negative health-care experiences that IDU clients' may have had in the past which may shape their perceptions of staff within the current treatment encounter.

5 Hepatitis infections



5.1 Risk factors for hepatitis C transmission among people using pharmacy equipment in New South Wales

Joanne Bryant, Peter Hull, Hannah Wilson and Carla Treloar

It is thought that people who obtain injecting equipment from pharmacies might be less exposed to information about harm reduction than those who use needle and syringe programs (NSP). Indeed, our research shows that an important reason why injecting drug users use pharmacies is to avoid the counselling or educational aspects of NSP. Therefore, pharmacy clients may have less knowledge of hepatitis C and engage in more risky behaviour. 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. Thirty-five pharmacies facilitated the study in 2008, collecting a total of 670 surveys from injecting drug users. During the study period, 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 2008, the response rate was 78.6%.

Data from 2008 indicate that, as in previous years, the incidence of sharing needles and syringes and ancillary injecting equipment was high among people who use pharmacy equipment. A third of respondents (32.4%, n = 181) reported having reused a needle and syringe in the previous month that someone else had already used. A higher proportion (48.4%, n = 270) reported reusing or sharing other sorts of injecting equipment and materials such as spoons, water, filters, tourniquets and/or drug solutions. When the sharing of any equipment is examined-needles and syringes and/or ancillary equipment—over half of the sample (57.7%, n = 322)

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 (44.2%, n = 80), and a small proportion (11.0%, n = 20) reported doing so after more than five other people.

Between 2007 and 2008 there was an increase in the proportion of respondents who reported having reused a needle and syringe in the previous month that someone else had already used (25.9%, n = 160 in 2007; 32.3%, n = 181 in 2008), and in the proportion saying they had reused or shared ancillary equipment (43.7%, n = 271 in 2007; 48.4%, n = 270 in 2008) (Figure 8).

In 2008 over half of respondents (54.2%, n = 326) reported having had a test for hepatitis C in the previous 12 months, and 39.2% (n = 236) reported being hepatitis C positive (Table 26). 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 using pharmacy equipment to inject were highly knowledgeable about hepatitis C generally, and hepatitis C transmission specifically. Most (around 80%) knew that hepatitis C was transmitted through the sharing of needles and syringes and other equipment used for injecting (Table 27). Fewer were aware that there was more than one type of hepatitis C or that treatment did not always cure hepatitis C (around 60%), indicating that the consequences of contracting hepatitis C may not be fully known.



Figure 8: Receptive sharing of needles and syringes, ancillary equipment or any equipment, among people using pharmacy equipment, 2006–2008

Note: 2006 data is from south east Sydney only. In other years, data are from metropolitan Sydney and the Hunter and Newcastle regions.

Spotlight UNSW Hepatitis C Vaccine Initiative

Carla Treloar

This qualitative study is part of a larger initiative to develop the infrastructure required to test the efficacy of a vaccine and address relevant epidemiological, natural history and immunological questions. The study involves surveying people (both hepatitis C seropositive and seronegative) who inject drugs, as well as health-care workers experienced in providing services to these people. The aim is to examine the organisational and structural factors that may encourage participation in a trial of hepatitis C vaccines.

Previous research has indicated some ways that participation can be encouraged, but there is a significant gap. This is because previous research has paid most attention to factors affecting individuals and little to the organisational and structural factors that affect participation. As has been argued previously in relation to health care, a focus on the individual client or clinician can obscure the organisational and structural factors that influence success. The focus in this study is on the 'readiness' and 'fitness for duty' of the proposed research—the social and structural elements of the research proposal which can be manipulated— rather than on factors that relate to the individual participant or researcher.

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Table 26: Self-reported testing and status of hepatitis C, among people using pharmacy equipment, 2006–2008

	2 N :	2006 N = 229		2007 N = 660		2008 = 602
	п	%	п	%	n	%
HCV test (%)						
Yes, last year	144	62.9	364	55.2	326	54.2
> 1 year ago	59	25.8	208	31.5	156	25.9
Never tested	8	3.5	62	9.4	82	13.6
Unsure	10	4.4	11	1.7	17	2.8
Not reported	8	3.5	15	2.3	21	3.5
Self reported HCV status (%)						
Positive	92	40.2	257	38.9	236	39.2
Negative	102	44.5	243	36.8	178	29.6
Don't know	12	5.2	26	3.9	26	4.3
Never tested	8	3.5	62	9.4	82	13.6
Not reported	15	6.6	72	10.9	80	13.3

Note: 2006 data is from south east Sydney only. In other years, data are from metropolitan Sydney and the Hunter and Newcastle regions.

Table 27: Knowledge of hepatitis C and the risks of transmission, among people using pharmacy equipment, 2006–2008

Respondents who correctly identified that:	20 N =)06 229	20 N =	2007 N = 660		2008 N = 602	
	п	%	n	%	п	%	
You can get hepatitis C from sharing needles and syringes	199	86.9	583	88.3	517	85.9	
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	
There is more than one type of hepatitis C	168	73.4	458	69.4	409	67.9	
Treatment does not always cure hepatitis C	158	69.0	458	69.4	359	59.6	

Note: 2006 data are from south east Sydney only. In other years, data are from metropolitan Sydney and the Hunter and Newcastle regions.

5.2 Risk of hepatitis C among young people attending music festivals

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 2008, data were collected from the Big Day Out in Sydney. In 2008, the data collection was expanded to also include Melbourne and the Gold Coast (also see Section 4.3).

Big Day Out: Sydney, 2006-2008

In general, knowledge of the role of injecting equipment in the transmission of hepatitis C was high. In 2008 most participants (78.4%) knew that hepatitis C could be contracted via shared needles used for injecting drugs and two-thirds (67.9%) knew that it could be transmitted via injecting equipment other than needles (Table 28). Levels of reported injecting were very low in this sample (see Section 4.4.), so knowledge of the risks of injecting is not particularly relevant. On the other hand, tattooing and body piercing were common, so knowledge of the possibility of hepatitis C

Table 28: Proportion (%) of participants who correctly identified various means of hepatitis C transmission, among young people who attended the Big Day Out music festival in Sydney, 2006–2008

Hepatitis C can be transmitted by:	20 N =	06 339	20 N =	2007 N = 486		2008 <i>N</i> = 334	
	n	%	п	%	n	%	
Sharing toothbrushes/razors	140	41.3	173	35.4	120	35.9	
Unsterile tattooing or body piercing	259	76.4	345	71.0	241	72.2	
Sharing needles for injecting	283	83.5	362	74.5	262	78.4	
Sharing injecting equipment other than needles	224	66.1	292	60.1	226	67.9	

transmission via these routes was of greater interest. Almost 30% did not know that hepatitis C could be transmitted via unsterile tattooing or body piercing (Table 28).

Big Day Out: Sydney, Melbourne and Gold Coast, 2008

The 2008 survey collected data about young people's exposure to injecting drug use, either through friends' or boyfriends/girlfriends' injecting, or through 'having

ever been offered drugs to inject'. While injecting was relatively rare (section 4.3), a considerable proportion of respondents reported that they had been exposed to injecting (42.1% for Melbourne, 53.1% for Gold Coast, 45.6% for Sydney) (Table 29). 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 et al., 2005; Doherty et al., 2000).

Table 29: Proportion (%) of participans who had been exposed to injecting drug use, among Big Day Out music festival patrons in Sydney, Melbourne and Gold Coast, 2008

	Melbourne N = 278		Gold N =	Gold Coast N = 445		Sydney N = 333	
	n	%	n	%	n	%	
Respondents who reported having ever							
been offered drugs to inject	58	20.9	133	29.9	75	22.5	
had a boyfriend/girlfriend who injected drugs	16	5.8	49	11.0	23	6.9	
had friends who injected	102	36.8	206	46.3	133	39.9	
Respondents who reported at least one of the above	117	42.1	236	53.1	152	45.6	

5.3 Factors influencing decisions about hepatitis C treatment

Joanne Bryant, Peter Hull, Max Hopwood and Carla Treloar

It is estimated that 250,000 Australians are infected with Hepatitis C, yet fewer than 2000 present for treatment each year. Treatment for Hepatitis C can involve significant physical and psychological side effects, which may be part of the reason why people do not seek treatment. However, there is very little Australian research investigating the reasons behind the extremely low rate of treatment uptake. Using quantitative and qualitative methods, the current project examined factors influencing people's decision about whether to take up treatment for Hepatitis C. It investigated the impact on treatment decisions of levels of knowledge about treatment, experiences of discrimination and disclosure, perceptions of illness, perceived consequences of hepatitis C, social support, and competing life priorities. Study respondents were people who selfreported being Hepatitis C positive. The study used convenience sampling but aimed to recruit a sample that broadly reflected the main routes of transmission of Hepatitis C: unsterile injecting drug use and medical procedures. Self-complete surveys were distributed

through pharmacotherapy clinics, needle and syringe programs, community pharmacies, and the mailing list of the Hepatitis C Council of New South Wales and Haemophilia Foundation Australia.

Data were collected from 731 people with hepatitis C, 72% (n = 526) of whom acquired hepatitis C from injecting drug use, 19% (n = 142) from medical procedures, and 6% (n = 45) from other means. Over half were male (55%, n = 405) and the mean age was 43 years. The average time since being diagnosed with hepatitis C was 12 years. Most respondents (67%, n = 490) reported that they had received no information about hepatitis C at the time they were diagnosed. Almost two-thirds (60%, n = 442) said they had asked either a health-care worker or a specialist about treatment for hepatitis C and 49% (n = 359) had been told to go on treatment by a doctor. Close to a third (29%, n = 211) reported they were currently on treatment or had received treatment in the past. Respondents who reported that they had acquired hepatitis C through medical procedures were more likely to say that they had asked about treatment (75.9%) than those who reported acquiring hepatitis C from injecting drug use (59.2%) (p < 0.01). They were also more likely to report that they had been told to go on treatment by a doctor (62%) compared to those who acquired hepatitis C from injecting drug use (48%) (p < 0.01).

Spotlight Post hepatitis C treatment outcomes: preliminary findings comparing accounts of successful and unsuccessful treatment

Max Hopwood

Presently, about three thousand people commence treatment for hepatitis C infection each year in Australia. Yet there are no psychosocial studies of treatment outcomes in the research literature. Given this, the National Centre in HIV Social Research conducted a study (Hopwood, 2008) which aimed to explore the impact of treatment outcomes on individuals. Recruitment of participants proceeded via advertisements placed in The *Hep C Review* and *Good Liver*, quarterly publications of the Hepatitis C Councils of NSW and Victoria respectively. To be eligible for participation in the study, people must have completed interferon-based treatment for hepatitis C at least six months prior to the interview. Participants from across NSW and Victoria were interviewed via telephone or face-to-face. In all, 27 men and women aged from 26 to 57 years participated in semi-structured interviews. Most participants had been treated for genotype 1 during 2006 and 2007. Two overarching themes were identified in these data regarding viral clearance and non-response: participants' sense of abandonment following the end of treatment; and fear regarding sustained after-effects. These themes were inter-related and influenced participants' impressions of treatment.

The theme of abandonment concerned the lack of a protocol for advising or guiding people when they experienced posttreatment difficulties. Participants remarked that treatment finished abruptly and that they felt they 'were on their own'. A sense of abandonment was compounded by fear arising from sustained post-treatment after-effects. After-effects occurred both in people whose treatment had been successful and in those who did not respond to treatment. These after-effects ranged from skin problems and allergies to depression, fatigue and cognitive deficits; they were sometimes chronic and debilitating and substantially reduced participants' quality of life. Many participants felt they were directly attributable to the treatment drugs and they were deeply concerned about whether they would eventually resolve, or if they were permanent. Participants reported that doctors were generally uninterested and dismissive of these ongoing impacts.

A variety of coping strategies were deployed to counter the disappointment of not clearing infection. These strategies were underpinned by a phenomenon that is observed among some cancer patients and referred to as 'a loss of future memory'. This is where patients mourn the failure to realise the future they had planned and anticipated for themselves. For participants who did not respond to treatment, life was often a continuation of the old fears and anxieties regarding contagion and stigma. Following non-response to treatment, and having to cope with ongoing after-effects without the support of their multi-disciplinary health-care team, participants sought support from the state-based hepatitis councils and from hepatitis C-related websites. Some reported that they initially coped with the disappointment of not responding to treatment by participating in online hepatitis C-related chat rooms. However, they also said that fear for their future health was exacerbated by reading about other people's poor long-term health outcomes from unsuccessful treatment and had therefore stopped visiting these sites. With regard to whether people who had not responded to treatment would try new treatments as they became available, some participants were unequivocal in their rejection of interferon-based therapies, but were more willing to consider other new treatments.

These data highlight the difficulties that some people experience after completing hepatitis C treatment. The data point to possible benefits in devising an end of treatment protocol to address people's ongoing health and informational needs. Post-treatment information, referral and support programs could benefit health and re-orientation to everyday life. Similar programs have been developed with success for survivors of cancer in the United States. Development of a post-treatment program for both hepatitis C treatment responders and non-responders could address the issues reported above. A survivorship program for people completing hepatitis C treatments would reduce the anxiety and disappointment which can overwhelm people at this vulnerable time.

5.4 Future developments

Staying safe

Carla Treloar

Although the prevalence of hepatitis C among people who inject drugs (PWIDs) is high (about two-thirds of people will have acquired hepatitis C after approximately eight years), there are some people who inject drugs who have managed to avoid infection. This project seeks to discover how some PWIDs have managed to avoid becoming infected with hepatitis C in spite of having injected drugs for many years in localities in which most PWIDs have acquired the disease. Comparisons of PWIDs who have been exposed to hepatitis C and those who have not, over the long-term (i.e. those who have 'stayed safe'), will generate hypotheses about prevention to be explored in future research. This project is unique in that the traditional focus on people who have acquired infection ('cases') is reversed so that it is those who remain unexposed to hepatitis C over the long term that are the focus of enquiry. A small grant was received in 2008–2009 to collect pilot data in this qualitative, life-history project. This project also builds on other similar projects already underway in New York, Valencia, St Petersberg, London and Melbourne.

Spotlight Resilient coping: applying adaptive responses to prior adversity during treatment for hepatitis C virus infection

Max Hopwood and Carla Treloar

Past research has found that some people who are exposed to ongoing risk, trauma, loss and hardship have an ability to cope well with major stressors. These people are described as resilient. For a long time, resilience was seen as a personality trait that appeared to be unique to 'special' people. However, during the 1970s findings of studies into childhood development suggested that resilience might be far more common and indeed more ordinary than previously thought and be something that most people can develop. Studies explored why some children appeared to cope better than others with marginalisation and dysfunctional family dynamics and the results indicated that coping was enhanced by protective factors in a child's social environment. These factors included strong connections to competent and caring adults (often extended family members), access to supportive community networks like youth groups and sporting or recreational organisations, and the utilisation of community services like shelters and youth services which could offer support during difficult periods. This research challenged the belief that resilience was solely a personality characteristic by highlighting the important role of social environment in influencing how well an individual copes with adversity. Today, resilience is increasingly understood as something that almost anyone can develop given appropriate environmental factors. People can often improve their ability to cope with difficult circumstances by identifying and mobilising strengths and supports available from personal networks and their local community. This revised notion of resilience was evident in a recent study of the coping strategies used by people with injecting-acquired hepatitis C infection when undergoing interferon-based treatments.

In this study of the experiences of hepatitis C treatment conducted by the National Centre in HIV Social Research (Hopwood and Treloar, 2008), participants who had acquired hepatitis C from injecting appeared to use different strategies to cope with the side effects of treatment compared with people who had medically-acquired hepatitis C infection. For example, people who were former injecting drug users accessed social and community services to gain support during treatment, whereas people with medically-acquired infection tended to seek support from partners and immediate family. Conversely, participants who had acquired hepatitis C from injecting sometimes had networks of supportive friends and peers, and many had prior experiences of counselling services which they tended to revisit during treatment. Some people with injecting-related hepatitis C in this study were members of support groups like Narcotics Anonymous and Alcoholics Anonymous, which they reported taught them strategies that helped them cope with treatment side effects like anger and depression. Participants with injecting-acquired hepatitis C infection drew upon their past experiences of hardship-for example drug dependence, withdrawing from heroin and methadone, living with symptoms of chronic illness, and dealing with depression—in order to cope with the impacts of hepatitis C treatment. Some drew on prior experiences of alternative and complementary therapies, others relocated to where friends and family could lend extra support, and some increased their fitness levels through regular exercise. One man relied on community-based resources and services during his treatment, like sponsored food vans that provided free meals to homeless and disadvantaged people, which he had accessed in previous periods of financial difficulty. He supplemented this by bartering goods at community markets. Among the study participants, these strategies and skills were important factors that helped them to cope with unemployment, depression and hepatitis C treatment. In summary, it seemed that being an illicit drug user and learning to cope with the associated marginalisation from mainstream society had given people particular experiences and knowledge which were useful for coping with adverse events during hepatitis C treatment.

The findings of this research suggest that resilient coping is not only about identifying and drawing on personal networks and the resources and services that are available in one's local environment, but also about utilising the strategies and/or supports that have helped people cope during previous difficult times. Even small improvements in people's situations can facilitate hepatitis C treatment adherence and completion.

The current climate



6.1 Feasibility and acceptability of a prospective online national cohort study on the sexuality and health of MSM in Australia

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

Australia has a long tradition of behavioural research among MSM. This research has been critical in informing effective responses to HIV/AIDS in both policy and programs. Behavioural research among MSM began in the mid-1980s in a predominantly clinical cohort study (the Sydney AIDS Prospective Study, 1984–1989), followed by a once-off crosssectional study (the Social Aspects of the Prevention of AIDS study, 1991). Since then, this influential program of work has evolved to encompass behavioural cohort studies (e.g., the Sydney Men and Sexual Health study, 1992-1998), sustained behavioural surveillance through

repeat cross-sectional studies (the Gay Community Periodic Surveys, since 1996) and monitoring of the lived experience of HIV (HIV Futures study, since 1997). Cohort studies, including the more recent Positive Health study (1998-2007) and the Health In Men study (2001–2007), have been central in determining the Australian HIV response and have provided an important understanding of gay men's evolving experience of HIV and changing sexual practices in the era of effective treatments. However, at present there no prospective studies of MSM. Of the studies predominantly focusing on sexual and risk practices only the Gay Community Periodic Surveys are ongoing; the two recent cohort studies in Sydney ceased follow-up of participants in June 2008. Recently two internet-based crosssectional studies have been conducted in MSM that have used online data-collection methodologies (Private Lives study, 2005; e-male study, 2008), but there has never been an attempt to engage Australian MSM in a prospective online study.

In 2008 NCHSR received funding from the Victorian Department of Human Services for a project assessing the feasibility and acceptability of a national internet-based research platform and, specifically, a prospective online cohort study. In addition to key-informant interviews and a technical-needs assessment, an extensive review of the literature was conducted to identify national and international examples of surveys conducted online as well as more methodological papers on the specific challenges associated with conducting research online. Furthermore, a quantitative online acceptability pilot study was conducted to gauge MSM's willingness to participate in online sexual health research among Australian MSM. Chief Investigators of this study are John Imrie of NCHSR, Garrett Prestage of the National Centre in HIV Epidemiology and Clinical Research, and Marian Pitts of the Australian Research Centre in Sex, Health and Society. The project has involved further collaborations with colleagues at the Burnet Institute, Melbourne, the Western Australian Centre for Health Promotion Research, Perth, AFAO, NAPWA, ACON and VAC/GMHC.

In Australia online research on sexuality and health among MSM remains an exception and is associated with various concerns: online research may not sufficiently protect participants' privacy; online samples may be more biased; and responses may be less valid than in offline studies. To critically address these notions a literature search was conducted (using Pubmed, PsychInfo, Google Scholar and Web of Science) with the objective of fully understanding these concerns and specifically issues relating to privacy protection, sample characteristics and validity of responses in online studies. The review found that the body of literature on the topic of doing research online is extensive and growing quickly. The literature includes not only findings from online surveys, but also addresses the technical, logistical and ethical aspects of work in this field. Many of the papers refer particularly to internetbased research with MSM and specifically address the validity of comparisons between online and offline cross-sectional surveys. Specific literature on prospective and online cohort studies is small but provides a solid methodological background to develop an online sexual health research platform in MSM. The literature review provided strong evidence that conducting research online is acceptable and valid. Procedures have been developed and tested that ensure the validity of consent obtained online and that programming techniques can fully protect privacy by strictly separating contact details from questionnaire responses. Online studies conducted among MSM appear to attract more diverse samples than those recruited offline. They are able to recruit men traditionally under-represented in offline studies, particularly men who are younger, less attached to gay community, and who live outside metropolitan areas. Also, online techniques are available to check entered data. These techniques can reduce typing errors and missing values, and enhance the quality of data collection compared to self-administered pen and paper studies. Reports from the literature show individuals are less inclined to provide careless responses when completing online surveys. For example, one study compared responses provided to an online personality quiz

with findings from scientific surveys published in high ranking psychological journals, and found that results were consistent.

The objective of the online pilot acceptability study was to determine whether MSM in Australia would be willing to participate in a national online sexual health study. The survey assessed men's willingness to participate in three possible modules of an online research platform: completion of a baseline questionnaire; participation in follow-up assessments over time; and providing consent for data linkage to existing registries such as the National HIV Database, the National Cancer Registry, and statebased registries of notifiable diseases. More generally, the survey aimed to integrate MSM's views on online research into the design and protocol of a possible online sexualhealth research platform. Between March and May 2009 participants were recruited into the pilot study through a range of online strategies. A total of 1,029 individuals started the survey and 901 were eligible. The mean age of these participants was 36.6 years, 88.2% identified as gay men, and 8.4% were HIV-positive. Almost all participants indicated they would be willing to complete a baseline online questionnaire on their sexuality, health and wellbeing. There was great participation willingness among those with higher education and among gay-identified men. Age and HIV status were not correlated. Willingness to be contacted every six months to complete follow-up questionnaires was indicated by 87.4% of those who would complete the baseline questionnaire (81.1% of the total sample). Most participants would be willing to provide a valid email address for follow-up purposes, but only a small proportion would provide a mobile phone number for SMS reminders. Participants were also asked about their willingness to consent to data linkage. Among those who were willing to complete the follow-up questionnaires only 16.3% expressed categorical refusal to data linkage. Over half (57.7%) would consent to data linkage and onequarter (26.0%) did not know or were unsure. To facilitate data linkage a majority of participants would be willing to provide their date of birth (83.3%), and over two-thirds would be willing to provide the first two letters of their given name (76.4%) and last name (70.4%). Only onethird of respondents would, however, be willing to provide their full name (35.6%) or Medicare number (31.9%). The pilot acceptability survey clearly demonstrated that it is feasible to recruit large numbers of MSM into an online prospective cohort study and a sufficient number would accept data linkage to health registries to make this a viable and economical means to dramatically enhance the value of the research.

The possibilities of online behavioural research in MSM have been under-utilised in Australia compared to other industrialised countries and the studies that have been conducted online are mainly cross-sectional. Using the technique of online research would be beneficial for research on sexuality and health among MSM who have demonstrated a high uptake of the internet for social and sexual networking purposes. The outcomes and conclusions of the feasibility study support establishing an internet-based sexual health research platform.

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6.2 Touchscreen technology

Peter Hull

The National Centre in HIV Social Research has recently purchased hardware and software to enable survey data to be collected using touchscreen computers. The acquisition of tablet computers with touchscreen capability and a stand alone kiosk with touchscreen capability expands and complements the Centre's existing electronic datacollection capacity of handheld computers (PDAs) and internet-based surveys which the Centre has used on a number of projects over the last two years.

Tablet computers can be used for self-complete or interviewer-administered surveys. The touchscreen kiosk is to be used for self-complete surveys and can be located in any space where the target population may be. An advantage of using a kiosk is that data can be collected without the need for a researcher to be present and in places and at times where it is not feasible for a researcher to be present.

Using touchscreen computers for conducting surveys has some advantages over paper forms although touchscreens will not completely replace paper and pencil questionnaires in all situations. Computer-based data collection enables surveys to be conducted with culturally and linguistically diverse populations by having surveys available in multiple languages. Touchscreens can also provide audio recordings of questions for people with literacy problems. Questionnaires can be completed faster and more accurately by programming in skips and data validation. Research has shown computer-based data collection to be cost effective (Brown et al., 2008) and for some research, particularly that involving sexual behaviour and drug use, to provide more accurate information than that obtained by face to face interviews or interviewadministered questionnaires (Van Griensven et al., 2006).



Figure 9: Example of a poster from the ACON 'Don't Share a Bloody Thing' campaign



Figure 10: Touchscreen kiosk in operation

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