

Centre for Social Research in Health

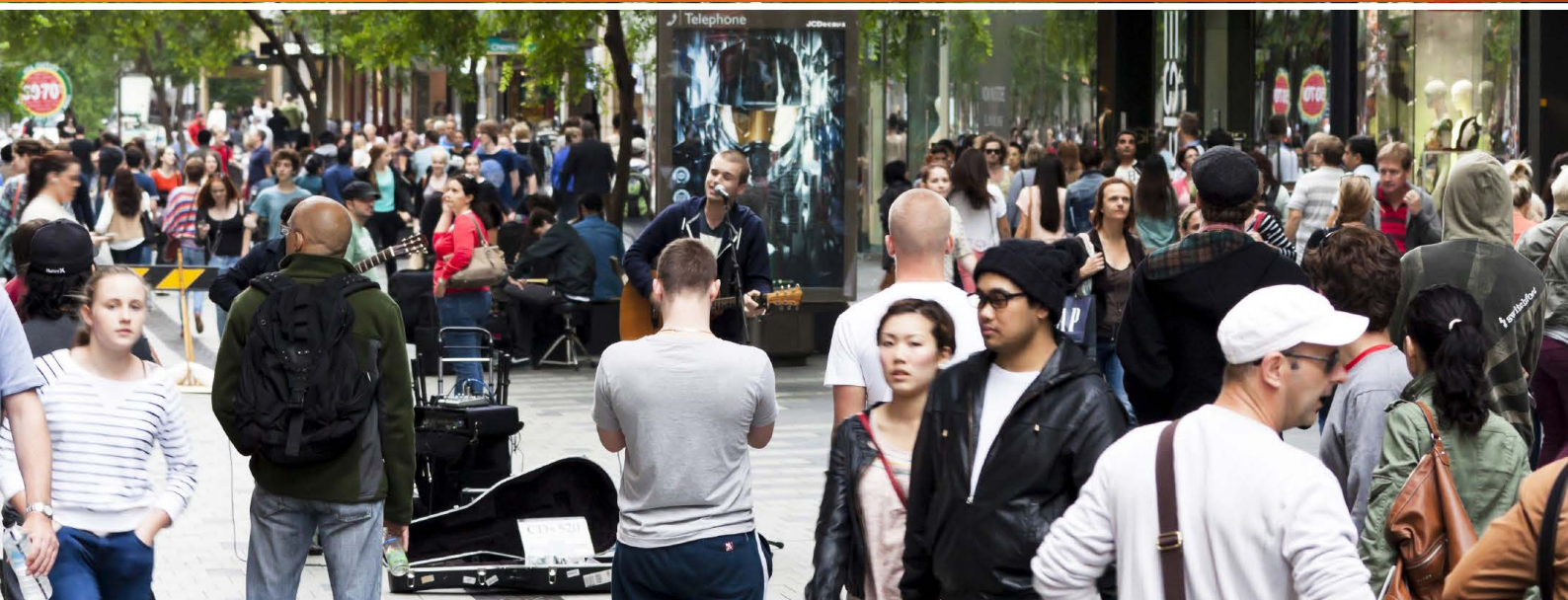


HIV/AIDS, hepatitis and sexually transmissible infections in Australia Annual report of trends in behaviour 2013

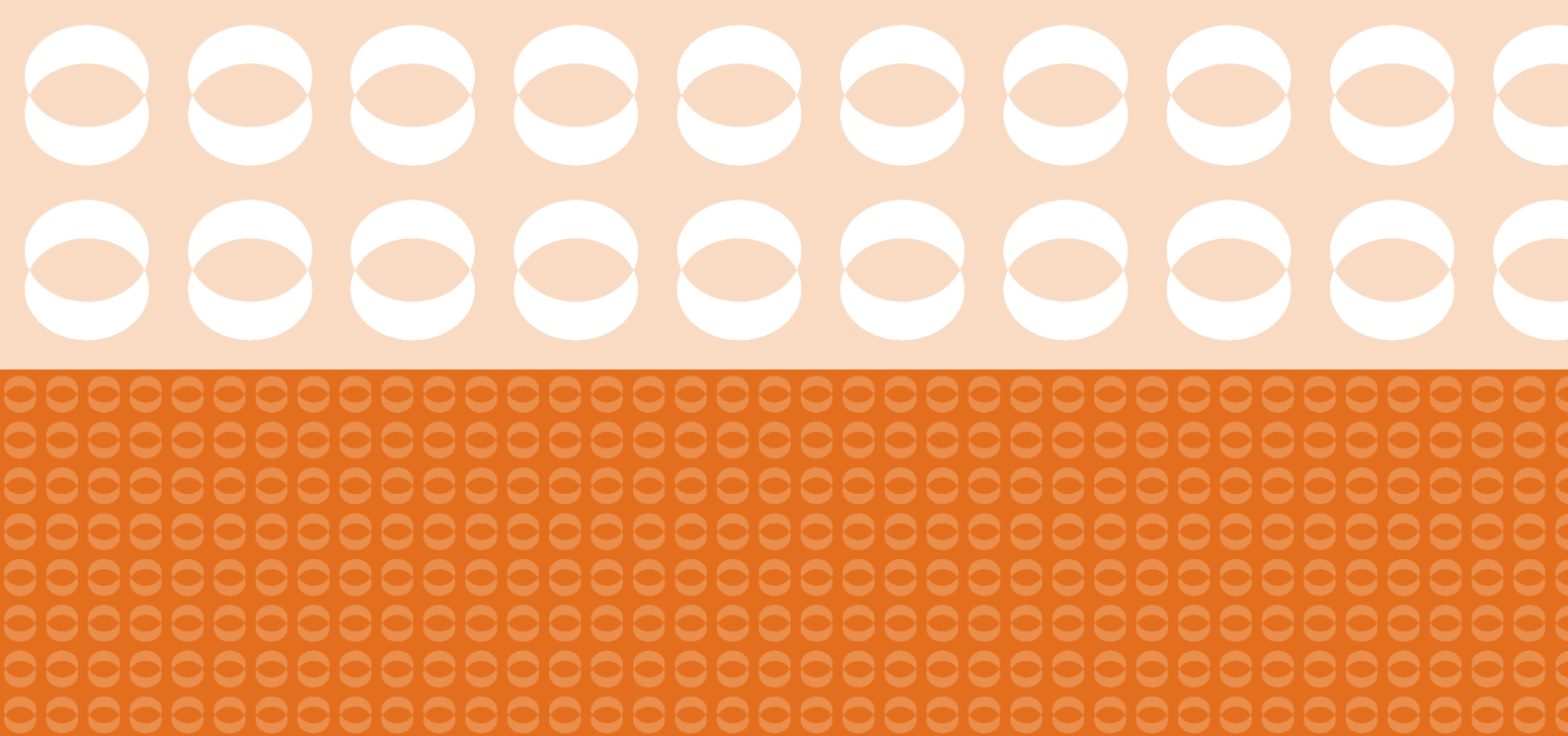
Never Stand Still

Faculty of Arts and Social Sciences

Centre for Social Research in Health



Edited by
John de Wit
Limin Mao
Martin Holt
Carla Treloar



HIV/AIDS, hepatitis and sexually transmissible infections in Australia

Annual report of trends in behaviour 2013

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John de Wit
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Martin Holt
Carla Treloar

Centre for Social Research in Health

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Glossary

HIV human immunodeficiency virus

HIV-seroconcordant relationship a relationship in which both partners are of the same HIV status, 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

HIV seroconverter someone who is in the process of seroconverting to HIV (becoming antibody-positive to HIV)

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

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

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

MSM men who have sex with men

n denotes the frequency of responses or classifications.

N denotes the denominator in each quantitative analysis of proportions.

ns non-significant

negotiated safety agreement an 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., antiretroviral drugs 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 HIV testing.

SD standard deviation

STI sexually transmissible infection

UAI unprotected anal intercourse

UAIC unprotected anal intercourse with casual partners

UAIR unprotected anal intercourse with regular partners

ACT Australian Capital Territory

NSW New South Wales

SA South Australia

WA Western Australia

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| | |
|---|--|
| Aboriginal Health and Medical Research Council of NSW | Don Bosco House, Youth Off the Streets |
| ACON | Dunlea Adolescent Alcohol and Other Drug Program, Youth Off the Streets |
| ACT Health | East Sydney Doctors |
| Aftercare | Faculty of Education, Monash University |
| AIDS Action Council of the ACT | Faculty of Education and Social Work, University of Sydney |
| AIDS Council of South Australia | Faculty of Health Sciences, Flinders University, Adelaide |
| Alfred Hospital, Melbourne | Faculty of Medicine, The University of New South Wales |
| Australasian Society for HIV Medicine (ASHM) | Faculty of Law, Queensland University of Technology |
| Australian Federation of AIDS Organisations (AFAO) | Family Planning NSW |
| Australian Government Department of Health and Ageing | FYRST Fairfield, The Salvation Army |
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| Centre for Applied Medical Research, Sydney St. Vincent's Hospital | Glebe Youth Service |
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| | The Kirby Institute for infection and immunity in society, The University of New South Wales |
| | Kirketon Road Centre |
| | Living Positive Victoria |
| | Lurnea High School, NSW |
| | Maclean High School, NSW |

Mid North Coast Local Health District
 Multicultural HIV and Hepatitis Service
 National Aboriginal Community
 Controlled Health Organisation
 (NACCHO)
 National Association of People with HIV
 Australia (NAPWHA)
 National Drug and Alcohol Research
 Centre (NDARC), The University of New
 South Wales
 National Health and Medical Research
 Council (NHMRC)
 Nepean Blue Mountains Local Health
 District
 Northern NSW Local Health District
 NSW Department of Education and
 Communities
 NSW Ministry of Health
 NSW STI Programs Unit, NSW Health
 NSW Users and AIDS Association
 (NUAA)
 Oasis Youth Support Network, The
 Salvation Army
 Open Family Australia
 PCYC Glebe Leichhardt
 Positive Life NSW
 Positive Life SA
 Queensland Association for Healthy
 Communities (QAHC)
 Queensland Health
 Queensland Positive People
 Royal Australian College of General
 Practitioners (RACGP)
 SA Health
 School of Education, Deakin University
 School of Education, University of
 Western Sydney
 School of Gender and Cultural Studies,
 The University of Sydney
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 Promotion Research (WACHPR), Curtin
 University
 Western Sydney Local Health District
 YFoundations

Executive summary

This 2013 Annual Report of Trends in Behaviour presents data from a selection of the behavioural and social research conducted by the Centre for Social Research in Health (formerly the National Centre in HIV Social Research). The report focuses in particular on studies assessing trends over time or addressing emerging issues. This executive summary highlights the main findings that are discussed in more detail in the remainder of the report.

Sexual practices and risk among gay men

Data regarding sexual practices and risk among gay men are predominantly collected through the ongoing Gay Community Periodic Surveys (GCPS). While the surveys show that many indicators of HIV risk among gay men have remained stable, trends in several important indicators suggest that the risk of HIV transmission and acquisition continues to increase.

Male partners and safe sex

Over the last ten years, the proportion of gay men reporting more than ten male sex partners in the six months prior to the survey has fallen across Australia, from 29% in 2003 to 24% in 2012. This decreasing trend over the ten-year period has been consistent across locations in all participating states and territories, except Canberra.

The proportion of men nationally who had no unprotected anal intercourse (UAI) with male partners has remained just above 50% in the last ten years, stabilising at around 55% in the last three years.

Risk and risk reduction with regular male partners

About half of men with regular partners report any UAIR, and a significant increase in UAIR has occurred over the last decade, in particular among HIV-positive men. Increases in UAIR are most pronounced among men aged under 25 years.

The proportion of HIV-positive men reporting any UAIR with a seroconcordant or serodiscordant regular male partner has remained stable at around 43% in the last ten years. Among non-HIV-positive men, UAIR with an HIV seroconcordant or serodiscordant regular partner has increased between 2003 and 2012.

The proportion of men in HIV seroconcordant HIV-negative relationships who have explicit 'negotiated safety agreements' has decreased over the last decade, from 36%

in 2003 to 30% in 2012. This decrease occurred in all participating states and territories, except Queensland.

Risk and risk reduction with casual male partners

The rate of UAI has gradually increased over the last ten years. In 2012 more than 38% of men with casual partners reported any UAIC, the highest proportion recorded in the GCPS. Increases in UAIC are observed in all participating states and territories, and among HIV-positive as well as non-HIV-positive men. HIV-positive men remain more likely than non-HIV-positive men to report UAIC, and increases in UAIC were significant among men aged under 25 years, but not in other age groups.

Over the last ten years both HIV-negative and HIV-positive gay men have become increasingly likely to disclose their HIV status to casual partners. In 2003, consistent disclosure of their HIV status to all casual partners was reported by 18% of HIV-negative men with casual partners and by 2012 this had increased to 25%. Since 2004, disclosure of an HIV-positive status has become relatively more common than disclosure of an HIV-negative status. Among HIV-positive men with casual partners, the proportion reporting consistent HIV-status disclosure to casual partners increased from 16% in 2003 to 38% in 2012. The increasing trend over the ten-year period has been consistent across all participating states and territories, except in Canberra, and has stabilised in the last three years.

Condom- and non-condom-based risk-reduction strategies

GCPS data show that over the period 2003–2012, consistent condom use for anal intercourse remained the most common HIV prevention strategy for both HIV-negative and HIV-positive gay men. Among HIV-negative gay men, negotiated safety with an HIV-negative seroconcordant partner was most often adopted as a non-condom-based HIV risk-reduction strategy, whereas HIV-positive men most often adopted disclosure of their HIV-positive status in casual encounters.

HIV and STI testing among gay men

Rates of HIV testing among gay and bisexual men have remained mostly stable over the past decade. An increase was however found in the proportion of men reporting comprehensive STI testing in the past year.

Ever and recent HIV testing

There has been a significant decline in the proportion of participants who have ever been tested for HIV over the last ten years. About 60% of non-HIV-positive men reported having at least one annual HIV test and while this has been stable over time nationally, a significant decline was observed in men aged under 25 years.

Comprehensive STI and HIV testing

The proportion of men who reported having at least four different STI tests in the previous 12 months has increased from 16% in 2003 to 37% in 2012. This increasing trend in comprehensive STI testing has occurred in all participating states and territories, among HIV-positive as well as non-HIV-positive men, and across age groups. Annual rates of comprehensive STI and HIV testing have also increased among non-HIV-positive men.

HIV and STI testing routines among gay men

An online survey among gay men in NSW found that only half of men had an HIV or STI testing routine, including three out of ten participants who reported strong testing routines. Participants without testing routines outnumbered participants who had never tested. Strong similarities were found in factors associated with HIV and STI testing routines. Multiple social-cognitive factors each play a limited role in explaining HIV and STI testing, which taken together explain a substantial proportion of variance in testing.

Sexual health of young people

Young people continue to be disproportionately affected by expanding STI epidemics, including Aboriginal young people and young gay and bisexual men. Studies undertaken by CSRH aim to inform effective appropriate sexual health promotion and sexuality education.

The Goanna Project: sexual health and relationships among young Indigenous people

This project examines risk behaviours, levels of knowledge and types of health services used for sexual health and blood borne viruses among young Indigenous Australians. In addition to providing the first national profile of the sexual health of Aboriginal young people, the project encompasses an important research capacity building component and will lay the foundations for an ongoing monitoring system.

Periodic survey of condom use and STI testing among young people

This comprehensive online survey is designed as a pilot of a periodic online survey to monitor changes over time in condom use and STI testing among young people and continuously inform the development of effective sexual health promotion programs and services for people. Data collection is expected to be complete by the end of 2013, with initial results available in early 2014.

Review of NSW Sexual Health in School Project

Australian secondary students see school-based programs as their most useful source of information about sexual health and relationships. CSRH has undertaken a review of the NSW Sexual Health in School Project, with the goal of identifying how current project activities are being used to promote young people's sexual health in schools, and to make recommendations for the future work of the project.

Living with HIV

As the uptake and efficacy of HIV treatment continues to improve, understanding remains limited regarding why some treatment-eligible people do not initiate or discontinue ART. Challenges also remain with respect to mitigate HIV-related stigma and its impacts.

Antiretroviral treatment and viral load among HIV-positive gay men

The proportion of HIV-positive gay men in the GCPS who report being on ART at the time of the survey has significantly increased from 63% in 2003 to 78% in 2012, which is the highest proportion recorded to date in the GCPS. The increase over the ten-year period is seen across all participating states and territories. In the last three years, an increase in treatment uptake has been observed in Melbourne and Sydney, but not in Queensland.

The proportion of HIV-positive men who report an undetectable viral load at the time of survey, irrespective of being on ART, has increased substantially, from 53% in 2003 to 78% in 2012. Importantly, the proportion of HIV-positive men on ART who report an undetectable viral load has increased from almost 75% to over 90%. Increasing trends have been consistently observed across all participating states and territories.

Uptake of antiretroviral treatment and treatment decision-making

The aims of this study are to examine the extent to which people living with HIV are currently not taking ART and to increasing understanding of the reasons people living with HIV may have for not taking ART. Using a multi-method approach, the study encompasses repeat assessments of the attitudes and practices of accredited prescribers regarding ART initiation, with the first prescriber survey finding limited support for early initiation of ART. Following focus group discussions with peer HIV-treatment officers, interviews are being conducted with treatment-eligible people living with HIV to identify key clinical, personal, social and structural barriers to treatment uptake and reasons for non-use.

Factors associated with failure of antiretroviral treatment among people living with HIV

Antiretroviral treatment (ART) of HIV is highly effective, but each year a substantial minority of people living with HIV in Australia discontinue ART, switch regimen because of toxicity, experience virological failure or are lost to follow-up by health care providers. This multisite prospective cohort study aims to identify the contribution of financial, psychological and other factors to the risk of ART failure.

Stigma, wellbeing and resilience among people living with HIV

This community online survey was completed by 697 people living with HIV in Australia and documents adverse experiences associated with HIV stigma and its social, psychological and health effects. Findings in particular highlight that the health and wellbeing consequences of stigma are different and more severe for people with visible symptoms related to their HIV infection or its treatment. The survey also highlights that, in the context of an epidemic that mostly affects gay men, straight people perceive more HIV-related stigma. In addition, the study finds that HIV-related stigma undermines psychological resilience, further compounding the deleterious impacts of stigma on affected individuals and communities.

Drug use, risks and harm reduction

Many people occasionally or regularly enjoy the use of alcohol and/or other drugs and CSRH undertakes a program of non-judgemental research with diverse communities to monitor potential harms of substance use and identify opportunities to strengthen harm reduction.

Drug use and injection among gay men

Amyl nitrite remains the most commonly used drug by gay men in the GCPS. The proportion of men reporting the use of amyl nitrite has remained stable over the last decade, and was used by 37% of men in the six months prior to survey. The use of other common recreational drugs, including cannabis, ecstasy and amphetamines, has declined since 2003. In contrast, the use of cocaine and the use of erectile dysfunction medication have increased over the ten-year period.

While drug injection is more widely reported by gay men than in the general population, the proportion of men who injected drugs in the six months prior to survey has declined over time, from 7% in 2003 to 6% in 2012.

Lesbian, gay, bisexual and transgender people's experiences of injecting drug use and hepatitis C seroconversion

Although lesbian, gay, bisexual and transgender (LGBT) people report higher rates of (injecting) drug use than the general population, few detailed studies of their experiences have been reported. A secondary analysis of data from eight LGBT people who recently acquired hepatitis C revealed tensions in participants' sense of belonging to the distinct communities of people who inject drugs and LGBT people, and illustrates challenges in ensuring appropriate support services for LGBT people who wish to seek care for hepatitis C or for drug use.

Vulnerable young people in inner-city areas who use alcohol and other drugs: Policing and pathways to diversion and care

CSRH, in collaboration with Turning Point Alcohol and Drug Centre, is conducting a mixed-method study that looks at police and their diversion practices in relation to young substance users who may offend and be involved in multiple

risky activities. The study will describe the opportunities to improve young people's engagement in diversion.

Prevention and treatment of viral hepatitis

To strengthen the evidence base for effective prevention of viral hepatitis, CSRH undertakes a program of research examining factors that shape behaviours that can protect against infection with viral hepatitis, including in young people, people at risk in relationships and prisoners.

Young university attendee's knowledge about hepatitis C and their support for harm reduction

These repeat surveys show that harm reduction services continue to be generally well-supported among university students. However, the continued diffusion of information about the risks for hepatitis C is needed in order to improve knowledge. In particular, better knowledge about hepatitis C risk practice may ameliorate the currently high incidence of hepatitis C among youth in Australia.

Periodic survey of young people's hepatitis C knowledge

Young people are a priority for the prevention of hepatitis C, and there is a need to address gaps in their knowledge of hepatitis C transmission and prevention. CSRH is undertaking a pilot study to inform a future periodic survey of indicators of knowledge of hepatitis C transmission and prevention among young people, in combination with a periodic survey of condom use and STI testing among young people. Data collection is underway and results will be available in 2014.

Hepatitis C in sexual partnerships

This project investigates the obstacles that couples experience in discussing and acting on hepatitis C prevention advice regarding sexual partnerships, and aims to identify and document effective modes of negotiation and strategies employed around hepatitis C prevention in sexual partnerships. The study also explores practices among health workers involved in promoting hepatitis C prevention to people in sexual partnerships, aims to increase understanding of the technologies most pertinent to hepatitis C prevention and risk (i.e., the equipment used for injecting and its mode of delivery), and strengthen the health promotion materials targeting people who inject drugs.

Characterising hepatitis C transmission and protection among prisoners

This qualitative study explores the complex and interrelated practices and environments surrounding hepatitis C risk and prevention strategies in prisons. To date, 20 participants have been recruited and interviewed, including six women, 10 people who are not infected with hepatitis C, five with incident infection and five with chronic hepatitis C infection. Nine participants reported only injecting drug use as risk of exposure to hepatitis C, seven reported injecting drug use and other risks of exposure (notably tattooing or violence), and four reported other risks and no injecting drug use. These data offer a unique view of hepatitis C risk (and prevention) in prison and data analysis will in particular focus on the understandings of hepatitis C risk and risk avoidance of prison inmates, what strategies are used by inmates to avoid hepatitis C, and what factors are important in decisions about risk.

Introduction



1.1 About the report

John de Wit

This report is the 15th in our series of annual publications reviewing behavioural and social research findings that inform responses to human immunodeficiency virus (HIV), viral hepatitis and other sexually transmissible infections (STIs) in Australia. As before, the report aims to make critical contributions to the development and evaluation of policies, programs and services regarding the prevention, treatment, care and support for affected individuals and communities.

This report draws on a selection of behavioural and social research undertaken

by the CSRH and presents data and findings of relevance to a diversity of population subgroups, including gay and other men who have sex with men, people who inject drugs, young people, and people living with HIV and/or hepatitis C. The research documented in this report is in particular concerned with assessing trends over time and addressing key emerging issues. In addition, findings from studies that are of relevance to understanding behavioural trends and the evolving needs and responses of affected individuals and communities are included. The report also highlights new or planned research that informs the Australian response to blood-borne viruses (BBVs) and STIs.

| National Surveillance and Monitoring Plan Indicators | Addressed in section |
|---|-------------------------------|
| Sixth National HIV Strategy 2010–2013 | |
| • Incidence of HIV infection | 2.1–2.4, S2, 3.1–3.4, S3, 5.5 |
| • Proportion of gay men who engaged in UAIC and in serononconcordant UAIC (previous six months) | 2.3, 2.4 |
| • Proportion of people who inject drugs who reused another person's used needle and syringe (last month) | 6.1–6.4, 7.1–7.3, 8 |
| • Proportion of people receiving antiretroviral treatment for HIV infection whose viral load is undetectable | 5.1–5.3 |
| • Proportion of all PLHIV receiving antiretroviral treatment, including PLHIV with CD4 count less than 500 and less than 250 not receiving antiretroviral treatment | 5.1 – 5.3 |
| • Proportion of gay men at higher risk of HIV infection who have not been tested for HIV in the previous 12 months | 3.1–3.5, S3 |
| • Proportion of new cases of newly diagnosed HIV infection that are a late diagnosis (CD4 cell count < 200) | 3.5, S3 |
| • Proportion of people with HIV who report their general health status and wellbeing as excellent or good | 5.2–5.4 |
| Second National STI Strategy 2010–2013 | |
| • Incidence of gonorrhea, infectious syphilis and chlamydia | 3.2–3.4, 4.1–4.3, S4 |
| • Proportion of 16–25 year olds receiving chlamydia test (previous 12 months) | 3.4, 4.1–4.3 |
| • Proportion of secondary school students giving correct answers to STI knowledge questions | 4.3, S4 |
| • Proportion of 16–25 year olds attending general practice who have a chlamydia test (previous 12 months) | 3.4, 4.1–4.3 |
| Third National Hepatitis C Strategy 2010–2013 | |
| • Incidence of hepatitis C | 6.1–6.4, 7.1–7.4, 8 |
| • Per capita rates of needles and syringes distributed in the public and pharmacy sector (previous 12 months) | 6.1–6.4, 7.3, 7.4, 8 |
| • Proportion of people who inject drugs and who report reusing another person's used needle and syringe (last month) | 6.1–6.4, 7.3, 7.4, 8 |
| • Estimated number of people with hepatitis C infection by stage of liver disease (F0/1, F2/3, cirrhosis) | |
| • Proportion of people with chronic hepatitis C dispensed drugs for their infection through the HSD program (previous 12 months) | |
| • Proportion of people with hepatitis C who report discrimination in healthcare settings | |
| National Hepatitis B Strategy 2010–2013 | |
| • Incidence of hepatitis B | 3.2, 3.3, 3.4, 4.1, 4.2 |
| • Coverage of hepatitis B vaccination among children and adolescents | 4.1, 4.2 |
| • Estimated proportion of people with chronic hepatitis B who have not been diagnosed | 3.2, 3.3, 3.4, 4.1, 4.2 |
| • Notifications of acute and unspecified hepatitis | |
| • Proportion of people with chronic hepatitis B who meet the criteria for hepatocellular carcinoma screening who are receiving annual screening | |
| • Incidence of hepatocellular carcinoma attributed to hepatitis B | |
| • Proportion of people with chronic hepatitis B dispensed drugs through for hepatitis b infection the HSD program | |
| Third National ATSI BBV Strategy 2010–2013 | |
| • Coverage of hepatitis B vaccination among ATSI children and adolescents | 4.1 |
| • Incidence of infectious syphilis in Aboriginal and Torres Strait Islander people | 4.1 |
| • Proportion of newly diagnosed HIV and newly diagnosed hepatitis C caused by injecting drug use in Aboriginal and Torres Strait Islander people | 4.1 |
| • Proportion of young Aboriginal and Torres Strait Islander people who report having had an STI test (previous 12 months) | 4.1 |
| • Proportion of young Aboriginal and Torres Strait Islander people receiving a chlamydia and gonorrhoea test (previous 12 months) | 4.1 |
| • Proportion of Aboriginal and Torres Strait Islander people giving correct answers to knowledge questions on STIs and BBVs | |
| • Proportion of Aboriginal and Torres Strait Islander people with HIV receiving antiretroviral treatment | |
| • Proportion of ATSI people with chronic hepatitis C who are dispensed drugs for hepatitis C through the HSD program (previous 12 months) | |
| • Proportion of ATSI people with chronic hepatitis B who are dispensed drugs for hepatitis B through the HSD program (previous 12 months) | |
| • Number of ATSI people registered under the National Registration program | |

Note: not all relevant research is included in this report.

S followed by a number refers to a Spotlight and the chapter in which it is located.

1.2 Progress indicators

John de Wit

The research presented in this report contributes evidence in relation to the indicators specified in the National Surveillance and Monitoring Plan to track progress in achieving the goals and objectives of the Australian National Strategies 2010–2013 regarding HIV, sexually transmissible infections, hepatitis C, hepatitis B and Aboriginal and Torres Strait Islander blood borne viruses and sexually transmissible infections. The overview in the accompanying table on the previous page specifies where information regarding these indicators can be found in this report.

Importantly, the findings of the research conducted by CSRH are not limited to reporting against numerical indicators. Our research also encompasses generating critical knowledge and evidence to aid interpretation of indicator data; providing early indications of emerging practices or factors shaping practices; strengthening understanding of trends and differences, particularly in relation to the individual and social factors that shape experiences, practices and policies; and investigating the efficacy of novel and innovative responses. These broader research findings are vital to informing appropriate services, programs and policies that are based in sound social and behavioural theory and research evidence and effectively respond to the priorities in the National Strategies.

1.3 Gay Community Periodic Surveys

Limin Mao, Martin Holt and John de Wit

Many of the analyses contained in this report focus on trends in behaviour among gay and other homosexually active men based on data collected in the Gay Community Periodic Surveys (GCPS), the background to which is presented below.

Approach to data analyses

Initiated in 1996, the GCPS are conducted in the most densely populated metropolitan areas of Australia where gay men congregate: Adelaide, Canberra, Melbourne, Perth, Queensland (Brisbane, Cairns and the Gold Coast) and Sydney.

In this year's report, wherever possible, we report data from a ten-year period (2003–2012). We have tested for linear trends over the full ten-year period and the most recent three-year period (2010–2012), where data are available. When there is a statistically significant change over time (at the $p < .05$ level of significance), the direction of the change is indicated by an up (↑) or down (↓) symbol. When there is no significant change over time, this is described as non-significant (ns). When statistical tests have not been performed this is indicated by a dash (–).

In the 2010 Annual Report of Trends in Behaviour, we introduced age standardisation with reference to population data published by the Australian Bureau of Statistics and weighting of the data by recruitment source to allow for variations in recruitment and sampling (Hopwood et al., 2010). These adjustments allow us to be more confident in analysing trends over time and in comparing trends between states and territories. In general, we have also calculated a national trend for the key indicators presented below, so each state and territory can be compared to the national average. All further data presented from the GCPS have been adjusted for age and recruitment source, except when noted.

Readers should bear in mind that historically there has been some variation between states and territories in the phrasing of survey questions. While most key indicators have been assessed using the same questions for some time, for other indicators there may have been some variability in the data due to differences in measurement. Since 2010, the same questionnaires have been used in each participating state and territory, reducing the likelihood that any observed differences between states and territories are due to differences in measurement.

Sample characteristics

Using unadjusted data from the GCPS, Table 1 shows the total number of men who participated each year between 2003 and 2012, the proportion recruited from each state or territory each year and the total number of men recruited from each state or territory over the ten year period. These data show that the Sydney survey typically attracts the largest number of participants, followed by Melbourne.

The GCPS deliberately target men who are socially and sexually involved with gay men by recruiting participants at gay venues and events when large gay festivals are being held (such as Adelaide's Feast Festival, Melbourne's Midsumma Festival and Sydney's Gay and Lesbian Mardi Gras). Using unadjusted data, Table 2 shows the proportions of men recruited from different venues and events during the 2003–2012 reporting period. The majority of men (over half) are recruited from gay community festivals and just over a quarter from

social venues such as gay bars, clubs and gyms. Smaller proportions of men are recruited from sex-on-premises venues (gay saunas and sex clubs), sexual health clinics and general practices that have gay clientele (just over 10% and 5%, respectively).

In 2012, the majority of men recruited into the Gay Community Periodic Surveys were very likely to identify as gay (over 85%) and have an Anglo-Australian background (over 65%); see the unadjusted data presented in Table 3. Over the last ten years, the proportion of gay-identified men has declined a little. The age profile of the GCPS has also changed over the last decade, with a gradual increase in the proportion of men aged under 25 and over 50 and a decline in the proportion of men in their thirties. The mean age of men recruited into the surveys has, however, remained relatively steady at around 35 years during the reporting period.

From this point on in the report, all data presented from the GCPS have been adjusted for age and recruitment source.

Table 1: Recruitment summary by state or territory: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Total n (%) |
|-------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|
| Adelaide | 12.8 | | 10.4 | | 8.3 | | 13.7 | 11.8 | 9.1 | 10.1 | 4 705 (6.8) |
| Canberra | 3.9 | | | 4.0 | | | 4.4 | | 3.5 | | 1 117 (1.6) |
| Melbourne | 31.7 | 30.0 | 29.8 | 28.1 | 32.3 | 32.6 | 30.2 | 27.8 | 24.8 | 26.2 | 20 280 (29.4) |
| Perth | | 15.5 | | 13.1 | | 12.0 | | 10.5 | | 10.4 | 4 398 (6.4) |
| Queensland ¹ | 23.2 | 25.5 | 22.9 | 18.1 | 22.4 | 19.9 | 18.5 | 18.9 | 21.5 | 17.0 | 14 918 (21.7) |
| Sydney ² | 28.4 | 29.1 | 36.9 | 36.7 | 37.0 | 35.6 | 33.2 | 31.0 | 41.1 | 36.3 | 23 459 (34.1) |
| Total n | 6518 | 6551 | 6045 | 7067 | 6329 | 6251 | 7067 | 8771 | 7774 | 7841 | 68 877 (100) |

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

2 Only includes the February round of recruitment.

Table 2: Recruitment summary by type of venue or event: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Total n (%) |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|----------------|
| Gay community events/festivals | 49.1 | 57.8 | 51.1 | 57.3 | 55.8 | 57.7 | 51.8 | 56.1 | 50.0 | 49.3 | 37 253 (54.1) |
| Gay social venues ¹ | 29.2 | 23.6 | 29.1 | 25.4 | 27.0 | 23.3 | 29.9 | 27.9 | 34.0 | 32.4 | 18 985 (27.6) |
| Sex-on-premises venues | 16.2 | 13.2 | 14.7 | 12.4 | 10.6 | 13.0 | 12.5 | 11.2 | 10.3 | 13.1 | 8 851 (12.8) |
| Clinics and general practices | 5.4 | 5.4 | 5.2 | 4.9 | 6.6 | 5.9 | 5.9 | 4.8 | 5.7 | 5.2 | 3 788 (5.5) |
| Total n | 6518 | 6551 | 6045 | 7067 | 6329 | 6251 | 7067 | 8771 | 7774 | 7841 | 68 877 (100) |

1 Includes bars, cafes, gyms and small events.

Table 3: Overview of men recruited into the GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|-------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|---------------|-----------------------|
| Gay or homosexual | 88.4 | 88.0 | 88.0 | 89.3 | 88.8 | 88.3 | 86.6 | 86.8 | 87.5 | 87.0 | ↓ | ns |
| Anglo-Australian | 68.1 | 66.4 | 65.9 | 65.4 | 68.2 | 67.5 | 66.6 | 69.4 | 67.7 | 68.5 | ↑ | ns |
| < 25 years old | 16.1 | 18.3 | 17.7 | 18.7 | 17.9 | 18.5 | 18.8 | 20.9 | 17.2 | 17.9 | ↑ | ↓ |
| 30–39 years old | 40.6 | 37.5 | 36.6 | 34.3 | 32.1 | 31.4 | 32.1 | 26.7 | 28.2 | 27.7 | ↓ | ns |
| > 50 years old | 9.4 | 9.1 | 9.2 | 10.4 | 11.7 | 12.2 | 12.3 | 13.4 | 14.0 | 15.1 | ↑ | ↑ |
| Mean age | 35.0 | 34.7 | 34.8 | 35.0 | 35.6 | 35.8 | 35.5 | 35.5 | 36.2 | 36.5 | – | – |
| (+ SD) | (10.2) | (10.5) | (10.4) | (10.9) | (11.2) | (11.4) | (11.5) | (12.0) | (11.9) | (12.4) | – | – |

Sexual practices and risk among gay men



2.1 Male partners and safe sex

Limin Mao, Martin Holt and John de Wit

Number of male partners

Over the last ten years there has been a significant reduction across Australia in the proportion of men reporting more than ten male sex partners in the six months prior to the survey (see Table 4 and Figure 1). Nationally, this proportion has significantly declined from 30% in 2003 to 24% in 2012, but has been relatively stable in the last three years. This ten-year decline has

been consistent across states and territories except Canberra. In the last three years, however, men in Adelaide and Queensland have become significantly more likely to report more than ten male sex partners.

No unprotected anal intercourse with male partners

Table 5 and Figure 2 show the proportions of men reporting no unprotected anal intercourse (UAI) with a male partner in the six months prior to the survey. Men who had no UAI are presumed to be at

Table 4: Men who reported more than ten male sex partners in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 24.4 | | 25.4 | | 18.8 | | 18.8 | 15.0 | 24.7 | 20.6 | ↓ | ↑ |
| Canberra | 27.9 | | | 23.6 | | | 44.9 | | 22.4 | | ns | – |
| Melbourne | 32.9 | 33.9 | 35.1 | 31.4 | 29.4 | 31.0 | 27.6 | 30.5 | 31.8 | 24.8 | ↓ | ↓ |
| Perth | | 25.1 | | 24.2 | | 24.1 | | 26.8 | | 18.0 | ns | – |
| Queensland | 27.2 | 27.6 | 25.0 | 26.4 | 25.1 | 23.0 | 22.2 | 20.2 | 22.7 | 26.0 | ↓ | ns |
| Sydney | 31.9 | 37.7 | 34.9 | 28.9 | 27.6 | 28.6 | 31.9 | 32.0 | 24.7 | 25.4 | ↓ | ns |
| All six states/ territories | 29.5 | 31.5 | 31.8 | 28.3 | 26.8 | 27.6 | 27.1 | 26.3 | 26.1 | 24.0 | ↓ | ns |

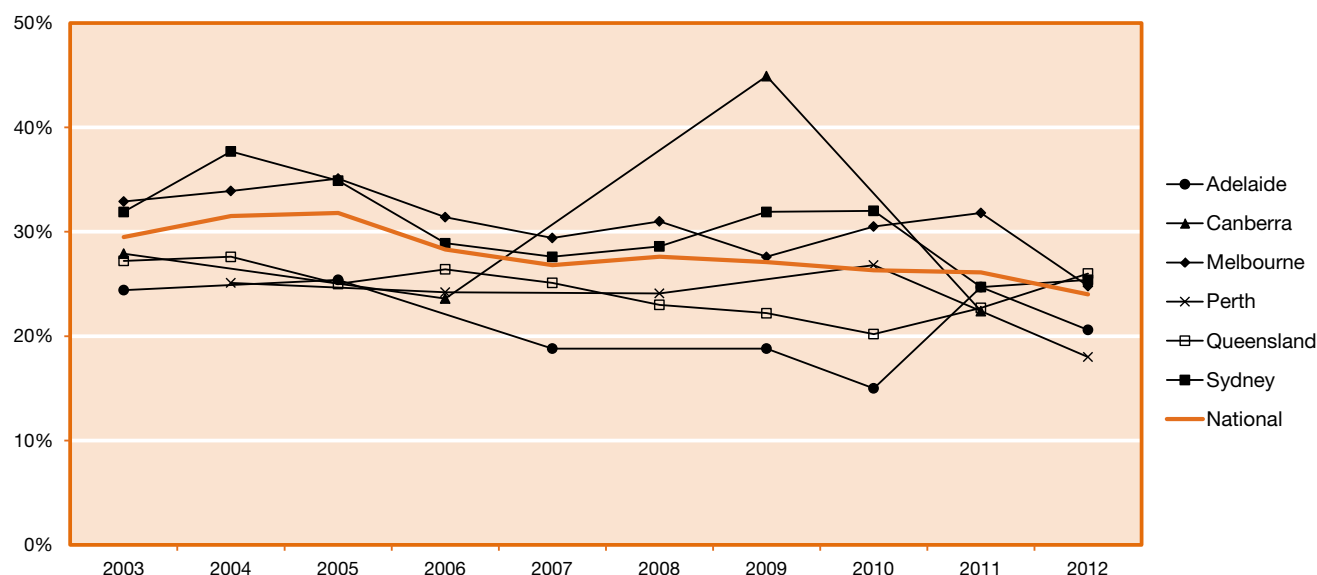


Figure 1: Men who reported more than ten male sex partners in the six months prior to the survey: GCPS, 2003–2012

little or no risk for HIV infection through male-to-male sex. Nationally, the proportion of men who have avoided UAI has been relatively stable during the last ten years, at over half of all GCPS participants. The proportion of men reporting no UAI has increased in Adelaide over the last decade, but declined in Canberra, Melbourne and Perth. In the last three years, the proportion of men who had UAI

has increased in Melbourne and Sydney, but declined in Queensland.

Across jurisdictions, HIV-positive men are significantly less likely than non-HIV-positive men to report no UAI (42% vs. 54%; 10-year mean proportion 2003–12; unadjusted data), and 10-year trends are stable for HIV-positive as well as non-HIV-positive men.

Table 5: Men who reported no UAI with sex partners in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 54.8 | | 54.6 | | 53.4 | | 58.8 | 58.2 | 57.4 | 57.3 | ↑ | ns |
| Canberra | 57.6 | | | 53.0 | | | 50.1 | | 44.3 | | ↓ | – |
| Melbourne | 56.4 | 58.3 | 59.7 | 53.1 | 62.7 | 53.4 | 55.3 | 52.1 | 52.5 | 58.4 | ↓ | ↑ |
| Perth | | 59.2 | | 52.8 | | 52.9 | | 47.7 | | 51.1 | ↓ | ns |
| Queensland | 55.2 | 56.8 | 47.3 | 57.3 | 52.7 | 54.0 | 55.3 | 58.7 | 59.9 | 48.6 | ns | ↓ |
| Sydney | 54.8 | 55.1 | 53.4 | 56.3 | 54.9 | 55.9 | 53.5 | 50.4 | 58.2 | 56.5 | ns | ↑ |
| All six states/ territories | 55.7 | 56.9 | 54.4 | 55.1 | 56.5 | 54.3 | 54.9 | 53.5 | 56.4 | 54.5 | ns | ns |

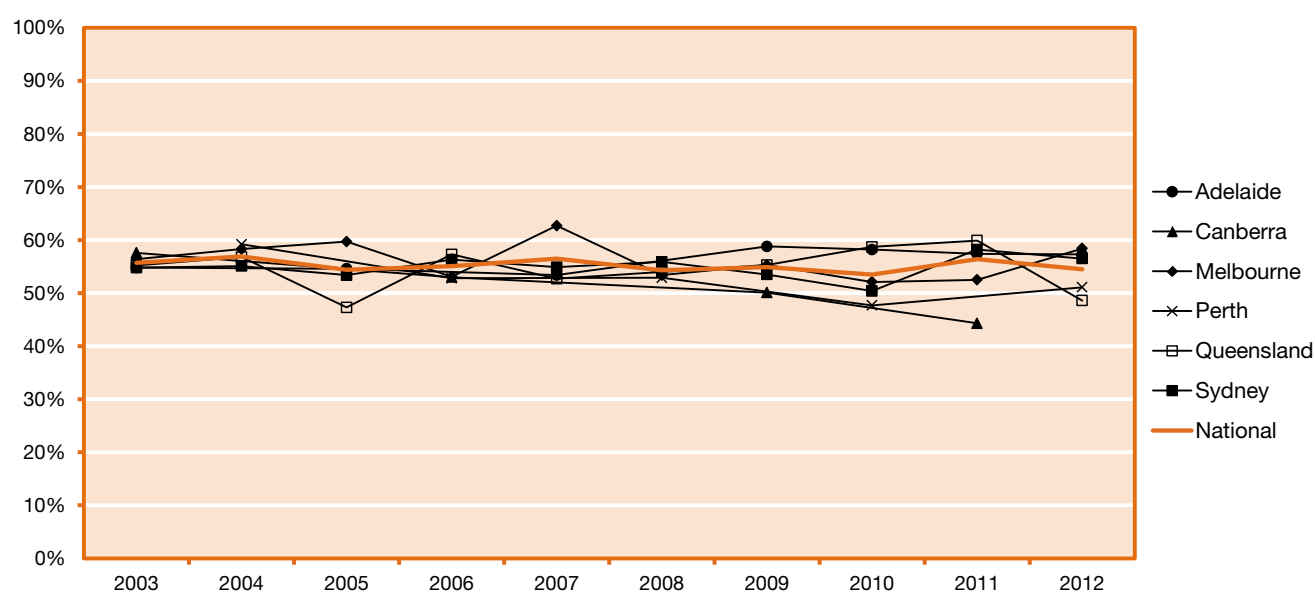


Figure 2: Men who reported no UAI with sex partners in the six months prior to the survey: GCPS, 2003–2012

2.2 Risk and risk reduction with regular male partners

Limin Mao, Martin Holt and John de Wit

Unprotected anal intercourse with regular male partners

Approximately 55–60% of gay men who participate in the GCPS have a regular male partner. Looking at the national trend in Table 6 and Figure 3, we can see that the proportion of participants with regular partners reporting any UAIR has increased over the last ten years to nearly 50%. Looking at the states and territories separately, we see some variability: over the last ten years the rate of UAIR has risen in Canberra, Perth and Queensland, but has remained stable in the other states. For the last three years, there has been an increase in the proportion of men reporting UAIR in Queensland.

Comparison of trends in UAIR by HIV status (unadjusted data) shows significant increases in HIV-positive (48% in 2003 to 57% in 2012) as well as non-HIV-positive men (50% in 2003 to 52% in 2012). Furthermore, while HIV-positive men previously were less likely than non-HIV-positive men to report UAIR, they currently are more likely. Looking at age differences (unadjusted data), UAIR

increased most among men under 25 years of age (48% in 2003 to 54% in 2012; $p < 0.001$). Increases were also significant, but less marked, among men aged between 36 and 39 years (54% in 2003 to 56% in 2012; $p = 0.02$), and men aged between 45 and 49 years (48% in 2003 to 52% in 2012; $p = 0.04$).

Unprotected anal intercourse with serodiscordant or serononconcordant regular male partners

UAIR presents a risk of HIV transmission to regular partners when the partners have different HIV statuses (serodiscordance) or where either or both partners have an unknown HIV status (serononconcordance). Around 25–30% of gay men in the GCPS who have a regular partner report that their partner is serononconcordant or serodiscordant (having a partner of unknown status is much more common than having a known serodiscordant partner). Table 7 and Figure 4 show the rates of UAIR reported by men in serononconcordant or serodiscordant relationships during the reporting period. Please note that the smaller surveys (Adelaide, Canberra and Perth) have been omitted from this particular analysis, as the relatively small numbers of men in serononconcordant or serodiscordant relationships in these locations may make the analysis unreliable. Data from these locations are, however, included in the national rate.

Table 6: Men with regular partners who reported any UAIR in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 47.3 | | 47.9 | | 47.0 | | 47.3 | 48.8 | 47.8 | 41.9 | ns | ns |
| Canberra | 45.3 | | | 47.4 | | | 61.8 | | 66.6 | | ↑ | ↑ |
| Melbourne | 45.3 | 50.3 | 48.9 | 47.6 | 41.5 | 48.9 | 48.5 | 54.3 | 54.5 | 44.1 | ↑ | ↓ |
| Perth | | 45.7 | | 53.4 | | 49.9 | | 53.0 | | 55.9 | ↑ | – |
| Queensland | 48.2 | 44.8 | 48.4 | 38.9 | 46.9 | 51.6 | 51.1 | 50.7 | 46.0 | 56.5 | ns | ↑ |
| Sydney | 45.2 | 51.5 | 48.0 | 46.4 | 47.7 | 48.0 | 50.5 | 55.8 | 45.1 | 48.7 | ns | ↓ |
| All six states/ territories | 45.9 | 48.3 | 48.1 | 45.6 | 46.1 | 49.3 | 50.0 | 53.4 | 48.8 | 49.9 | ns | ns |

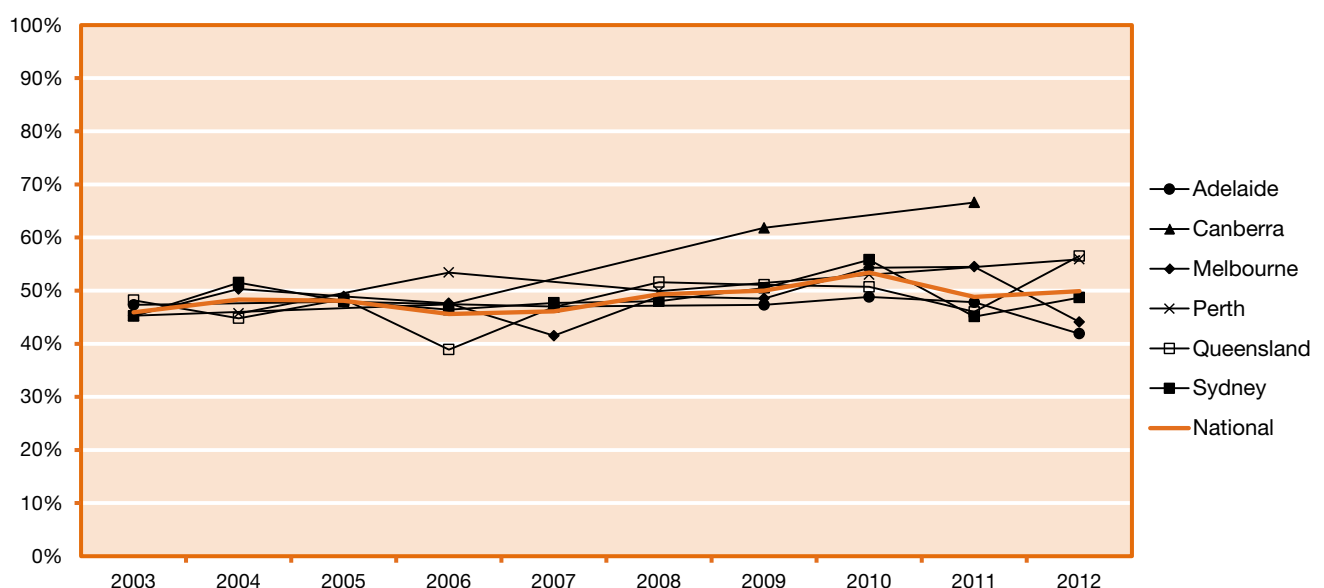
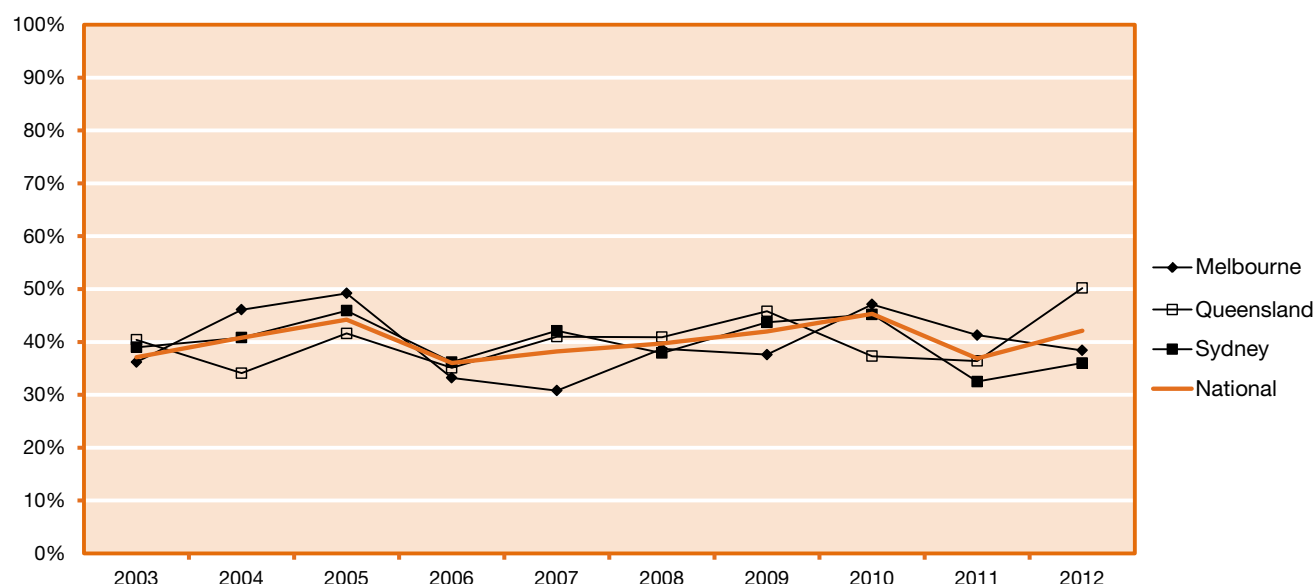


Figure 3: Men with regular partners who reported any UAIR in the six months prior to the survey: GCPS, 2003–2012

Table 7: Men with serononconcordant or serodiscordant regular partners who reported any UAIR in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Melbourne | 36.2 | 46.1 | 49.2 | 33.2 | 30.8 | 38.7 | 37.6 | 47.1 | 41.3 | 38.4 | ns | ↓ |
| Queensland | 40.4 | 34.1 | 41.6 | 35.1 | 41.0 | 40.9 | 45.8 | 37.3 | 36.4 | 50.2 | ↑ | ↑ |
| Sydney | 39.0 | 40.8 | 45.9 | 36.2 | 42.1 | 37.9 | 43.7 | 45.2 | 32.5 | 36.0 | ↓ | ↓ |
| All six states/ territories | 37.1 | 40.8 | 44.2 | 36.0 | 38.2 | 39.7 | 42.0 | 45.3 | 36.9 | 42.1 | ns | ns |

**Figure 4: Men with serononconcordant or serodiscordant regular partners who reported any UAIR in the six months prior to the survey: GCPS, 2003–2012**

The rate of UAIR reported by men in serononconcordant or serodiscordant relationships has remained relatively stable during the last ten years, at around 40% of men in those relationships. The rate of serononconcordant or serodiscordant UAIR has declined in Melbourne and Sydney, but increased in Queensland in the last three years.

Comparison of trends by HIV status (unadjusted data) shows that UAIR with serononconcordant or serodiscordant partners has remained stable among HIV-positive men (43%; 10-year mean proportion 2003–12). Although proportions of non-HIV-positive men reporting UAIR fluctuate and are similar in 2003 (39%) and 2012 (40%), analysis of the ten-year trend shows a significant increase ($p = 0.013$). Furthermore, comparison of trends by age (unadjusted data) shows that UAIR has increased significantly among men aged under 25 (from 40% in 2003 to 46% in 2012; $p < 0.001$), but not in other age groups.

Negotiated safety agreements with regular male partners

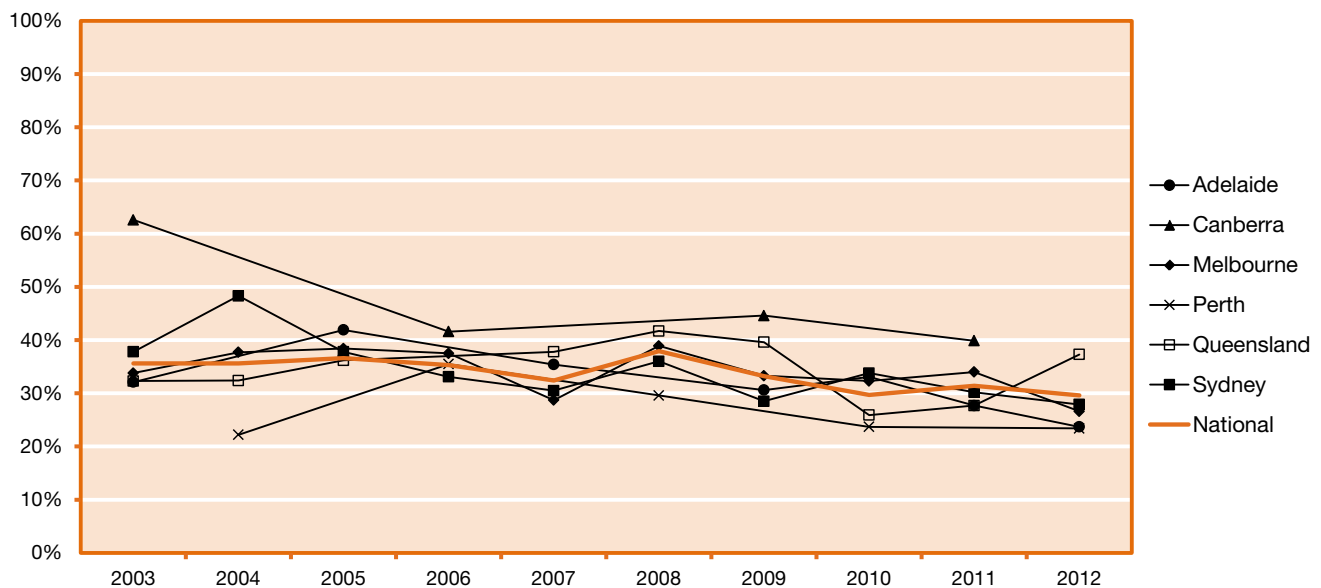
A negotiated safety agreement is defined as an explicit agreement between HIV-negative regular partners to allow UAI within the relationship but to avoid UAI with casual

partners outside the relationship (Crawford et al., 2001). Negotiated safety agreements, if consistently practised by men in seroconcordant HIV-negative relationships, have been found to be relatively effective in preventing HIV transmission (Jin et al., 2009). For the analysis presented in Table 8 and Figure 5, participants were regarded as having a negotiated safety agreement if they met the following conditions: i) they were HIV-negative, ii) they had an HIV-negative regular partner, iii) they reported an agreement with that partner to allow UAI with each other but to have no UAI with partners outside their relationship (this included men who had an agreement to have no sex outside their relationship or no anal intercourse outside their relationship) (Mao et al., 2011).

Nationally, the proportion of HIV-negative men with a negotiated safety agreement has been declining for the last decade, and fell just below 30% of HIV-negative men in seroconcordant relationships in 2012 (see Table 8 and Figure 5). The proportion with a negotiated safety agreement appears to have stabilised in the last three years. The decline in negotiated safety agreements is apparent in all states and territories except Queensland over the ten-year period. In the last three years, the proportion of HIV-negative men with a negotiated safety

Table 8: Negotiated safety agreements among HIV-negative men with HIV-negative regular partners: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 32.1 | | 41.9 | | 35.4 | | 30.6 | 33.1 | 27.7 | 23.7 | ↓ | ↓ |
| Canberra | 62.6 | | | 41.6 | | | 44.6 | | 38.7 | | ↓ | – |
| Melbourne | 33.8 | 37.7 | 38.4 | 37.5 | 28.7 | 38.9 | 33.3 | 32.3 | 34.0 | 26.6 | ↓ | ↓ |
| Perth | | 22.2 | | 35.5 | | 29.6 | | 23.7 | | 23.4 | ↓ | ns |
| Queensland | 32.3 | 32.4 | 36.2 | | 37.8 | 41.7 | 39.6 | 25.9 | 27.7 | 37.3 | ns | ↑ |
| Sydney | 37.8 | 48.3 | 31.8 | 33.1 | 30.5 | 36.0 | 28.5 | 33.8 | 30.2 | 27.9 | ↓ | ↓ |
| All six states/ territories | 35.6 | 35.6 | 36.6 | 35.3 | 32.4 | 37.9 | 33.2 | 29.7 | 31.4 | 29.6 | ↓ | ns |

**Figure 5: Negotiated safety agreements among HIV-negative men with HIV-negative regular partners: GCPS, 2003–2012**

agreement has fallen in all states and territories except Queensland (an upward trend) and Perth (a stable trend).

The decline in negotiated safety agreements among HIV-negative men suggests a need to support gay men in negotiating effective agreements with their regular partners, given that negotiated safety is one of the few non-condom-based risk-reduction strategies that could be relatively effective in preventing HIV transmission (Mao et al., 2011; Jin et al., 2009).

2.3 Risk and risk reduction with casual male partners

Limin Mao, Martin Holt and John de Wit

Unprotected anal intercourse with casual male partners

Unprotected anal intercourse with casual partners remains one of the key drivers of HIV transmission between gay men. Table 9 and Figure 6 show the rates of UAIC reported by men with casual partners in the GCPS. The

Table 9: Men with casual partners who reported any UAIC in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 26.3 | | 23.6 | | 30.7 | | 32.1 | 28.7 | 34.8 | 37.5 | ↑ | ↑ |
| Canberra | 25.1 | | | 28.9 | | | 43.2 | | 28.4 | | ↑ | |
| Melbourne | 32.6 | 27.6 | 27.8 | 33.2 | 22.9 | 32.7 | 34.5 | 37.5 | 35.6 | 34.7 | ↑ | ns |
| Perth | | 29.3 | | 35.2 | | 37.1 | | 48.1 | | 37.3 | ↑ | ↓ |
| Queensland | 33.2 | 29.4 | 38.1 | 34.5 | 29.0 | 34.0 | 37.2 | 39.4 | 35.3 | 45.2 | ↑ | ↑ |
| Sydney | 32.0 | 32.2 | 35.3 | 30.9 | 32.1 | 32.7 | 37.8 | 36.1 | 33.7 | 36.0 | ↑ | ns |
| All six states/ territories | 31.6 | 29.7 | 33.0 | 33.0 | 28.0 | 33.4 | 36.3 | 37.7 | 34.6 | 38.3 | ↑ | ns |

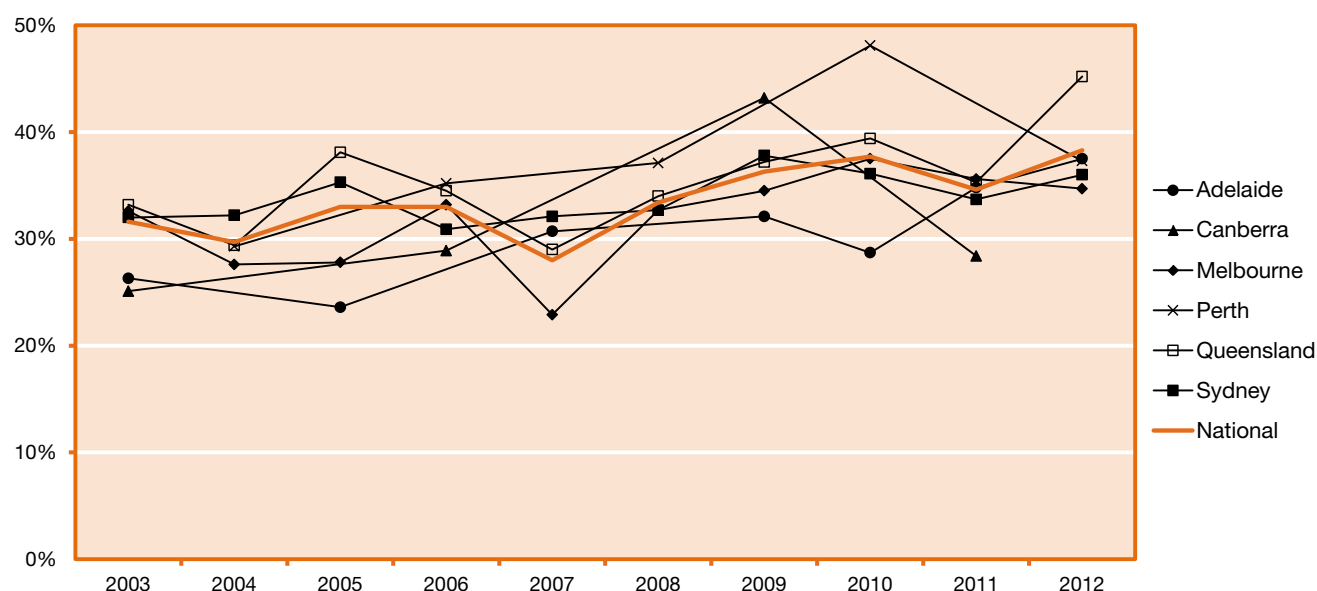


Figure 6: Men with casual partners who reported any UAIC in the six months prior to the survey: GCPS, 2003–2012

national rate of UAIC has been gradually and unevenly increasing over the last ten years, reaching 38.3% in 2012 among all gay men with casual partners. It is worth noting that the national UAIC rate in 2012 (at 38.3%) is the highest figure we have seen for this indicator so far; the last ten years has therefore been a period in which we have observed increasing UAIC rates across all participating states and territories. The national rate of UAIC has been stable over the last three years in most states and territories, except for increases in Adelaide and Queensland and stabilisation in Melbourne.

Comparison of trends in UAIC by HIV status (unadjusted data) shows that HIV-positive men with casual partners have become considerably more likely to report any UAIC (from 55% in 2003 to 66% in 2012). The increase in UAIC is less marked among non-HIV-positive men with casual partners (from 27% in 2003 to 31% in 2012), who also remain less likely to report UAIC than HIV-positive

men. Comparison of trends in UAIC by age (unadjusted data) shows significant increases among men aged under 25 years of age (from 30% in 2003 to 35% in 2012), but not in other age groups.

HIV status disclosure to casual male partners

The GCPS collect data on the disclosure of HIV status by men to their casual male partners. HIV disclosure is increasingly of interest because non-condom-based risk-reduction strategies, if practised, are reliant on accurate knowledge of HIV status (Jin et al., 2009; Mao et al., 2011; Mao et al., 2006; Zablotska et al., 2009).

Among those with casual partners, the proportions of HIV-negative and HIV-positive men who consistently disclosed their HIV status to all casual male partners are shown in Table 10 and Figure 7. Some caution should be exercised in interpreting these data as it is only since 2007 that all

Table 10: Men with casual partners who reported disclosing their HIV status to all casual partners, by HIV status of participant: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| HIV-negative men | | | | | | | | | | | | |
| Adelaide | 17.2 | | 16.6 | | 10.7 | | 17.6 | 27.5 | 27.7 | 29.3 | ↑ | ns |
| Canberra | 21.4 | | | 25.2 | | | 21.4 | | 23.5 | | ns | ns |
| Melbourne | 22.0 | 12.9 | 17.1 | 18.9 | 13.9 | 22.0 | 20.9 | 20.9 | 17.7 | 20.0 | ↑ | ns |
| Perth | | 16.7 | | 20.9 | | 22.3 | | 29.1 | | 18.4 | ↑ | ↓ |
| Queensland | 18.0 | 19.9 | 17.4 | 14.6 | 19.9 | 20.2 | 26.9 | 26.6 | 27.2 | 36.5 | ↑ | ↑ |
| Sydney | 16.8 | 16.8 | 21.1 | 19.4 | 20.6 | 19.2 | 20.4 | 21.0 | 22.3 | 21.1 | ↑ | ns |
| All six states/ territories | 18.3 | 16.9 | 18.0 | 18.4 | 17.5 | 20.5 | 21.8 | 23.9 | 22.9 | 24.9 | ↑ | ns |
| HIV-positive men | | | | | | | | | | | | |
| All six states/ territories | 16.1 | 18.4 | 21.4 | 27.9 | 20.1 | 29.6 | 32.7 | 28.6 | 31.2 | 38.4 | ↑ | ↑ |

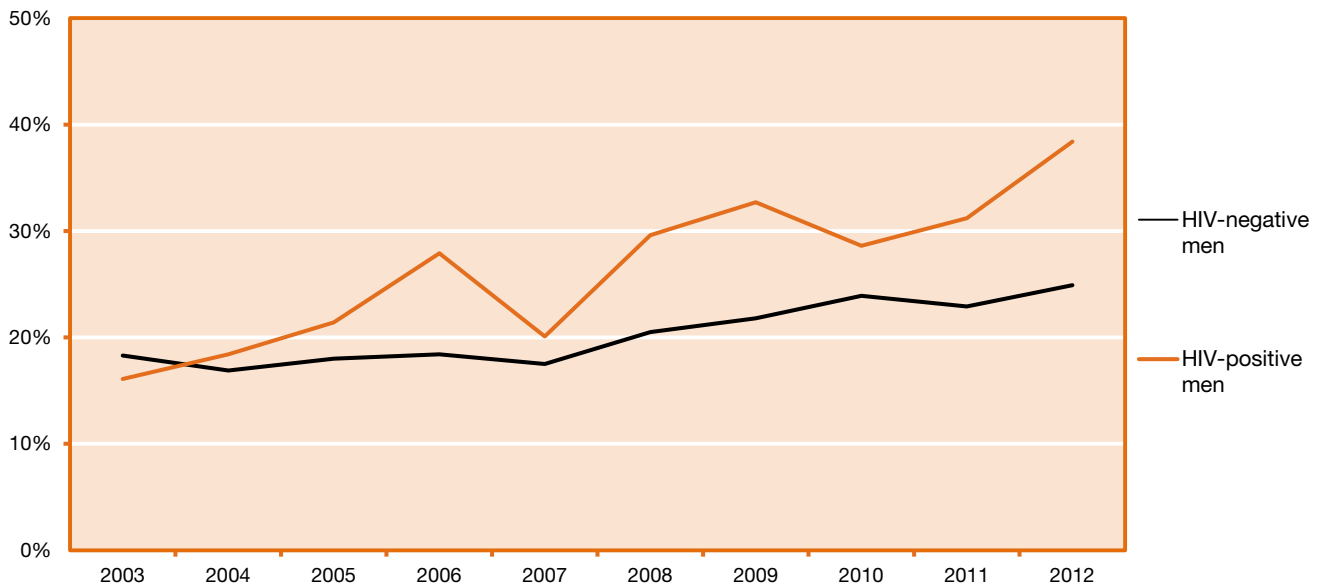


Figure 7: Men with casual partners who reported disclosing their HIV status to all casual partners, by HIV status of participant: GCPS, 2003–2012

six states and territories have used the same questions to measure HIV disclosure to casual partners. For this reason, the trend analysis for the last three years is likely to be more robust than the ten-year trend. In addition, we have only presented the national trend in HIV-positive disclosure in Table 10, as the numbers of HIV-positive men reporting consistent HIV disclosure in each state and territory survey are relatively small.

Looking at the national trends (see Table 10 and Figure 7), it appears that the likelihood of consistent HIV disclosure to casual partners has increased significantly among both HIV-negative and HIV-positive men over the last decade. In 2003, less than one in five HIV-positive or negative men disclosed to all their casual partners. That proportion has increased to nearly 40% of HIV-positive men with casual partners who have been consistently disclosing their HIV status to all casual partners, more so than HIV-negative men (close to 25%). Looking at the states and territories, it is interesting to note that increases in consistent HIV disclosure by HIV-negative men have occurred in all states and territories except Canberra over the ten-year period.

2.4 Condom- and non-condom-based risk-reduction strategies among gay men

Limin Mao and John de Wit

As the HIV epidemic and responses continue to evolve, the extent of use of condom- and non-condom-based risk-reduction strategies among gay men merits regular assessment to monitor potential changes in prevention practices. A recent study investigated rates of a range of condom- and non-condom-based risk-reduction practices

among participants in the GCPS from 2007 to 2009, comparing HIV-negative men, HIV-positive men with an undetectable viral load and HIV-positive men with a detectable viral load (Mao, Kippax, Holt, Prestage, Zablotska, & de Wit, 2011). Here we report extended and updated analyses describing and comparing rates of risk-reduction practices over the ten-year period from 2003 to 2012.

Our original and updated analyses find that condom use continues to play a key role in gay men's sexual risk reduction and is reported by the largest subgroups of men. Notably, a third of HIV-negative men (36% in 2003 and 31% in 2012), around a quarter of HIV-positive men with an undetectable viral load (33% in 2003 and 18% in 2012, a significant decline), and over one-fifth of HIV-positive men with a detectable viral load (27% in 2003 and 22% in 2012) consistently used condom for anal sex with their male partners in the six months prior to survey.

Among HIV-negative men, the second-largest subgroup consisted of men who only had unprotected anal intercourse with regular partner (UAIR) who was also HIV-negative (20% in 2003 and 24% in 2012). Among HIV-positive men with an undetectable viral load, the second-largest group consisted of men who had UAI with casual partners (UAIC), preceded by HIV status disclosure to some, but not all, casual partners (26% in 2003 and 22% in 2012). Among HIV-positive men with a detectable viral load, the second-largest subgroup consisted of men who had UAIC and consistently disclosed their HIV status to their casual sex partners (8% in 2003 and 24% in 2012, a significant increase). Taken together, these findings demonstrate that a sizeable minority of gay men have consistently engaged in a number of UAI practices under specific contexts and this trend is increasing over the time.

Consistent condom use for anal intercourse remains the most common HIV prevention strategy for both HIV-negative and HIV-positive gay men. As far as non-condom-based anal intercourse practices are concerned, HIV-negative gay men tend to adopt negotiated safety with an HIV-negative seroconcordant partner whereas HIV-positive men tend to disclose their HIV-positive status in casual encounters.

2.5 Future developments

Priorities in prevention: attitudes of the HIV workforce to emerging HIV prevention technologies

Dean Murphy and John de Wit

Since 2010 the results of a number of international clinical trials have contributed to the increasing momentum for biomedical HIV prevention strategies, in particular pre-exposure prophylaxis (PrEP) and early initiation of antiretroviral therapy (ART). These findings have also been drawn on in the development of new targets for reducing HIV transmission. The success of any HIV prevention strategy is dependent on its efficacy, availability and uptake. Other important considerations are adherence and sustained use over time. Research conducted in Australia has produced a substantial body of knowledge on attitudes of gay men to emerging prevention strategies,

including PrEP, treatment as prevention, vaccines, and rectal microbicides. Ongoing research is also monitoring attitudes to condom use and antiretroviral therapy, as well as the prevalence and patterns of different behavioural risk-reduction strategies such as serosorting, strategic positioning and the use of clinical markers in sexual decisions.

The prioritisation and targeting of different HIV prevention strategies critically depends on the policy context and available resources, and is also informed by experts' understanding of community needs and appropriate responses. The attitudes of policy makers, health promoters, clinicians and activists are therefore critical to the development and implementation of HIV prevention strategies. Despite the critical role of the workforce in policy-making and service delivery, there has been surprisingly little research on the views of these decision-makers. The Priorities in Prevention (PiP) study is surveying attitudes to HIV prevention strategies among people involved in HIV prevention program planning, development and delivery in NSW. The study focuses on five different strategies: condom use, serosorting, PrEP, early initiation of ART, and rectal microbicides. Additionally, the study investigates perceptions regarding the acceptability of different prevention strategies among those at risk of HIV. The findings will provide a stakeholder-focused assessment of the opportunities and barriers regarding the implementation of established and new HIV prevention strategies.

Spotlight Why some gay men fail to act on their intention to use condoms with their partners met online: lessons from the Cybersex project

Philippe Adam, John de Wit and Dean Murphy

Over the last decade, the internet has become an important avenue for finding potential sex partners, especially among gay men. To date, however, there is a paucity of Australian research into the dynamics of seeking sex partners online and engaging with them in protected or unprotected sex. To address these gaps in current knowledge and understandings, the online Cybersex study was conducted in 2012 among gay men in NSW, with the aims of examining the dynamics of cruising/dating online and identifying factors that contribute to planned and unplanned sexual risk-taking among men who find their partners on the internet.

Participants were recruited through paid advertisements on a popular gay cruising site and on Facebook, and nearly one thousand men who reported any male to male sex were included in the analyses. Almost all of these men lived in NSW, and the majority lived in a capital city (i.e., Sydney or Canberra). Participants on average were in their mid-thirties, well-educated and self-identified as gay; two thirds identified as Anglo-Australian. Almost all participants had chatted online with men about sex in the six months prior to the survey, and two third had done so at least weekly. Nearly all participants had had sex with casual male partners that they had met online and participants generally had no explicit plans to engage in unprotected anal intercourse with partners met online (UAI-OP). However, of the participants who had sex with male partners they had met online, around half had engaged in UAI-OP.

A novel framework was developed to explore the situations, factors and processes that were potentially associated with UAI-OP. While behavioural research generally focuses on socio-demographic and behavioural factors associated with sexual risk-taking among gay men, the Cybersex study aimed to also capture the influence of specific aspects related to the dynamics of seeking partners on the internet and chatting online with them before meeting for sex. We in particular looked at the role of the type of encounters that men seek, the information posted on their cruising/dating profiles, the way sex is discussed and fantasised about in chat sessions, and the time between online chats and in-real-life encounters.

The Cybersex survey offers new insights into the dynamics of seeking sex partners online and engaging in unprotected sex with partners met online, and preliminary findings suggest that several aspects of the dynamics of seeking partners on the internet and chatting online with them before meeting for sex are related to sexual risk-taking in real life, and could be addressed in smart self-regulatory interventions to mitigate the potential influence of online chatting on actual sexual risk-taking behaviours of gay men.

HIV and STI testing among gay men



3.1 Ever and recent HIV testing

Limin Mao, Martin Holt and John de Wit

The proportion of men in the Gay Community Periodic Surveys that has ever been tested for HIV is very high with around nine out of ten men nationally reporting that they have had at least one HIV test (Table 11 and Figure 8). However, after a long period of stability, we now see a gradual downward trend in the proportion of ever tested men in the GCPS, although the

proportion of men who have ever tested for HIV remains at over 85% nationally. This downward trend in the proportion of men who have ever tested for HIV is likely to be the result of the increased participation of younger men and men new to traditional gay community events and venues over the last few years. A decline in the proportion of ever tested men has been observed in the Adelaide and Sydney over the last ten years. In the last three years, rates of ever testing for HIV have decreased in Perth and Sydney, but increased in Queensland.

Table 11: Men who have ever been tested for HIV: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 92.7 | | 89.4 | | 91.2 | | 85.2 | 83.9 | 86.8 | 85.9 | ↓ | ns |
| Canberra | 83.5 | | | 83.1 | | | 94.1 | | 86.7 | | ↑ | – |
| Melbourne | 89.6 | 89.2 | 92.6 | 89.2 | 90.6 | 90.7 | 90.3 | 87.0 | 89.1 | 89.3 | ns | ns |
| Perth | | 81.9 | | 83.0 | | 89.2 | | 84.2 | | 78.4 | ns | ↓ |
| Queensland | 90.6 | 91.2 | 92.1 | 90.9 | 90.2 | 94.6 | 91.2 | 86.5 | 89.9 | 90.8 | ns | ↑ |
| Sydney | 92.7 | 93.6 | 93.5 | 94.8 | 92.6 | 93.3 | 92.3 | 92.6 | 88.6 | 85.7 | ↓ | ↓ |
| All six states/ territories | 90.8 | 89.9 | 92.4 | 90.6 | 91.2 | 92.3 | 90.4 | 87.3 | 88.9 | 86.4 | ↓ | ns |

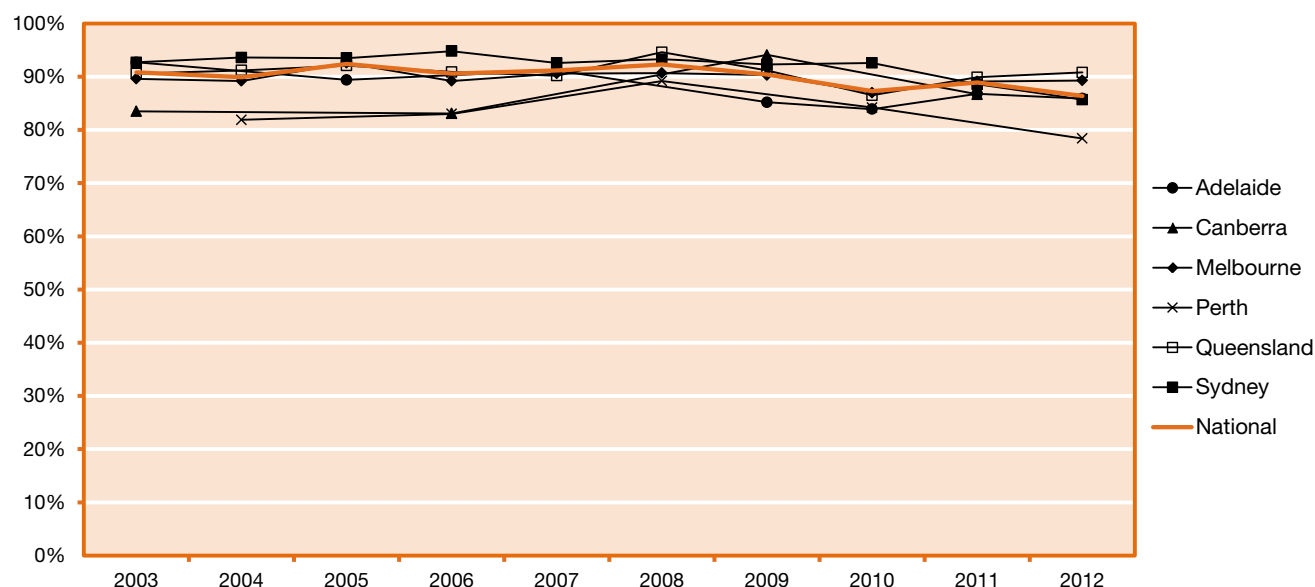


Figure 8: Men who have ever been tested for HIV: GCPS, 2003–2012

Table 12 and Figure 9 show the proportions of non-HIV-positive men in the GCPS reporting HIV testing in the 12 months prior to the survey (testing in the last 12 months has previously been referred to as ‘recent’ HIV testing). Over the ten-year period, rates of HIV testing in the past

12 months have increased in Canberra and Melbourne, but decreased in Adelaide and Sydney. In addition, in the last three years a marked decline in annual HIV testing has been observed in Perth. Across jurisdictions, the proportion of men reporting recent HIV testing has stabilised at

Table 12: Non-HIV-positive men tested for HIV in the 12 months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 63.7 | | 64.7 | | 64.3 | | 66.3 | 50.5 | 51.9 | 59.4 | ↓ | ↑ |
| Canberra | 50.1 | | | 56.1 | | | 67.1 | | 67.3 | | ↑ | – |
| Melbourne | 59.4 | 59.8 | 64.9 | 62.0 | 62.4 | 63.9 | 67.8 | 62.4 | 61.5 | 68.2 | ↑ | ↑ |
| Perth | | 49.8 | | 52.8 | | 57.3 | | 62.9 | | 48.7 | ↑ | ↓ |
| Queensland | 57.5 | 65.4 | 60.1 | 59.9 | 62.1 | 65.8 | 59.9 | 58.0 | 58.5 | 63.4 | ns | ns |
| Sydney | 65.7 | 64.7 | 67.8 | 68.1 | 71.3 | 71.0 | 70.4 | 59.3 | 62.3 | 58.2 | ns | ↓ |
| All six states/ territories | 60.5 | 61.4 | 65.5 | 62.5 | 65.6 | 66.0 | 66.5 | 58.9 | 60.6 | 60.5 | ns | ↑ |

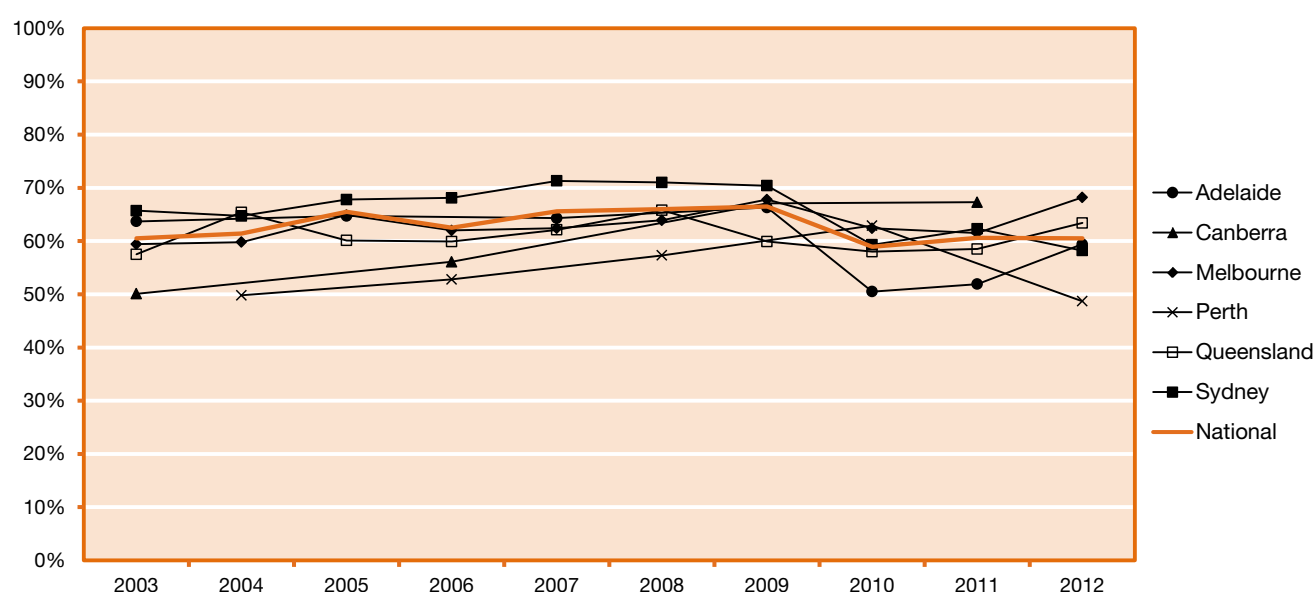


Figure 9: Non-HIV-positive men tested for HIV in the 12 months prior to the survey: GCPS, 2003–2012

around 60%. Analysis of trends by age (unadjusted data) shows a significant decrease in recent testing among men aged under 25 years (62% in 2003 to 59% in 2012; $p = 0.004$), but not in other age groups.

3.2 Comprehensive STI testing

Limin Mao, Martin Holt and John de Wit

Since 2003 the GCPS have asked participants to specify which STI tests they have had in the 12 months prior to the survey. Table 13 and Figure 10 show the proportions of men reporting at least four different tests for STI in the previous 12 months, based on the type of specimen that was taken (throat swab, anal swab, urine sample, and blood test other than for HIV). We regard having at least four different tests/samples as an indicator of 'comprehensive' STI testing (testing for a range of STI and taking specimens from different anatomical sites), as recommended in HIV/STI testing guidelines for gay men (e.g., STIGMA, 2010). However, it should be noted that we cannot tell from GCPS survey data whether these tests were conducted at the same time or over multiple occasions.

Since 2003 there has been a significant increase nationally in the proportion of men in the GCPS reporting four or more STI tests in the previous year, from 16% in 2003 to 37% in 2011. An increase in comprehensive testing over the past ten years has been observed in every participating jurisdiction. Note that the proportion of men reporting four or more STI tests has stabilised in the last three years in all locations except Adelaide, where an upward trend was observed, and Perth, where a downward trend was found.

Comparison of trends in comprehensive STI testing by HIV status shows that there have been substantial increases among both HIV-positive men (from 25% in 2003 to 56% in 2012) and non-HIV-positive men (from 15% in 2003 to 36% in 2012), with HIV-positive men remaining more likely to report comprehensive testing than non-HIV-positive men. Comprehensive STI testing has also become significantly more likely in all age groups. However, as guidelines suggest that all sexually active gay men should have a sexual health check-up at least annually (STIGMA, 2010) and typically 80% or more of men in the GCPS are sexually active and, our findings illustrate that there remains considerable room for improvement in 'comprehensive' STI testing among gay men.

Table 13: Men who reported having at least four different STI tests in the 12 months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Adelaide | 21.3 | | 29.0 | | 31.1 | | 43.4 | 29.2 | 35.5 | 41.9 | ↑ | ns |
| Canberra | 11.6 | | | 25.4 | | | 47.3 | | 48.0 | | ↑ | ns |
| Melbourne | 17.5 | 21.1 | 30.8 | 28.8 | 34.4 | 34.0 | 32.4 | 38.5 | 44.4 | 38.2 | ↑ | ↑ |
| Perth | | 13.3 | | 16.8 | | 27.5 | | 41.6 | | 36.7 | ↑ | – |
| Queensland | 10.2 | 13.3 | 17.8 | 22.7 | 26.8 | 25.7 | 29.9 | 30.3 | 31.7 | 30.8 | ↑ | ns |
| Sydney | 16.7 | 21.2 | 26.0 | 27.6 | 33.3 | 34.0 | 39.8 | 38.2 | 38.3 | 38.2 | ↑ | ns |
| All six states/ territories | 15.5 | 17.8 | 25.7 | 25.6 | 31.7 | 31.2 | 36.6 | 35.7 | 38.4 | 37.1 | ↑ | ns |

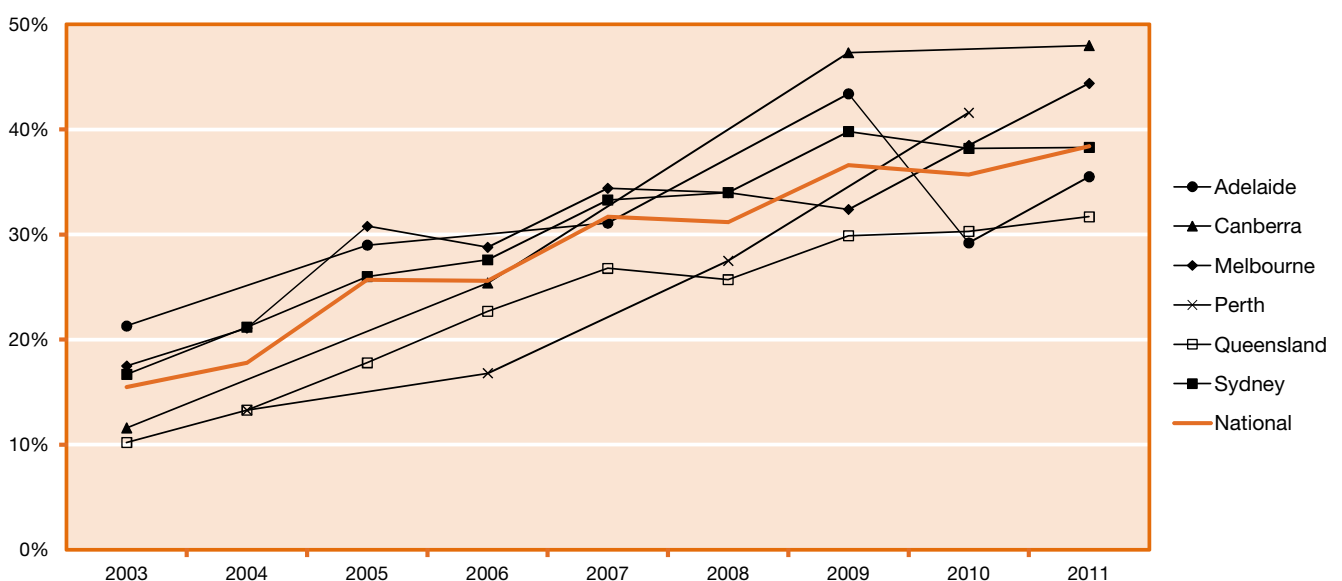


Figure 10: Men who reported having at least four different STI tests in the 12 months prior to the survey: GCPS, 2003–2012

3.3 Comprehensive HIV and STI testing among non-HIV-positive men

Martin Holt, Limin Mao and John de Wit

GCPS data collected from 2003 to 2012 in Melbourne, Sydney and Queensland were used to analyse trends in and factors associated with having annual comprehensive sexual health check-ups among men not known to have HIV infection at the time of survey (non-HIV-positive men). Comprehensive sexual health testing was defined as having at least one of each of the following in the 12 months prior to survey: HIV test, anal swab, throat swab, urine sample and blood test other than for HIV (including for syphilis).

The rate of comprehensive sexual health testing increased significantly in the ten-year period, from less than 13% in 2003 to over a third in 2012. Using 2012 data, further analysis showed that being more sexually active and sexually adventurous was associated with comprehensive sexual health testing. Men who self-identified as bisexual or heterosexual, who were aged 50 years old or over and men who did not have tertiary education were less likely to have annual comprehensive sexual health testing. Comprehensive sexual health testing remained associated with a higher reported rate of diagnosis with STIs other than HIV, after controlling for behavioural factors. This suggests there is value in offering all sexually active gay men comprehensive sexual health testing, regardless of their specific sexual practices, as it is likely to result in a higher rate of STI diagnosis.

3.4 HIV and STI testing routines among gay men in NSW

Philippe Adam and John de Wit

HIV and STI testing rates among men who have sex with men (MSM) in Australia are amongst the highest in the world, but notable minorities have never tested and many have not tested recently. To inform current programs aimed at promoting regular testing among MSM in NSW, a self-report survey entitled 'How much do you care?' was conducted to empirically assess men's testing routines and socio-behavioural and social-cognitive correlates. The survey was conducted online between April and October 2011, using paid advertisement to recruit male Facebook users who had checked the profile option reflecting an interest in men. A total of 1,123 men 16 years of age or older accessed the online questionnaire. The analyses presented below are restricted to the 580 men who reported to be non-HIV-positive, ever had sex with a man and provided answers to all items of relevance to this study. Mean age of the men in the sample was 29.33 years and the large majority of lived in Sydney.

Participants took on average 36 minutes to complete a comprehensive survey that asked them to report on their socio-demographic characteristics, sexual behaviours and risk-taking, practices and perceptions regarding HIV and

STI testing, and a range of social-cognitive factors that may reflect barriers to or facilitators of regular testing: knowledge of HIV and STIs, perceived susceptibility and severity of HIV and STIs, beliefs and attitudes regarding HIV and STI testing, subjective norms regarding testing, perceived behavioural control regarding testing, fears and worries about testing, and HIV/STI related stigma. To reduce survey burden, participants were randomised to answer questions on barriers/facilitators regarding either HIV testing or STI testing. A novel indicator was developed to assess MSMs' patterns of testing. This indicator combines participants' self-reported testing practices and their perceptions of the extent to which they test on a regular basis. The resulting indicator of MSM's testing routines provides an important new outcome measure for research and evaluation that captures the experiential component of regular testing and provides a proxy measure of the extent to which regular HIV/STI testing has become routine for MSM. With respect to HIV as well as STI testing, participants were categorised as non-testers, non-routine testers, testers with a moderate routine and testers with strong routines. Only half of MSM were found to have any testing routines, including three out of ten participants who reported strong testing routines. Participants without testing routines outnumbered participants who had never tested. Results indicate that nearly 30 years after HIV testing became available and in spite of considerable health promotion efforts, the testing practices of many MSM fall short of recommendations for regular testing.

The assessment of self-perceived testing routines also enabled a novel approach to the examination of potential barriers and facilitators regarding regular testing among MSM, as reflected in social-cognitive indicators. The study also explored similarities and differences in potential barriers and facilitators regarding HIV and STI testing and between men with different testing routines. Strong similarities were found in factors associated with HIV and STI testing routines in various groups of MSM, with only few variations in associated factors. Findings further highlight that multiple social-cognitive indicators of barriers and facilitators of HIV/STI testing each only play a limited role in explaining HIV and STI testing among MSM. Taken together these socio-cognitive indicators nevertheless explain a substantial proportion of variance in testing and need to be addressed in sexual health promotion programs. This suggests that to effectively promote regular testing in MSM, programs face the challenge of having to address multiple minor hurdles rather than few major obstacles. Barriers that are common to most MSM and both infections can be addressed in generic campaigns. Also, tailored interventions are needed to address barriers that are specific to testing for HIV or STIs or affect only groups of MSM with particular testing routines. Furthermore, targeted approaches are required to address the needs of specific subgroups of MSM who differ according to socio-demographic or behavioural characteristics.

Spotlight Delivering HIV testing and identifying undiagnosed HIV infection through the Gay Community Periodic Surveys (COUNT study)

Martin Holt and John de Wit

Gay men currently account for nearly 80% of annual new HIV diagnoses in Australia (The Kirby Institute, 2012). Undiagnosed HIV infections contribute disproportionately to HIV transmission, and an estimated 31% of new HIV infections in Australia are transmitted by gay men who are unaware they are infected (Wilson et al., 2009). Anonymous HIV prevalence studies of gay men in Brisbane and Melbourne suggest that as many as 20-30% of HIV-infected gay men may be unaware of their infection (Birrell et al., 2010; Pedrana et al., 2012). Decreasing the time between HIV infection and diagnosis and reducing the impact of undiagnosed infection on HIV transmission have therefore been identified as priorities in Australia's Sixth National HIV Strategy (Commonwealth of Australia, 2010).

A team of researchers, led by CSRH, is undertaking a study to tackle the issue of undiagnosed HIV infection among Australian gay men, funded by the National Health and Medical Research Council. As part of this study, HIV testing is offered to the participants in the GCPS, who will also be given the option of receiving their test results. The study will provide good estimates of HIV prevalence and undiagnosed infection among gay men and identify correlates of undiagnosed infection to guide prevention programs. It is estimated that the study will identify up to 150 cases of previously undiagnosed HIV infection, representing over 15% of the annual HIV diagnoses in Australia.

The GCPS recruit up to 8000 men each year from community events, gay venues and clinics in six states and territories. Participants will be asked to provide an oral fluid sample that will be sent to the National Reference Laboratory for testing. Participants who opt to receive their result will receive notification of a negative test result by SMS (text message), with the possibility of accessing further information through a website and a phone line. Men with reactive and possibly positive results will be called by a trained health professional and connected to a local clinical service for confirmatory HIV testing and care.

3.5 Future developments

An examination of the role of and models for appropriate and effective pre-test discussion and post-test counselling

Stephen Bell and John de Wit

Research has indicated that HIV testing efforts in European countries are failing to identify HIV infections early enough, and that substantial proportions of people with HIV are unaware of their infection. Contributing to the enhancement of a key HIV prevention priority, this one-year research project will contribute to the development of effective strategies to increase the uptake and frequency of HIV testing and counselling across health care and other settings in European countries.

Guidelines developed by a number of national and international health agencies aim to increase and normalise HIV testing, through the routine offering of HIV testing and counselling in a range of health care settings. These guidelines often provide recommendations which aim to reduce the impact of perceived barriers to testing, as well as address different ways of obtaining informed consent, the extent of pre-test discussion, requirements for post-test and risk reduction counselling, appropriate ways for the delivery of test results, and the referrals and linkages to specialist and other health care and social

services that should be available after testing. However, whilst there is a diversity of guidance, there are sometimes disparate recommendations, and there is a lack of detailed protocols providing clear definitions and descriptions of the components of HIV testing practice across settings in European and other countries. It also remains unclear to what extent current HIV testing practice is aligned with expert recommendations, respond to practical service delivery constraints, or reflect the extensive and evolving research evidence base across relevant fields of research.

In response, this project will contribute to the evidence base that guides the development and implementation of HIV testing models, which are acceptable to providers and clients, feasible in diverse practice settings and effective in promoting risk reduction. To do this, research will consist of: a review of authoritative guidance documents to gather definitions and recommendations regarding the different components of HIV testing models; a systematic review and synthesis of academic literature to extend and update earlier work evaluating the acceptability, feasibility and effects of different testing models; a stakeholder survey and follow-up qualitative interviews, to collect information regarding HIV testing processes used in contemporary service delivery; and an iterative expert consultation with international panel of experts to gain consensus about new recommendations and best practice protocols for HIV testing

4

Sexual health of young people



4.1 GOANNA Project: sexual health and relationships among young Indigenous people

Joanne Bryant

This project provides the first national profile of the sexual health of young Indigenous Australians. It examines risk behaviours, levels of knowledge and types of health services used for sexual health and BBVs. The project is funded by an Australian Research Council Linkage grant and is led by the Kirby Institute's Aboriginal and Torres Strait Islander Health Program in partnership with co-investigators from the National Aboriginal Community Controlled Health Organisation, CSRH, UNSW School of

Public Health and Community Medicine, and the Australian Research Centre in Sex Health and Society. The fieldwork for the project is coordinated and carried out by Indigenous researchers located at the Aboriginal Community Controlled Health Organisations in each state and territory. The project encompasses an important research capacity building component for these researchers to ensure that the project is guided by the Aboriginal community and can be carried forward beyond 2013. Data collection was completed in 2013, with almost 3000 Indigenous young people having taken part since 2009. The findings will set the foundation for an ongoing data collection system to ensure trends and behaviours can be monitored among young Indigenous Australians and to ensure necessary responses can be implemented.

4.2 Periodic survey of condom use and STI testing among young people

Carla Treloar, Philippe Adam, Joanne Bryant and Toby Lea

Young people remain a priority for action on STIs, given high rates of infection and low rates of testing and condom use, and this survey of young people responds to the current NSW STI Strategy. The project draws on CSRH's expertise in online survey technologies, and is designed as a pilot of a periodic online survey to monitor changes over time. In addition to delivering the survey, the project will also strengthen expertise in the targeted marketing of online research survey through widely-used social media. This involves an understanding of how the target group uses social media.

Assisted by an advisory committee including staff of the NSW STI Programs Unit, the NSW Ministry of Health and experts in research with young people, CSRH has developed a comprehensive survey to collect information about young people's sexual practices, their condom use with regular and casual partners, their knowledge of STIs and their STI testing practices. The survey instrument also assesses a comprehensive range of individual and social barriers and facilitators regarding condom use and STI testing among young people. Data is currently collected, requires specific attention to and monitoring of responses to marketing strategies. Results are available early 2014 and will inform the development of new health promotion campaigns and interventions with young people.

4.3 Review of NSW Sexual Health in School Project

Peter Aggleton

The March 2013 issue of HIV Australia highlights the importance of good quality sexual health education. It draws particular attention to the needs of young people, highlighting how STIs have risen sharply in recent years. Research indicates that Australian secondary students see school-based programs as their most useful source of information about sexual health and relationships. In NSW, much relevant work has been undertaken by the NSW Sexual Health in School Project, which has run for a period of six years supported by a partnership arrangement between the NSW Ministry of Health and the NSW Department of Schools and Communities (now Department of Education and Communities).

Led by Professor Peter Aggleton, a CSRH review of the project's work has recently been undertaken with the

goal of identifying how and in what ways current project activities are being used to promote young people's sexual health in schools. The review has also made recommendations concerning how the future work of the Project might best be aligned with recognised best practice internationally in sexual health promotion in schools.

The research has taken the form of a desk-based international review of the main features of effective work to promote sexual health in and through schools, together with a mapping of principal in school project activities and their perceived effects and impact. Findings highlight lessons learned to date as a result of implementing the project, including positive outcomes, scale and impact; and implications for future strategy development across NSW. A report from the review is currently being considered by NSW Ministry of Health and NSW Department of Education and Communities.

4.4 Future developments

Online prospective cohort study of younger MSM in Australia

John de Wit

As rates of annual HIV notifications continue to rise across Australia, including among gay and other men who have sex with men, there are indications that increasing numbers of new HIV diagnosis may be occurring among younger gay men, at least in NSW and Victoria. Furthermore, Gay Community Periodic Surveys find that gradual increases in unprotected anal intercourse that have been occurring for some time, have become pronounced in men under 30 years of age, in particular in Sydney. Also, the 'How much do you care' study of HIV and STI testing patterns among gay men in NSW identified specific prevention needs of younger gay men, defined as 26 years of age or less, who made up half of the study sample.

Specifically, while there was no age difference in unprotected anal intercourse with regular or casual partners, younger men were less knowledgeable about HIV and less likely to have tested for HIV/STI. Importantly, more younger men reported that they had never been exposed to HIV, STI or condom promotion campaigns and men less exposure to testing campaigns were less likely to have ever tested. To better understand the HIV/ST prevention need of younger gay men, and to inform appropriate and effective programs and services to promote HIV/STI testing and protective sexual behaviours, including condom use, CSRH is implementing an online study of young gay men, with a view of ensuring repeat or longitudinal data collection.

Spotlight Australia Forum on Sexuality, Education and Health

Peter Aggleton

The Australia Forum on Sexuality, Education and Health aims to bring together researchers, practitioners, community leaders and policy makers from across the fields of sexuality, education and health. The goal is to discuss and debate contemporary issues and concerns, build and consolidate networks, and develop joint projects and initiatives. Launched in 2012 in discussion with colleagues in over 15 different universities in Melbourne, Sydney and Brisbane, the Forum has held two well attended meetings in Sydney and two in Melbourne, focusing on learning about sex, researching sex education, and methodological innovation in sex and sexualities research. In addition to a wide variety of local speakers drawn from across the fields of sexuality, health and education, the Forum has hosted international visitors from Canada, New Zealand and the USA. Meeting contributors and participants come from a wide variety of backgrounds in policy, research and practice—reaching out into community groups and organisations, and representing a broad range of perspectives.

Since its inception, there has been significant interest and enthusiasm in the Forum. Future events planned for 2013 include a meeting in Brisbane in late August, on the theme of making, performing, learning and studying sexualities in the margins of society, and a meeting in Darwin in October, bringing together colleagues working in the Northern Territory and coinciding with the ASHM and ASHA conferences. A Western Australia meeting will be held in 2014. Embracing a wide range of participants across academia, education, health, social services, community arts and advocacy, the Forum offers a unique opportunity for cross-disciplinary and cross-sector discussion. Its goal is to progressively grow a cohesive network of participants by connecting people locally and nationally.

5

Living with HIV



5.1 Antiretroviral treatment and viral load among HIV-positive gay men

Limin Mao, Martin Holt and John de Wit

Nationally, the proportion of HIV-positive men recruited into the GCPS has been in the range 14–18% between 2003 and 2012 (see Table 14 and Figure 11). The Sydney and Melbourne surveys generally recruit the largest proportion of HIV-positive men, followed by Queensland. This appears to reflect the size of the gay male and HIV-positive populations in each jurisdiction (Prestage et al., 2008). Please note that

data from the smaller surveys (Adelaide, Canberra and Perth) have been omitted from this section, as the relatively small numbers of HIV-positive men recruited in these locations may make the estimates unreliable.

It is interesting that the proportion of HIV-positive men found in the GCPS appears to be relatively stable over time. This partly reflects the stability of survey recruitment over time. Although the number of people living with HIV, predominately gay men, has increased substantially during the reporting period, the estimated HIV prevalence rate appears to be stable (The

Table 14: Men who are HIV-positive: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Melbourne | 19.5 | 12.1 | 15.9 | 16.5 | 15.2 | 16.1 | 14.9 | 16.9 | 19.5 | 16.8 | ns | ↓ |
| Queensland | 14.2 | 14.2 | 24.8 | 13.6 | 10.2 | 11.0 | 11.6 | 14.6 | 14.2 | 9.2 | ↓ | ↓ |
| Sydney | 16.5 | 21.1 | 18.8 | 23.2 | 17.2 | 25.5 | 19.9 | 18.2 | 17.9 | 17.1 | ns | ns |
| Six states/ territories | 14.7 | 14.3 | 17.9 | 17.5 | 14.9 | 17.4 | 14.4 | 15.5 | 16.9 | 14.0 | ns | ns |

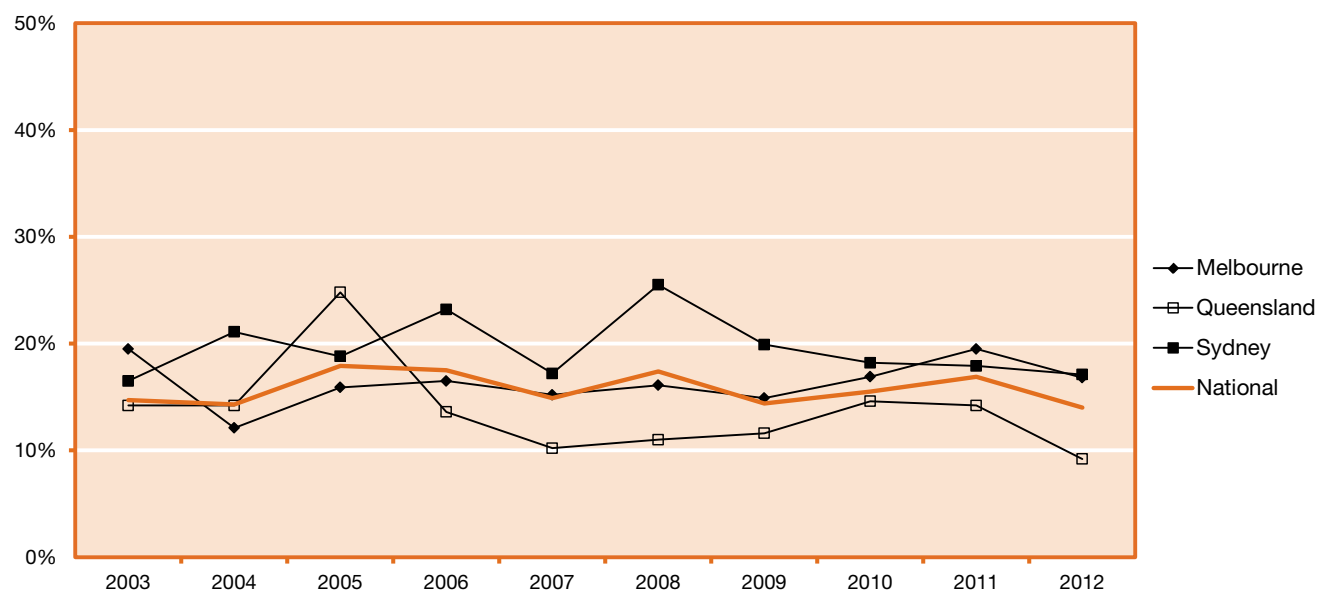


Figure 11: Men who are HIV-positive: GCPS, 2003–2012

Table 15: HIV-positive men on antiretroviral treatment, GCPS 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Melbourne | 60.6 | 63.8 | 56.5 | 55.3 | 51.5 | 63.3 | 61.3 | 69.7 | 72.6 | 77.7 | ↑ | ↑ |
| Queensland | 54.6 | 63.5 | 55.3 | 71.9 | 64.4 | 66.1 | 61.5 | 68.5 | 69.7 | 69.8 | ↑ | ns |
| Sydney | 70.9 | 54.9 | 64.4 | 54.7 | 53.2 | 70.6 | 73.5 | 68.9 | 70.6 | 80.2 | ↑ | ↑ |
| Six states/ territories | 63.5 | 61.9 | 60.3 | 60.1 | 57.2 | 68.0 | 67.4 | 69.5 | 71.8 | 77.9 | ↑ | ↑ |

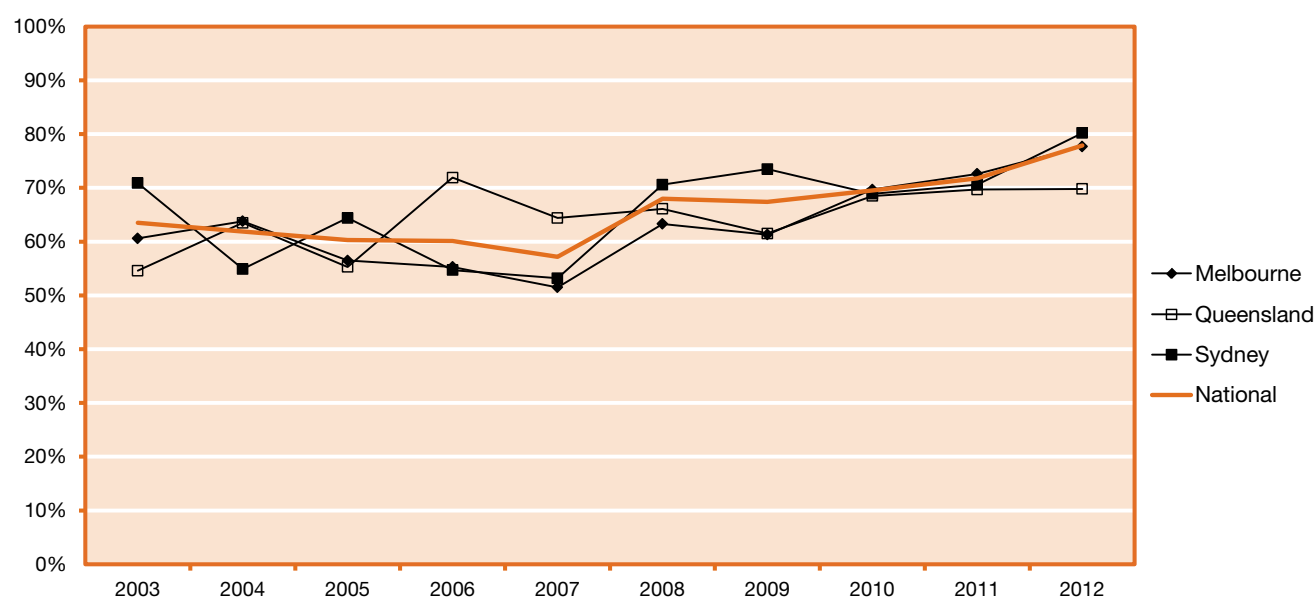


Figure 12: HIV-positive men on antiretroviral treatment: GCPS, 2003–2012

Kirby Institute, 2011). As the social and demographic profile of HIV-positive participants in the survey has changed over time, it is possible that HIV-positive men are less likely to be recruited into the GCPS as they become older and less likely to participate in gay community events and venues (Holt et al., 2013).

Use of combination antiretroviral therapy at the time of the survey by HIV-positive men in the GCPS is shown in Table 15 and Figure 12. Please note that data from the smaller surveys (Adelaide, Canberra and Perth) have not been reported separately, because of the relatively small numbers of HIV-positive men recruited in these locations. However, HIV-positive men from Adelaide, Canberra and Perth are included in the calculation of the national (six states/territories) trend. The analysis of national trend indicates that generally over 60% of HIV-positive men in the GCPS reported being on treatment between 2003 and 2012, with a significant increase in the proportion on treatment during the reporting period, particularly since 2007.

In 2012, about 70–80% of HIV-positive men in Melbourne, Queensland and Sydney reported being on treatment. Significant increases in treatment uptake have been observed in these three jurisdictions over the ten-year period, particularly in the last three years, with the exception of Queensland where the proportion of HIV-positive men on treatment has been stable in the last three years. Nationally,

the proportion of HIV-positive men on treatment is now at the highest level reported in the GCPS to date.

Since 2003, all HIV-positive men in the GCPS have been asked to report their latest HIV viral load test result. Table 16 and Figure 13 show the proportions of HIV-positive men reporting an undetectable viral load at the time of the survey (Note: this also includes all HIV-positive men, regardless of whether they are receiving treatment or not). Please note that this includes all HIV-positive men, regardless of whether they are receiving treatment or not. Data from the smaller surveys (Adelaide, Canberra and Perth) have been omitted from this analysis because of the small samples of HIV-positive men, and they are also excluded from the overall trend; they are also excluded from the overall trend, which is only based on data from the three eastern states.

There have been significant increases in the proportions of all HIV-positive men reporting an undetectable viral load in all three eastern states since 2003. In 2012, over 75% of HIV-positive men in Melbourne, Queensland and Sydney reported having an undetectable viral load at the time of the survey. Among HIV-positive men taking ART, the proportion reporting undetectable viral load at the time of survey increased from 74.1% in 2003 to 92.9% in 2012. This increased treatment success probably reflects ongoing improvements in the targeting and delivery of

Table 16: HIV-positive men who reported an undetectable viral load: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Melbourne | 54.7 | 50.2 | 37.8 | 53.4 | 45.0 | 66.6 | 60.1 | 72.4 | 69.2 | 74.3 | ↑ | ↑ |
| Queensland | 42.9 | 65.7 | 55.9 | 62.1 | 57.6 | 71.6 | 59.3 | 67.7 | 69.3 | 70.3 | ↑ | ↑ |
| Sydney | 57.5 | 51.9 | 60.3 | 54.4 | 56.6 | 64.7 | 70.1 | 72.3 | 74.7 | 81.6 | ↑ | ↑ |
| All 3 eastern states | 52.6 | 56.5 | 51.2 | 56.1 | 53.9 | 66.6 | 65.2 | 70.9 | 72.2 | 78.1 | ↑ | ↑ |

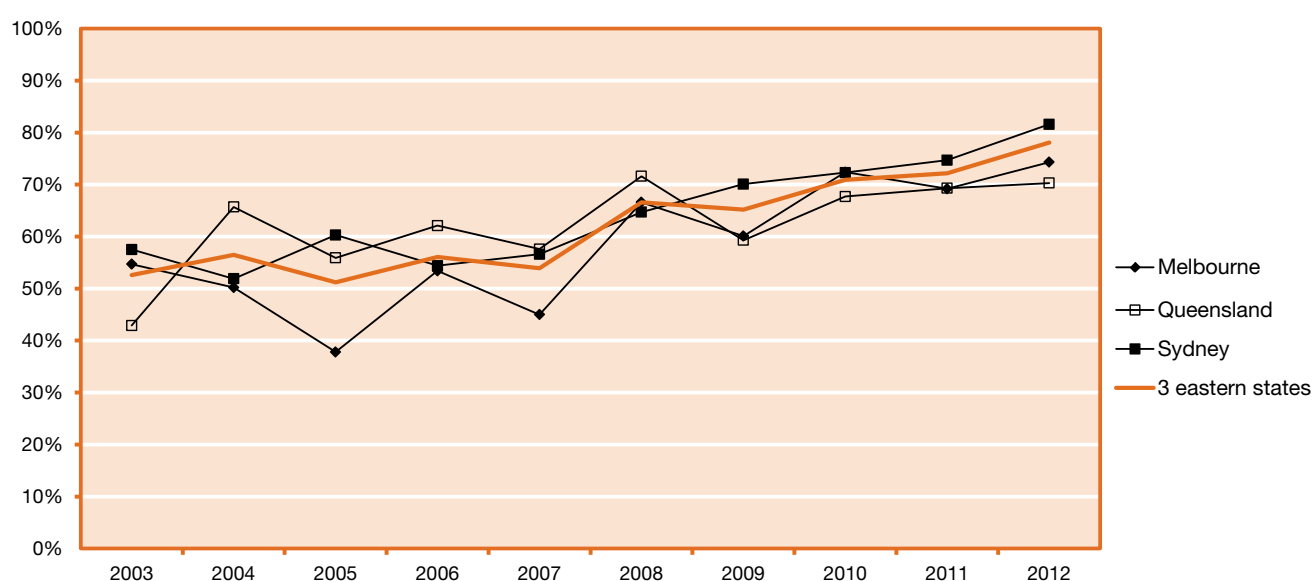


Figure 13: HIV-positive men who reported an undetectable viral load: GCPS, 2003–2012

antiretroviral treatment so that more people who need treatment are receiving it and the treatment they receive is more effective in achieving viral suppression. This finding is consistent with observations from HIV s100 prescribers (Mao et al., 2013) and clinical cohort data (Law et al., 2011).

5.2 Uptake of antiretroviral treatment and treatment decision making

Limin Mao, Christy Newman and John de Wit

Antiretroviral treatment (ART) not only has important benefits for individuals' health, but also has substantial benefits for public health as it reduces the likelihood of onward transmission. However, a substantial minority of people living with HIV (PLHIV) is not currently taking ART. In a context in which guidelines for HIV treatment are increasingly recommending earlier initiation and initiation for prevention purposes, the overall objective of this NHMRC-funded study is to investigate the extent to which PLHIV are not taking ART and to better understand the reasons PLHIV have for not taking ART. Specific aims include investigating the attitudes and practices of accredited prescribers regarding ART initiation, which to date have been assessed in two online surveys conducted in collaboration with the Australasian Society for HIV Medicine (ASHM). Main findings from the first survey have been reported in a peer-reviewed journal article (Mao et al., 2013) and publicised through a media release by ASHM.

A further aim is to identify key clinical, personal, social and structural barriers to treatment uptake by people living with HIV (PLHIV) and reasons for non-use, which is addressed using multiple methods. Firstly, views and experiences of HIV treatment officers have been investigated through two semi-structured face-to-face group discussions. Treatment officers are peers who provide information and support for PLHIV regarding HIV-related treatment decisions, particularly for those newly diagnosed with HIV. Secondly, in-depth interviews are undertaken with PLHIV across Australia who are not taking ART. These interviews provide rich descriptions of the perspective of affected individuals and enable a comprehensive understanding of the reasons for deferring or avoiding ART in a context in which expectations from both clinicians and community groups that people timely initiate and then sustain ART are increasing. Thirdly, the attitudes and practices of PLHIV regarding ART initiation, adherence and maintenance will be explored in a national online survey, which is scheduled for the second half of 2013.

The study also aims to generate robust population estimates of ART uptake (current use, past use, and being treatment naïve) amongst PLHIV in Australia, for which secondary analyses are underway that will make use of existing HIV surveillance data. Lastly, the project encompasses mathematical modelling of the potential population HIV prevention effects of different levels of

ART coverage. A manuscript describing an approach that will guide subsequent mathematical modelling is currently under review.

5.3 Factors associated with failure of antiretroviral treatment among people living with HIV

Limin Mao and John de Wit

Antiretroviral treatment of HIV is highly effective, but each year a substantial minority of about 10% of PLHIV in Australia stop ART, switch regimen because of toxicity, experience virological failure or are lost to follow-up by health care providers. Reasons for ART failure, in particular treatment interruption or cessation, are poorly understood and preliminary Australian data suggest that multiple clinical, treatment, psychosocial and socioeconomic factors increase the risk of ART interruption.

One important contributor to ART cessation that was recently identified in a resource-rich setting is the co-payment to hospital pharmacies when ART is dispensed. Notably, an exploratory study of financial stress among HIV-positive adults at a large metropolitan clinic found that difficulty meeting the ART co-payment was associated with a 6-fold increase in the odds of self-reported ART cessation. The objective of this study—led by Professor Andrew Carr, Director of the Centre for Applied Medical Research at St. Vincent's Hospital in Sydney, and conducted in collaboration with CSRH, NAPWHA, state and territory governments and the pharmaceutical industry—is to robustly identify the contribution of financial factors, in particular the requirement for a patient co-payment to obtain ART to the risk of ART failure. This prospective cohort study is designed to recruit 1,000 eligible HIV-positive adults from a range of participating clinical sites across states or territories and follow them up for a maximum of 24 months.

In preparation for the project, a pilot study funded by NSW Health has been initiated to ensure the feasibility of the larger study. This involves recruiting set numbers of participants from a limited number of selected research sites in NSW. Also, electronic self-completion questionnaires have been developed and made available on tablet computers at each site, including one questionnaire for patients' self-completion and one for study co-ordinators reporting of the clinical history and laboratory results of participants at enrolment. As per study protocol, all patients complete a computer-assisted survey as well as a short, standard cognitive online screening tool on the day of enrolment. In the pilot phase, the study was well received by both participating patients and study coordinators at each site.

Preliminary findings suggest that the rate of self-reported ART adherence was suboptimal, even though all patients had an undetectable viral load for at least three months

prior to enrolment. Furthermore, more than half of the patients reported needing financial assistance with HIV treatment or non-HIV treatment in the 12 months prior to survey. With 15% of those enrolled identifying cost as a barrier leading to ART delay or interruption, the study suggests a strong link between ART non-adherence or interruption and financial difficulties. In addition, poor mental health is likely to be another important factor in the failure of ART. In the two weeks prior to enrolment, about a quarter of patients reported suicidal ideation and over a third met the criteria of having a major depressive disorder according to a standardised screening instrument. Funding applications for the main study have been submitted to NHMRC and other agencies, with partner organisation support provided by health departments in a number of states or territories.

5.4 Stigma, wellbeing and resilience among people living with HIV

Loren Brener, John de Wit and Sean Slavin

People living with HIV (PLHIV) continue to experience stigma. Working in close collaboration with the National Association of People with HIV Australia (NAPWHA), we undertook an online survey completed by 697 PLHIV in Australia that documents a variety of adverse experiences associated with HIV stigma and its social, psychological and health effects. The survey, which was part of a larger project, included a range of validated scales to measure, among others, HIV status disclosure, perceived social reactions, experienced stigma, psychological resilience, distress, depression, anxiety and self-esteem, as well as health satisfaction and quality of life. The survey also asked participants to indicate how long they had been living with HIV, whether they were on ART (and for how long) and if they currently experienced any visible symptoms associated with HIV infection or its treatment.

Ongoing analyses of the rich survey data have already produced a wide range of findings that contribute to a better understanding of the nature and impact of PLHIV's experiences of stigma. While a great number of studies had been conducted regarding HIV-related stigma, in particular in the US, and negative consequences of stigma on health and wellbeing have previously identified, our research extends these findings by providing direct evidence that HIV-related stigma is multifaceted and may be experienced differently by different PLHIV. Notably, data show that the health and wellbeing consequences of stigma are different and more severe for people with visible symptoms related to their HIV infection or its treatment, while also illustrating that attachment to an HIV-positive community can act as a buffer against these negative consequences for PLHIV with visible symptoms.

The survey also highlights the layered nature of stigma through an exploration of the experiences of stigma of straight and gay people, with straight people perceiving more stigma and more negative reactions in relation to

their HIV status from different people in their social environment than gay PLHIV. Straight PLHIV were also less likely to be on treatment than gay PLHIV. The survey further shows that not only do PLHIV selectively disclose their HIV status, but specific patterns of disclosure may have particular adverse consequences for people's health and wellbeing. In addition, the study finds psychological resilience to be a mediator of the impact of experiences of stigma on PLHIV's health and wellbeing. This suggests that experiences of stigma not only affect health and wellbeing outcomes, but can also deplete critical coping resources, further compounding the deleterious impact of HIV stigma in affected individuals and communities.

5.5 Future developments

Agenda for HIV research with people from culturally and linguistically diverse backgrounds

Carla Treloar and John de Wit

Men who have sex with men account for approximately 80% of HIV infections in Australia. The remainder of infections are mostly associated with heterosexual transmission and frequently occur among people from culturally and linguistically diverse (CALD) communities. People from CALD communities, besides experiencing a disproportionate HIV burden, may also experience barriers to timely HIV diagnosis and care, an area that has received only limited attention to date. CSRH has a number of activities underway to develop an agenda to guide our future research regarding HIV prevention, treatment and care for CALD communities. This includes a partnership between CSRH, the Multicultural HIV and Hepatitis Service (MHAHS) in NSW, the NSW Ministry of Health and Local Health Districts (i.e., South East Sydney, Sydney, and South Western Sydney) to organise a roundtable meeting of key agencies to examine priority issues related to CALD communities in relation to the NSW HIV Strategy. The aim of this meeting is to analyse HIV notification data for NSW as they relate to CALD communities and identify barriers, enablers and opportunities to achieving the relevant targets in the NSW HIV Strategy. While this meeting is focused primarily on health service responses, there will undoubtedly be robust discussion of research needs in this area.

To progress this discussion of research needs, a second event has been organised by CSRH to focus on the national research agenda. More specifically, CSRH is organising a symposium at the 2013 Australasian HIV/AIDS Conference that will focus on the trends, drivers, impacts and responses in relation to the heterosexual transmission of HIV in Australia. Through these and future events, CSRH aims to bring to the foreground the experience of people from a CALD background and heterosexual people living with HIV and raise awareness among policy makers, health professionals and community agencies as well as set directions for future research.

Spotlight HIV General Practice Workforce Project

Christy Newman and John de Wit

HIV has become a chronic manageable infection in the developed world, and early and lifelong treatment has the potential to significantly reduce transmission rates in the community. Achieving and sustaining these health management and prevention outcomes requires health and medical practitioners that are both skilled in and motivated to provide high quality HIV care across all parts of the Australian community. To investigate the rewards and challenges of providing HIV care in general practice settings around Australia, we undertook a national, qualitative study, funded in part by a National Health and Medical Research Council Project Grant (568632), that focused in particular on understanding workforce issues and building new knowledge on the role of the GP in maintaining and enhancing the health of people living with HIV.

The project was organised around two rounds of interviews. We firstly interviewed 'policy key informants' ($n=24$) holding senior positions in government, non-government and professional organisations, to better understand the policy, advocacy and educational issues affecting GPs who provide HIV care. We then interviewed 'clinicians' ($n=47$), including GPs actively prescribing antiretroviral medications, GPs providing HIV care but not prescribing antiretrovirals, GPs who had stopped maintaining their HIV prescriber status, and general practice nurses involved in HIV care. In looking over the range of findings of this project, we observe that GPs provide HIV care because they are interested in the clinical issues related to HIV medicine, can achieve great personal satisfaction in making a difference in the lives of people living with HIV, and appreciate the professional benefits that accompany developing networks and connections across this area of interest. However, barriers to pursuing or sustaining this interest persist, particularly in relation to the challenges of balancing the books and keeping up with knowledge in relation to both HIV and general practice medicine. Our study further suggests that raising the profile of HIV medicine among medical students and doctors in training will increase awareness of HIV prevention and treatment priorities among the future medical workforce. However, there also needs to be greater clarity in the messages communicated to the existing general practice workforce about the contributions they can make to HIV medicine, whether in direct care and treatment, sharing HIV care with specialist clinicians or simply increasing HIV testing and reinforcing prevention in their daily practice. More information about the project can be found at https://csr.h.arts.unsw.edu.au/media/NCHSRFile/1_managing_HIV_in_general_practice_research_summary.pdf

Drug use, risks and harm reduction



6.1 Drug use and injection among gay men

Limin Mao, Martin Holt and John de Wit

The Gay Community Periodic Surveys include questions about the use of a range of drugs. Table 17 and Figure 14 show the use of selected recreational drugs by men from every participating state and territory in the six months prior to the survey. They illustrate changes in commonly used drugs among gay men across the country.

From Table 17 and Figure 14 we can see that amyl nitrite ('poppers') is the most commonly reported drug by participants in the GCPS. Amyl nitrite is an inhaled drug that is popular among gay men as both a euphoric and muscle relaxant; it is therefore used as both a 'party' drug for dancing and in sexual settings. Poppers use is reported by over a third of men in the GCPS and its use has remained stable since 2003. Cannabis is the second most commonly reported drug, although its use has declined since 2003, mirroring national

trends that show generally declining levels of drug use by gay men over the last decade (Lea et al., 2013a). The use of ecstasy and amphetamines ('speed' powder and crystal methamphetamine) has also declined during the reporting period.

Bucking the general trend of declining drug use, the use of cocaine and erectile dysfunctional medication like Viagra and Cialis has increased during the reporting period. We include erectile dysfunction medication in the list because research indicates it is being used recreationally by gay men to facilitate sex and its use has been associated with an increased risk of HIV seroconversion (Prestage et al., 2009). The use of all listed drugs has stabilised in the last three years except ecstasy. There has been a gradual decline in reported ecstasy use both over the ten-year period and the most recent three-year period.

Any drug injection for recreational purposes remains relatively rare among gay men, although it is much more common than among the general population. Table

18 and Figure 15 show the proportions of men from Melbourne, Queensland and Sydney who report any drug injection in the six months prior to the survey, as well as a national trend. Please note that, because it is infrequently reported, the rates of drug injection by gay men in Adelaide, Canberra and Perth have been omitted, although data from these locations is included in the national rate.

Nationally, the proportion of men reporting any IDU in the six months prior to survey has declined slightly from around 8% in 2003 to 6% in 2012. We have consistently observed that a higher proportion of HIV-positive men have injected drugs compared to the HIV-negative men and (meth)amphetamines and steroids have been the most commonly injected drugs (Lea et al., 2013b).

Table 17: Men who reported any use of selected recreational drugs in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Amphetamines (eg. speed, crystal methamphetamine) | 22.2 | 22.2 | 22.8 | 25.5 | 19.7 | 18.9 | 17.2 | 16.4 | 14.9 | 16.8 | ↓ | ns |
| Amyl nitrite | 35.1 | 37.7 | 39.4 | 38.1 | 36.3 | 39.2 | 35.1 | 38.4 | 37.1 | 37.1 | ns | ns |
| Cannabis | 37.6 | 39.3 | 38.0 | 36.4 | 31.3 | 32.9 | 29.7 | 32.8 | 29.4 | 29.8 | ↓ | ns |
| Cocaine | 9.0 | 8.4 | 10.5 | 13.0 | 12.8 | 11.3 | 11.4 | 13.0 | 10.9 | 10.7 | ↑ | ns |
| Ecstasy | 29.0 | 26.6 | 29.9 | 30.3 | 28.3 | 26.6 | 25.6 | 24.7 | 18.6 | 10.7 | ↓ | ↓ |
| Erectile dysfunction medication (eg. Viagra, Cialis) | 15.4 | 15.6 | 20.1 | 21.2 | 19.6 | 20.6 | 22.6 | 21.8 | 22.2 | 23.9 | ↑ | ns |

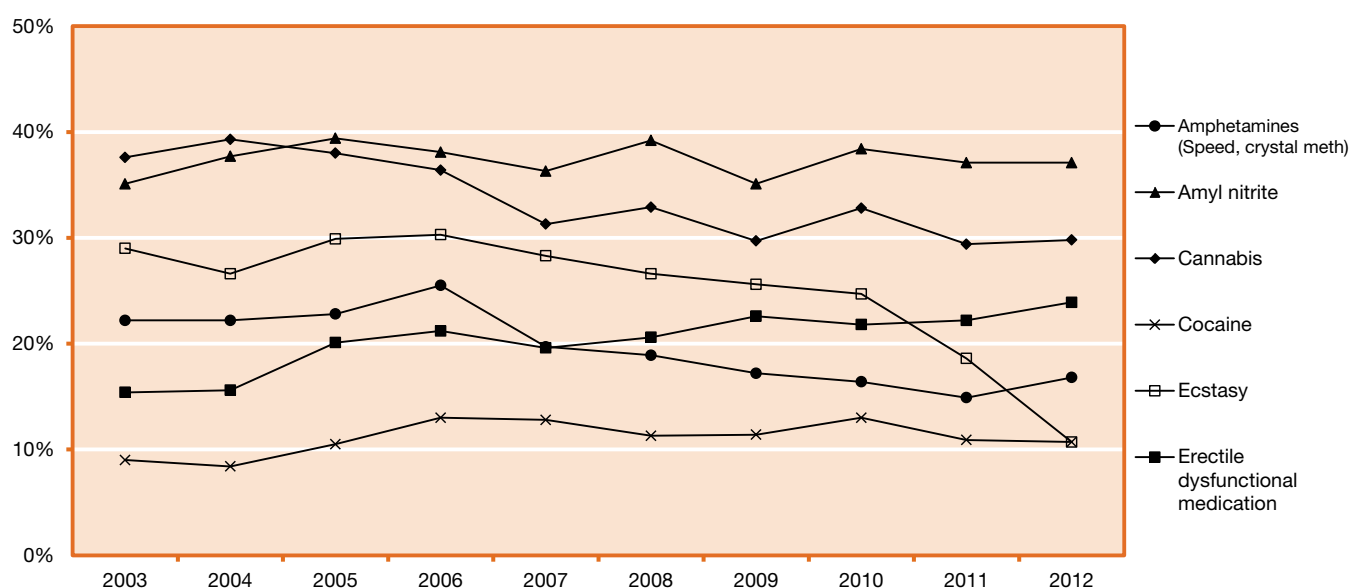


Figure 14: Men who reported any use of selected recreational drugs in the six months prior to the survey: GCPS, 2003–2012 (all six states or territories)

Table 18: Men who reported any injecting drug use in the six months prior to the survey: GCPS, 2003–2012

| | 2003 % | 2004 % | 2005 % | 2006 % | 2007 % | 2008 % | 2009 % | 2010 % | 2011 % | 2012 % | Overall trend | Trend in last 3 years |
|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------------|--------------------------|
| Melbourne | 6.0 | 5.4 | 6.2 | 8.0 | 4.9 | 6.2 | 6.7 | 4.5 | 4.9 | 9.5 | ↓ | ns |
| Queensland | 8.5 | 7.7 | 4.0 | 8.0 | 2.9 | 5.1 | 6.1 | 5.3 | 5.9 | 3.0 | ↓ | ns |
| Sydney | 8.6 | 10.2 | 6.7 | 6.5 | 8.4 | 8.1 | 7.8 | 6.9 | 5.2 | 5.9 | ns | ↓ |
| All six states/ territories | 7.6 | 7.5 | 5.7 | 7.2 | 5.6 | 6.6 | 6.5 | 5.4 | 5.0 | 6.1 | ↓ | ns |

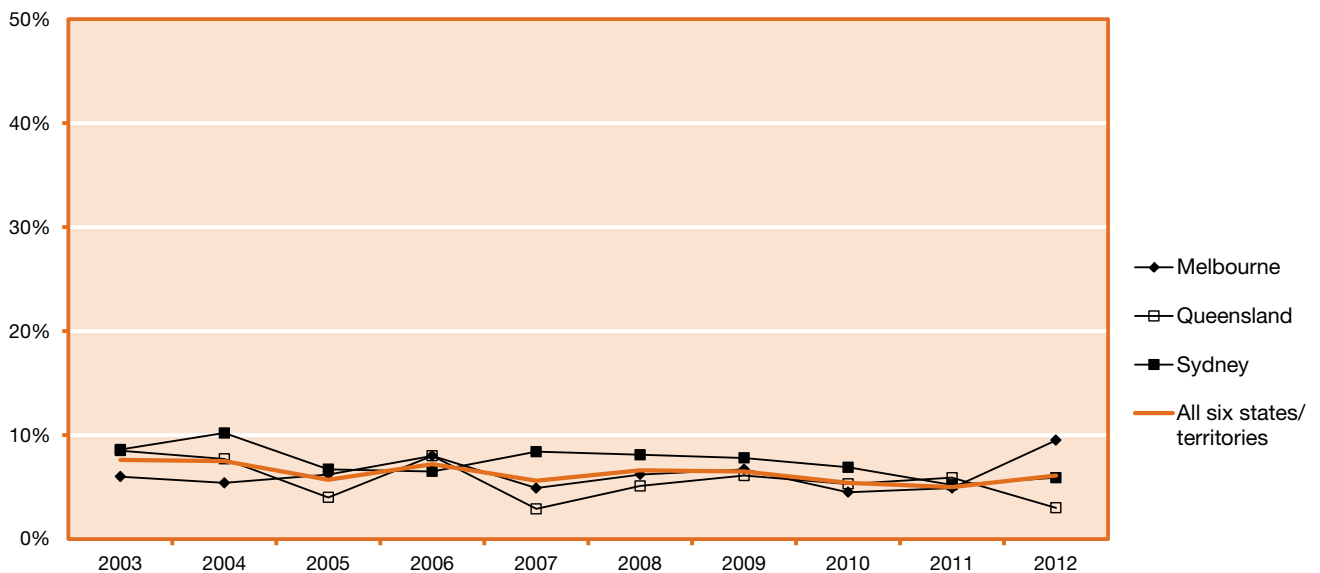


Figure 15: Men who reported any injecting drug use in the six months prior to the survey: GCPs, 2003–2012

6.2 Lesbian, gay, bisexual and transgender people's experiences of injecting drug use and hepatitis C seroconversion

Carla Treloar

This study made use of data collected in a project with people in NSW, predominantly in Sydney, who had recently acquired hepatitis C (i.e., people who reported a positive hepatitis C antibody test in the two years prior to recruitment, preceded by at least one negative test), which was undertaken in collaboration between CSRH and The Kirby Institute. This specific study focused on eight participants (of a total of 24) who self-reported as lesbian, gay, bisexual or transgender (LGBT). While LGBT people report higher rates of drug use and injecting drug use than the general population, there have been few detailed studies of the experiences of LGBT people who inject drugs.

In this sample, drug use was described as assisting fitting in with participants' chosen communities. However, this secondary analysis also showed tensions between participants' sense of place and belonging in two distinct communities: people who inject drugs and LGBT people. Notably, injecting drugs or becoming infected with hepatitis C could act as barriers to fitting in with LGBT people, while being an LGBT person who injects drugs could result in rejection from mainstream groups and from others who inject drugs. Findings are important in considering appropriate support services for LGBT people who wish to seek care for hepatitis C or for drug use, and recommendations include the need for health professionals to form relationships with LGBT community organisations and develop capacity in health care for LGBT people. Data also point to the need for a broader research agenda regarding drug use and hepatitis C, including the standard inclusion of questions related to sexuality (e.g., sexual

practice, identity and community attachment) in research to allow further investigation of the specific needs of and appropriate responses for LGBT individuals and communities.

6.3 Vulnerable young people in inner-city areas who use alcohol and other drugs: policing and pathways to diversion and care

Joanne Bryant

Researchers, governments and youth workers know that there is a small group of young people in the community who are involved in multiple risky activities. They are simultaneously involved with police, the juvenile justice system, and youth and other community services and, usually, drugs and alcohol are implicated in some way. More often than not, this group of young people have had difficult lives of poverty, violence, family upheaval, and homelessness. For these reasons, the justice system seeks leniency when they commit offences, especially in relation to alcohol and illicit drug use. While Australia has comprehensive (and often complicated) diversion programs in place for young people who offend, there is still opportunity to improve pathways into treatment and care rather than direct them into the courts and detention. Police play an important first-stage role in deciding whether a young offender gets directed into the criminal justice system or diverted into treatment.

CSRH, in collaboration with Turning Point Alcohol and Drug Centre, are conducting a study that looks at police and their diversion practices in relation to young substance users. The project uses a mixed-method design, encompassing existing survey data from NSW and Victoria, together with in-depth interview data collected during the course of the project. Interviews will be conducted

with police, young substance users aged 16–24 years, and staff of youth-focused alcohol and drug services. The project is due for completion in 2014 and will describe the opportunities to improve young people's engagement in diversion. Also, the project aims to produce training resources to support police in their diversion practices. The project is being led by Dr Lynda Berends and Dr Sarah MacLean at Turning Point Alcohol and Drug Centre in Victoria, with the NSW component being led by Dr Joanne Bryant at CSRH. Other investigators include Associate David Best, Professor Robin Room, Dr Ann Wilson, Mr Andrew Bruun and Mr Jake Rance.

6.4 Future developments

Evaluation of needle and syringe program service delivery modes

Carla Treloar

The overall goal of this project, conducted in partnership with the Nepean Blue Mountains and Western Sydney West Local Health Districts, is to examine the best mix of needle and syringe program (NSP) service delivery to impact hepatitis C prevention efforts. This partnership project enables a number of activities and innovative projects to be undertaken that emerge from the shared expertise of researchers, service managers and front-line NSP staff to optimally support NSP service delivery. Projects include a 'mapping' project that makes use of a CSRH-developed means of representing NSP service delivery in geospatial software. This allows NSP staff and managers to visualise the positioning of various

NSP outlets (primary, secondary, vending machines and pharmacies) for stakeholders and highlight areas where services are lacking. In addition, geospatial maps identify potential new positions for NSP outlets.

The aims of NSPs are to contribute to the prevention of BBV transmission via the distribution and disposal of injecting equipment and to provide referral to others services for NSP clients. Through interviews with NSP staff and clients it became apparent that NSP staff undertake a range of other activities that are not routinely documented in NSP measures of activity or impact. CSRH worked with NSP staff to initiate a project to develop a case study approach to recording and categorising activity and impact in areas such as advocacy for individual clients, within the service as well as with other health agencies.

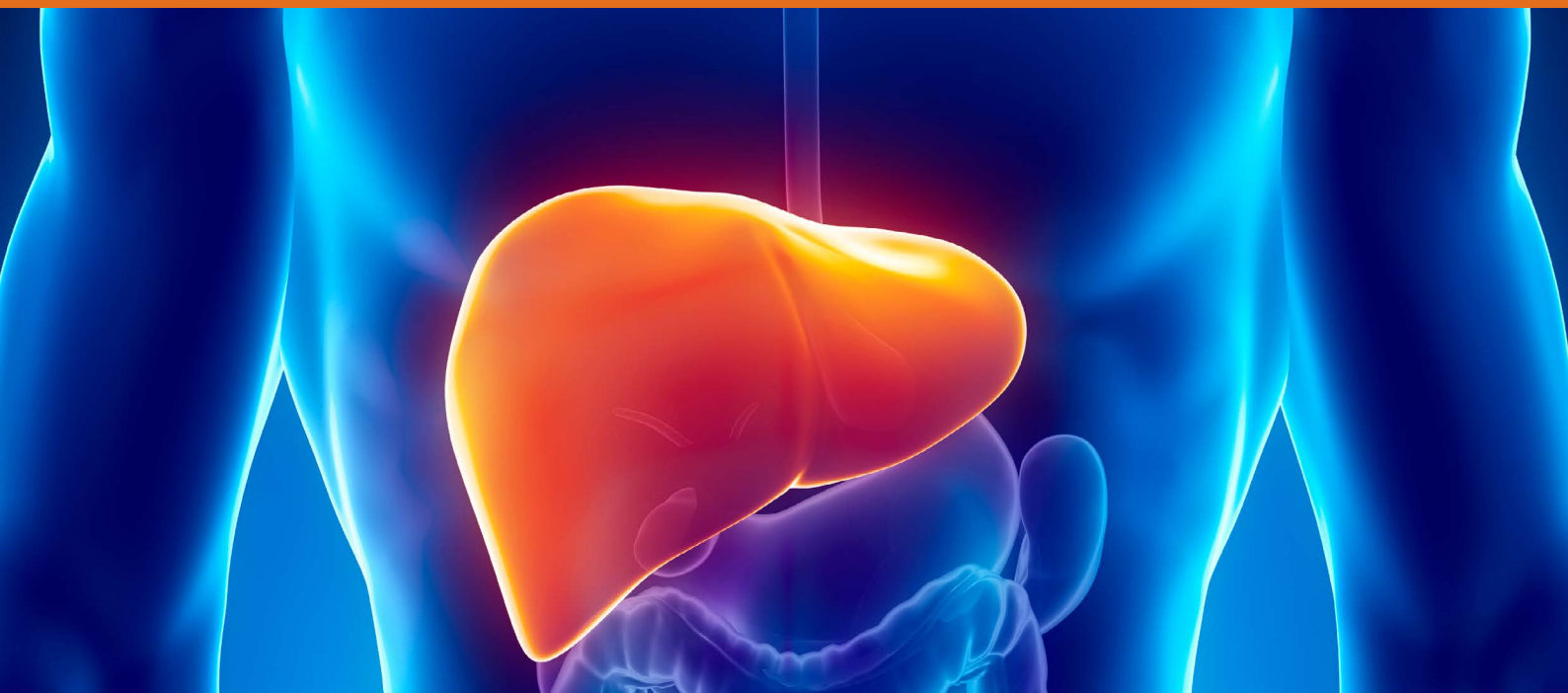
A further project is planned to explore the feasibility and acceptability of new hepatitis C prevention materials and messages, generated through previous research. Findings of the past 'Staying Safe' project, undertaken by CSRH as part of an international collaboration, demonstrated the importance of strategies unrelated to hepatitis C prevention in promoting the use of sterile injecting equipment. For example, the use of sterile equipment is important for vein care and for minimising marks on the skin at injecting sites. In partnership with Local Health District staff, a range of innovative hepatitis C messages have been developed that do not mention hepatitis C, but focus on these 'symbiotic' strategies. A small-scale study will be conducted within the NSP service to examine the acceptability of these messages to NSP staff and clients, and the feasibility of including these messages in NSP operations.

Spotlight A study of respondent-driven sampling among young homeless people

Joanne Bryant

This study documented an experience of using respondent-driven sampling (RDS) to recruit socially marginalised young people in Sydney, Australia. Respondents were young people aged 16–24 years, who were current illicit drug users and who reported at least one feature of social marginalisation (for example, a recent experience of homelessness or juvenile detention). Four seeds initiated the sampling and 61 respondents were recruited until the sampling was closed due to slow progress at week nine. The study examined the overall success of RDS and compared this with similar RDS studies, and assessed the sufficiency of network ties among respondents. The analyses suggest that RDS was generally successful in that, despite its small size, the sample achieved adequately long recruitment chains and variables converged to equilibrium. Nevertheless, recruitment was much slower than in comparable studies. This could be due to the study population having a reduced willingness to participate, a high proportion of respondents who did not fit the selection criteria, and small and disparate networks. Using RDS with marginalised youth may require generous resourcing to allow large incentives to increase willingness, and a lengthy recruitment period. Moreover, the small networks suggest that researchers should start the sampling with a large number of seeds. For more information, see Bryant (2013).

Prevention and treatment of viral hepatitis



7.1 Young university students' knowledge about hepatitis C and their support for harm reduction

Max Hopwood and Limin Mao

In Australia, up to ten thousand new hepatitis C infections occur annually, with around 90% of new infections found among people who inject drugs (PWID). Young people aged 20 to 29 years have the highest rate of hepatitis C transmission of all population groups in Australia. International research conducted among general populations as well as young people and PWID found that knowledge about hepatitis C is poor and that hepatitis C infection is often confused with other viral hepatitis and/or HIV. Previous studies also found that while community support for harm reduction services in Australia is generally good, support is reduced by negative media representations and political rhetoric.

The survey instruments used to assess community attitudes to harm reduction can also impact significantly on observed levels of support for these services. The mix of low hepatitis C knowledge, illicit drug use among youths and wavering support for harm reduction comprise a challenge for Australian communities when trying to reduce the rate of new hepatitis C infections.

During the second academic session of each year since 2009, researchers from CSRH have conducted a mixed-method study of university students' support for harm reduction and their knowledge of the viral hepatitis. To date, the findings of this ongoing study have been published in two peer-reviewed journal articles (Hopwood, Brener, Franklin & Treloar, 2010; Hopwood, Brener & Wilson, 2012) and a third article is currently under review. In September 2012, questionnaires were again randomly allocated to a convenience sample of 308 young people aged 25 years and under

who were attending UNSW. Questionnaires comprised a 19-item standardised hepatitis C knowledge scale, a brief 6-item scale regarding attitudes to harm reduction and seven items that assessed sample characteristics. Most young people surveyed in 2012 had good knowledge of injecting-related hepatitis C transmission risks. However, participants were much less likely to correctly answer knowledge items regarding living with hepatitis C, the natural history of hepatitis C infection and treatment of the condition. Also, although knowledge about the risks of injecting was good, participants were generally unaware that hepatitis C can be transmitted between people who share straws and bank notes for snorting drugs such as cocaine. With regards to support for harm reduction services, the 2012 survey found that most services were well supported, with the Sydney Medically Supervised Injecting Centre achieving the highest level of support. There was, however, little support for a trial of prescribed heroin, with less than one in three participants approving of such an intervention.

As this study previously found, harm reduction services continue to be generally well-supported among this group of well-educated young people. However, the continued diffusion of information about the risks for hepatitis C is needed to further improve knowledge. Better knowledge of hepatitis C risk practice will help ameliorate the currently high incidence of this infection among youth in Australia.

7.2 Periodic survey of young people's hepatitis C knowledge

Carla Treloar, Joanne Bryant, Philippe Adam and Toby Lea

Young people are a priority population group for the prevention of hepatitis C. Our previous work among attendees at music festivals shows that in the previous year approximately 25% of participants had a friend who injected drugs, had a boyfriend/girlfriend who injected, or had been offered a drug for injection. While only a minority of these young people exposed to drug injecting may go on to inject drugs themselves, there is a need to improve their knowledge of hepatitis C transmission (which was moderate only) and prevention strategies (which was very low). Of particular importance is that most young people recruited at music festivals could not correctly name a service where sterile needles and syringes could be obtained. Young people who are in contact with others who inject drugs may be in the position to assist these friends and partners with information or access to sterile equipment, and the results of our research with music festival attendees has assisted the NSW Ministry of Health in shaping their social media campaign targeting young people. This current survey, which is related to the periodic survey of condom use and STI testing among young people (see section 4.2), is designed as a pilot study for an ongoing periodic survey and aims to assess important indicators of knowledge of hepatitis C

transmission and prevention. To extend the indicators of exposure to injecting taken of music festival attendees, this current survey included additional questions related to the size and composition of young people's network in relation to drug use as well as measures of social norms regarding drug use. Data is currently being collected and results will be available in early 2014.

7.3 Hepatitis C in sexual partnerships

Carla Treloar

This NHMRC funded project is concerned with drug injecting in couples and extends pilot work funded by the South East Sydney Illawarra Local Health District. The project involves a collaboration with the National Drug Research Institute at Curtin University (A/ Professor Suzanne Fraser) and the London School of Hygiene and Tropical Medicine (Professor Tim Rhodes). The NSW Users and AIDS Association (NUAA) is also represented (Ms Nicky Bath, General Manager). The aim of the project is to investigate the obstacles that couples experience in discussing and acting on hepatitis C prevention advice regarding sexual partnerships, with attention paid to differences between serodiscordant, negative seroconcordant and positive seroconcordant partnerships. We also seek to identify and document effective modes of negotiation and strategies employed around hepatitis C prevention in sexual partnerships where they do occur. This will be achieved through an innovative approach that involves enrolling both members of a couple, with recruitment focusing on Sydney and Melbourne, and using the couple as the unit of data analysis. The study also aims to explore current practices among health workers involved in promoting hepatitis C prevention to people in sexual partnerships, for which interviews will be conducted with front-line workers.

A further set of aims centres on understanding the technologies most pertinent to hepatitis C prevention and risk – that is the equipment used for injecting and its mode of delivery, and the health promotion materials targeting people who inject drugs. To date, two papers addressing these issues have been published from this project. The first is a commentary noting the importance of social relationships to health promotion practice and messages in hepatitis C health promotion (Fraser et al., 2013). The second paper extends the discussion of the importance of social relationships to a consideration of the design of commodities used in hepatitis C prevention (Fraser, 2013). This paper more in particular examines the design of 'fitpacks' used to distribute sterile injecting equipment from the unconventional standpoint of the couple. Like the larger project, this paper seeks to illuminate the individualising propensity of conventional approaches to hepatitis C prevention and argues for new messages aimed at couples (rather than individuals), and a new injecting pack designed for couples.

Spotlight Challenging stereotypes and changing attitudes: improving quality of care for people with hepatitis C through 'positive speaker' programs

Loren Brener, Hannah Wilson and John de Wit

'Positive speaking' typically involves individuals diagnosed with an illness who are trained to speak at public events about their illness. A key benefit of positive speaking is that it provides an opportunity to learn about the speaker's experience of the illness. This has the potential to increase awareness of an illness and, particularly relevant with respect to stigmatised illnesses such as hepatitis C, to 'humanise' the illness. This is particularly important as the stigma associated with hepatitis C and injecting drug use has been found to have adverse implications for the wellbeing of people living with hepatitis C, their access to health care and their treatment outcomes.

Positive speaking may be an effective strategy to reduce stigma, including in the health care sector, and its potential impact can be understood through the Contact Hypothesis or Intergroup Contact Theory. Intergroup Contact Theory posits is that, under appropriate conditions, interpersonal contact may be one of the most effective ways to reduce prejudice between majority and minority group members. Simply put, this theory suggests that if majority group members have the opportunity to communicate with and learn sufficient new information about minority group members, this will result in a new appreciation and increased understanding of the minority group, which will ultimately lead to positive attitude change. Contact must however meet particular requirements, including equal status of the groups, the groups having common goals, intergroup cooperation, and support of authorities. If these conditions are not met, prejudice between majority and minority group members may not be reduced through contact.

The aim of this qualitative study was to investigate the perceived influence of the Positive Speakers Program of Hepatitis NSW on audience members' attitudes towards people with hepatitis C from the point of view of both the speakers and the audience. Interviews were conducted with nine positive speakers and 16 audience members, in particular health care workers, to assess the way in which sessions were perceived by speakers and audience to challenge stereotypes and stigma associated with hepatitis C and to promote positive attitudes regarding people with hepatitis C. Data was analysed using an Intergroup Contact Theory perspective, with a focus on whether the program met optimal conditions to promote attitude change.

Findings suggest that speakers set out to challenge stereotypes and reduce stigma, and health care workers acknowledge the contributions of the talks in altering their understanding of people with hepatitis C. As the disease becomes humanised through interaction with a real person, audience members and speakers alike feel that this results in increased sympathy and compassion amongst health workers, which may contribute to improving the quality of care for people with living with hepatitis C. Positive speaking hence holds potential as a dynamic and interactive approach to decreasing stigma and prejudice through the experience of positive contact, especially in health care settings. The results of this study further suggest that there are a number of vital components to this Positive Speakers Program that ensure that the program meets the requirements for optimal intergroup contact according to the Contact Hypothesis. As this research shows, a favourable outcome is most likely when receptive audience members encounter skilled and well-trained members of the stigmatised group in an encouraging, supportive and well-managed setting.

7.4 Characterising hepatitis C transmission and protection among prisoners

Carla Treloar

It is well established that the prevalence of hepatitis C is much higher among prison inmates (both men and women), than in the general population. However, there has been little social research to examine the practices and situations related to hepatitis C risk for prisoners. To address this gap, a qualitative study has been initiated to explore the complex and interrelated practices and environments surrounding hepatitis C risk (and prevention strategies). This study is part of a NHMRC-funded partnership project that is led by researchers in the Faculty

of Medicine at UNSW, including in the National Drug and Alcohol Research Centre (NDARC), and involves an advisory group representing a range of agencies, including Corrective Services NSW, Justice Health, Hepatitis NSW and the NSW Users and AIDS Association (NUAA).

The project draws upon a cohort of NSW prison inmates who report a history of injecting drug use (HITS), and participants recruited into this study will differ in their hepatitis C status (no hepatitis C infection; incident infection; chronic hepatitis C) and their risk practice (injecting drug use only; injecting drug use and other factors; other factors only). Participants will be asked to discuss and explore the practices and settings in which they engage with practices that have been associated with hepatitis C risk, in particular injecting drugs, tattooing, piercing, body modification and violence.

To date, 20 participants have been recruited and interviewed, including six women, 10 people who are not infected with hepatitis C, five with incident infection and five with chronic hepatitis C infection. Nine participants report only injecting drug use as risk of exposure to hepatitis C, seven report injecting drug use and other risks of exposure (notably tattooing or violence), and four report only other risks and no injecting drug use. Data offer a unique view of hepatitis C risk (and prevention) in prison and data analysis will in particular focus on the understandings of hepatitis C risk (and risk avoidance) of prison inmates, what strategies are used by inmates to avoid hepatitis C, what factors are important in decisions about risk (such as prison structure and security, relationships and networks, transactional issues, and interpersonal and institutional trust).

7.5 Future developments

Mental health support workers' attitudes towards hepatitis C and injecting drug use among clients with a mental illness

Loren Brener

Although the prevalence of hepatitis C amongst people with a mental illness is estimated to be substantially higher than in the general population, this has received little research attention in Australia. Hepatitis C is highly stigmatised, largely as a result of its association with injecting drug use. Mental illness is also stigmatised and hence people with a mental illness and hepatitis C may face a type of double stigma. A research partnership between Aftercare, a mental health non-government organisation, and CSRH was awarded seeding grant funding for an exploratory study to assess the impact of hepatitis C-related stigma on the health outcomes of people with a mental illness. This project involved a survey of support workers for people with a mental illness and consultations with clients and staff.

Findings of this study have been reported in two papers. A first paper explored the impact of hepatitis C-related stigma on care and support for people with a mental illness (Brener et al., in press). Cross-sectional surveys with 117 support workers assessed their attitudes towards hepatitis C and people who inject and explored whether these attitudes

influence their level of comfort with and perceived capability in working with clients who have hepatitis C and a mental illness. Surveys also investigated support workers' views about recovery of clients with a mental illness who also have hepatitis C.

Findings show that workers' attitudes towards people with hepatitis C and people who inject drugs were not related to views about their own capabilities or about client recovery. Attitudes towards people who inject were however related to the level of comfort support workers felt in working in the client's home. This has important implications for community outreach services, as counselling is often home-based. A second paper documents that the knowledge of support workers regarding hepatitis C was only moderate and there were significant knowledge gaps around transmission and treatment of hepatitis C (Rose et al., in press). Furthermore, more knowledge was significantly associated with more positive attitudes towards people who inject drugs. Given that people with mental illness are at higher risk of acquiring hepatitis C, these results point to the need for education targeted at support workers of people with mental illness who inject drugs, to increase knowledge of hepatitis C and promote positive attitudes.

This research illustrates that there is a need to upskill mental health support workers to enable them to feel more comfortable working with clients with hepatitis C, with the aim of lessening this additional burden of disease on those also coping with a mental illness. Furthermore, the initial small study has enabled the development of a larger project for which a grant application will be written over the course of 2103. This new project aims to develop and deliver targeted workforce capacity building in a way that supports but does not unduly burden mental health workers. The aims of the future project are to develop a DVD resource for mental health support workers that provides basic information about the experience of living with hepatitis C and actionable information to address needs of clients, particularly in relation to hepatitis C testing and diagnosis; conduct a cluster randomised trial to evaluate the effect of exposure to the resource on mental health support workers' knowledge of hepatitis C, attitudes towards people living with hepatitis C and behaviour (i.e., referral of clients for hepatitis C testing); and examine factors that are associated with changes in knowledge, attitudes and behaviour among those who are exposed to the resource.



Young people and hepatitis C prevention: a contribution from social science

Joanne Bryant

In Australia, young people who inject drugs are perhaps the most important target group for hepatitis C prevention. This is because of a unique constellation of features that are not found in other populations of PWID: a smaller pool of existing infection and a higher incidence of unsafe injecting. Indeed, the small pool of existing infection means there is vast opportunity to prevent the spread of hepatitis C. The most recent Australian surveillance data observed a prevalence of hepatitis C of 19% among PWID aged less than 25 years, compared to 61% in those aged over 35 years (Iverson, Topp, & Maher, 2012). Yet the incidence of seroconversion among young people is enormous (Maher, Jalaludin, Chant, Jayasuriya, Sladden, Kaldor, & Sargent,

2006; van Beek, Dwyer, Dore, Luo, & Kaldor, 1998). One of the most recent studies in Australia reported it to be as high as 133 per 100 person years among young people who had been injecting for less than a year; an incidence that was much higher than the overall incidence of 30.9 (Maher et al., 2006).

While it is recognised that young people are a priority population and that prevention must be specifically formulated for them, high incidence continues to suggest that prevention efforts are not as effective as necessary. It is here that a social science framework may be helpful by elucidating young drug users' experiences with injecting, health services, and hepatitis C prevention and how being *young* can shape these experiences. Sociologists observe how the concept of *youth* is built on its deficit relation to *adult* (Wynn and White, 1997). That is, young people are thought of as *becoming adults* or even *incomplete adults*. In this view, young people are positioned as requiring

guidance in order to ensure that the process of achieving adulthood is conducted correctly, and that they achieve *appropriate* adulthood (Wynn and White, 1997). This deficit framework means young people are invariably seen to be risky and in need of help. To some extent this is evidenced in the research literature about young people who inject, which shows that they engage in riskier forms of injecting and drug taking, have poorer knowledge about hepatitis C, and less access to harm reduction services. But this deficit framework also plays a role in producing youth identities that are built in relation to it: young people pursue identities as rational, autonomous, and choosing precisely because of a framework that defines them as otherwise. It is this idea that has informed a recent series of studies from CSRH about young people's experiences with drugs, injecting and services.

The first study focused on young people who injected drugs, and described their need for information about safer injecting and hepatitis C. The second focused on young people who did not inject but knew others in their close personal networks who did, and gives insight into how such needs might best be addressed. All young people in these studies were considered marginalised or disenfranchised. They were commonly homeless, with few experiences of paid employment and many experiences of incarceration, police contact, drugs and violence.

The first study used survey data collected from clients of a community pharmacy needle exchange scheme in NSW to examine whether poor knowledge and service use are related to unsafe injecting. The study found that young PWID engaged in riskier injecting practices than their older counterparts, with higher proportions saying they had shared needles and other injecting equipment. Moreover, those who had shared equipment did so in a more risky manner than older respondents by sharing with a larger number of people and with people who were possibly less well-known to them, such as casual sex partners. While knowledge about hepatitis C transmission was good among young study respondents, it was significantly worse than that of older respondents. More importantly, however, this lower knowledge was related to both increased needle sharing and increased ancillary equipment sharing. Many studies do not observe a relationship between knowledge and risk behaviour, but the findings of this study suggest a pressing opportunity to improve knowledge of young PWID. While it is unlikely that better knowledge alone will prevent infection among young people, it is a necessary starting point and, in the current case, has the potential to decrease young people's risk for acquiring hepatitis C.

The second study focused on young people who were current illicit drug users but did not inject drugs. They were asked about a range of issues, including their views on illicit drug use and their experiences with health and social services, with a view to gaining a better understanding of how these issues shape their exposure to injecting and hepatitis C. Participants reported a range of reasons for using drugs, the most prominent of which

was to manage daily stresses. For example, participants talked about how drugs 'block out all the bad stuff' or how drugs help a person to 'escape problems'. Drugs were also used to create a sense of belonging for the user or create a shared identity and experience, as this young woman described:

Once you're in that scene you make friendships with other drug users obviously. But they tend to be a lot stronger friendships because they usually are using drugs for the same reason. And yeah, they understand things that people who have never had drugs don't understand.

Alleviating boredom was also identified as a reason that some participants used drugs, as described by this young man who associated his own drug use with fun and his sobriety with boredom:

I've been bored, extremely bored since I quit drugs, like really badly bored since I quit drugs. Every experience now you compare everything before on drugs. Middle of the day on drugs. Taking a bunch of ecstasy in the middle of the day on a hot day and it's mental. The peak's incredible.

Most participants also believed that drugs produced problems in their lives by creating the need to engage in crime, messing up work and school opportunities, and exacerbating family disconnection. Overall, however, participants identified clear and specific reasons for using drugs – to escape from or manage stress, to make friends and belong, and to have fun. That is, participants were purposeful in their drug use. They asserted a view that they had some control over their drug use and that drugs helped them to achieve certain goals in their day-to-day lives.

By situating their drug use in this way, participants assert a view of themselves as 'choosing' and autonomous, and not lacking or deficient. Here the social meanings of *youth* are evident: young people take up certain practices as a means to assert their adulthood. For them, drug use is a 'marker of maturity' (MacLean et al, 2009) and a way to assert autonomy and achieve 'adulthood'. This finding has important implications for how best to engage young drug users about their drug use. It suggests that services need to engage with young drug users on the premise that they are autonomous and rational because of their drug use, rather than necessarily risky, deficient or 'weak of will'.

Participants also offered a range of views about health and social services. Most young people in the study had been in contact with social services from early childhood, having been removed from their biological families and placed in foster care. Some also had extensive experience with emergency shelters, youth services, juvenile justice and drug and alcohol treatment services. Participants felt that their best experiences were with services that met a range of needs, employed staff who did not judge or discriminate against them, had high expectations of them but equally forgave mistakes, and that did not have strict and unmanageable rules. Many participants mentioned

that they sometimes felt judged by staff and valued those staff that did not make them feel inadequate. Most often participants felt that those staff that were 'non-judgemental' were those who were ex-users or ex-alcoholics themselves. Participants valued these staff because of their intimate knowledge of what it's like to be homeless or addicted, as one young woman described:

Most of the people that work there are like recovered drug addicts and stuff, so like, they know.....most workers just think that you're a trashy little street kid and they don't give a shit about you....but like people who've done it, they know what it's like to be into drugs and all that shit. Like yeah, of course they're going to be better and easier to talk to because they get it and don't judge you.

Participants identified good services as those that had high expectations of them but were also able to forgive their mistakes. Like other research about disadvantaged young people has shown (MacLean et al., 2009), some of our participants sought guidance from adults and wanted clear and high expectation about their behaviour, but also sought to be forgiven when they made mistakes. One young woman likened this to having a family, identifying that a good service takes on this role for young people in the way that a family might:

And for you, what did [name of service] offer you? What are the kind of I guess qualities of the service that you see as...? A family. And someone who will pull you up on your shit but will give you a second chance and a third chance. And you know I've been in services and stuff like that who, you only get one chance and that's it, you know, which sucks because like everyone makes mistakes, you know what I mean. No-one's perfect.

Finally, participants expressed the view that good services were those that did not have strict rules and that allowed some space for choice and autonomy. One young man, in describing the rules at the halfway accommodation where he was living, identified how one particular rule about alcohol left him feeling frustrated:

It's fucking really bad because there's visitor curfews and there's you know we're not allowed to have alcohol in our rooms which is just, you know. We're all by definition over 18 that's why we're living there. What the fuck? (Interviewer: It's not an entirely autonomous...) Yeah I respect the fact that it's like, yeah, half the people here are in halfway accommodation and they're doing it because they've been alcoholics or something. And it's oh, I wanted to enjoy a bourbon on my own, in my room.

The young people in this study felt that their best experiences were with services that provided guidance in a nurturing and safe environment, free from judgement, and where their autonomy was valued and fostered. These findings point, again, to the significance of autonomy in young people's lives, and the way that social identities of 'youth' can play out not only in the way they use drugs but also in how they engage with services that help them with their drug use or other problems in their lives. Here, young people might be seen to shape their behaviour in relation to a view of them as deficit or inherently pathological: they seek out practices, people and institutions that contribute to the view of themselves as autonomous and rational, and belie those that construct them as deficient or lacking.

Together these studies tell us several important things about young people and hepatitis C prevention. First, that autonomy plays a crucial role in producing youth identities and that this 'independent identity' is achieved, in part, through their drug use. Drug use, along with a range of other practices, is taken up to demonstrate rationality and maturity in the face of social norms that construct them as 'people in the making' or as 'incomplete'. Thus, prevention and education efforts might start with a recognition of the unique value that drugs have for some young people, meaning that a primary goal of prevention may be to reduce harms of drug use rather than stop use altogether. Second, the studies tell us that young drug users feel better connected to services if those services not only value but foster their autonomy, while providing help where needed.

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