

# The Flux Study

Following Lives Undergoing Change

Annual Report 2014-2015





Following Lives Undergoing Change, Gay community life, drug use, and taking care of ourselves and each other 2014-15

Mohamed A. Hammoud<sup>1</sup>, Fengyi Jin<sup>1</sup>, Louisa Degenhardt<sup>2</sup>, Toby Lea<sup>3</sup>, Jeffrey Grierson<sup>4</sup>, Brent Mackie<sup>5</sup>, Marcus Pastorelli<sup>5</sup>, Colin Batrouney<sup>6</sup>, Nicky Bath<sup>7</sup>, Jack Bradley<sup>1</sup>, Garrett P. Prestage<sup>1, 8</sup>

<sup>1</sup> The Kirby Institute, UNSW Australia

<sup>2</sup> The National Drug and Alcohol Research Centre, UNSW Australia

<sup>3</sup> Centre for Social Research in Health, UNSW Australia

<sup>4</sup> Anglia Ruskin University

<sup>5</sup> ACON NSW

<sup>6</sup> Victorian AIDS Council

<sup>7</sup> NSW Users and AIDS Association

<sup>8</sup> Australian Research Centre in Sex, Health and Society, La Trobe University

Suggested citation: Hammoud M, Jin F, Degenhardt L, Lea T, Grierson J, Mackie B, Pastorelli M, Batrouney C, Bath N, Bradley J, Prestage G. (2016). Flux: Following Lives Undergoing Change, Gay community life, drug use, and taking care of ourselves and each other, Report 2014-15. Monograph, The Kirby Institute, UNSW Australia, Sydney Australia

© The Kirby Institute, 2016

## Acknowledgements

The authors would like to thank the participants of the study and the people and organisations who assisted with recruitment and referral of potential participants to the study.

### Funding

This study was funded by the Australian Research Council.

### Collaborating organisations

Flux is a collaboration between the Kirby Institute, the National Drug and Alcohol Research Centre (NDARC), the Australian Research Centre in Sex Health and Society (ARCSHS), the Centre for Social Research in Health (CSRH), ACON, and Victorian AIDS Council/Gay Men's Health Centre.

Design: Chris Gianacas

ISBN: 978-0-7334-3641-3

This study was conducted by a research team at the Kirby Institute, University of New South Wales, Sydney, Australia.

The Kirby Institute, NDARC, CSRH, and ARCSHS receive funding from the Commonwealth Department of Health. The views expressed in this publication do not necessarily represent the position of the Australian Government. The Kirby Institute and NDARC are affiliated with the Faculty of Medicine, University of New South Wales. The CSRH is affiliated with the Faculty of Arts & Social Sciences, University of New South Wales. ARCSHS is affiliated with the Faculty of Health Sciences at La Trobe University.

For further information, please contact Associate Professor Garrett Prestage  
Kirby Institute, University of NSW, Sydney 2052, Australia  
Telephone: 02 9385 0900 | Facsimile: 02 9385 0920 | Email: [gprestage@kirby.unsw.edu.au](mailto:gprestage@kirby.unsw.edu.au)

## Contents

Contents.....	1
Summary of Findings.....	4
Background .....	6
Methods.....	10
Description of the Sample .....	13
HIV Status.....	17
Sex and Relationships .....	18
Gay Community Engagement and Drug Use .....	19
Tobacco.....	22
Alcohol .....	23
Steroids .....	24
Erectile Dysfunction Medication.....	25
Illicit Drug Use.....	27
Drugs and Money.....	33
Methamphetamine Use.....	34
Injecting Drug Use.....	35
Harms and Drug Use .....	39
Pleasures and Drug Use .....	43
Attitudes Towards Drugs .....	44
Access to Alcohol and Other Drugs Services .....	49
Conclusion.....	50
References .....	52

## Summary of Findings

The Flux study is investigating drug use among gay and bisexual men. We will identify factors associated with current drug use, and with future uptake, or cessation, of drug use, as well as changes in patterns of drug use, and the consequences of drug use. Baseline enrolment was completed in 2015, with 2,251 men having completed the baseline questionnaire, and over 1,700 men having consented to follow-up every six months for two to three years. The Flux sample is similar to most other online samples of gay and bisexual men in Australia, although it is slightly younger.

Initial findings include:

- Two thirds (67.0%) have ever smoked tobacco, with 39.6% having done so in the previous six months, about half of whom did so every day.
- Most (93.3%) drink alcohol with 17.5% drinking at least four days a week.
- Very few men (1.4%) reported having used steroids for bodybuilding or sports enhancement in the previous six months.
- One third (33.3%) had ever used erectile dysfunction medications, such as Viagra or Cialis, with 29.1% having done so within the previous six months. Only a minority of this was by prescription.
- Over three quarters (81.6%) have ever used illicit drugs, with half (50.5%) having done so in the previous six months.
- The most commonly, and frequently, used drugs were marijuana and amyl nitrite, but over a quarter (28.8%) had used any party drugs (including amphetamine-type stimulants and cocaine) in the previous six months.
- Over a quarter (26.9%) had ever used methamphetamine (crystal), including one in eight (12.0%) having done so recently.
- One in seven of those who reported use of methamphetamine in the previous six months, used it every week (1.8% of sample).

- Nearly one in ten (9.2%) men had ever injected illicit drugs in their lifetime, and 4.1% had injected illicit drugs in the previous six months, most commonly methamphetamine.
- Men who injected drugs obtained their injecting equipment in a variety of ways, including through needle and syringe programs (40.9%)
- Of the men who had injected illicit drugs in the previous six months, less than one in ten (8.6%) had shared a needle (and syringe) after someone else had already used it (0.8% of the sample). All but one of the men who had shared injecting equipment indicated they had sterilised the equipment before use.
- Men who used illicit drugs reported a variety of negative and positive consequences. The majority nonetheless reported having good experiences when using drugs.
- Most men who used illicit drugs did so for pleasure and enjoyment.
- One in eight of those who had ever used illicit drugs reported having ever overdosed while doing so (10.1% of the sample).
- About one in seven (15.4%) men who had used illicit drugs in the previous six months expressed any level of concern about their current drug use (7.8% of the sample).
- The men in the sample tended to express fairly negative opinions about illicit drug use within the gay community, although they often also tended to be less concerned or negative toward their own illicit drug use.
- Although the majority of men in Flux reported having some friends who used illicit drugs, most did not appear to be heavily enmeshed in drug-using networks.
- While about one in ten recent users of illicit drugs had discussed their drug use with their doctors, very few men used dedicated drug and alcohol services.

## Background

The 2013 National Drug Strategy Household Survey noted higher rates of illicit drug use among gay and bisexual male respondents compared with adult Australian men in general.<sup>1</sup> Recent methamphetamine use, specifically, was 9.7% among gay and bisexual male respondents versus 2.5% among heterosexual male respondents. These rates were higher than any other population group and are consistent with other data.<sup>1-6</sup> Studies of harms associated with drug use, both licit and illicit, among gay and bisexual men have usually focussed on sexual risk behaviour and subsequent HIV infection; dependence and overdose are explored less often, although, high rates have nonetheless been reported.<sup>7-10</sup> The Gay Community Periodic Surveys are the basis of Australia's behavioural surveillance among gay men: Over half of Gay Community Periodic Surveys respondents report recent illicit drug use.<sup>11</sup> Gay and bisexual men constitute about 2% of the adult male population<sup>12</sup> but are over-represented in studies of drug-using populations.<sup>13</sup>

### **Drug use trends among gay and bisexual men**

The Gay Community Periodic Surveys shows differing trends in use of particular drugs over time.<sup>11</sup> Among Sydney men between 2004 and 2011, use of many drugs increased: Cocaine (15.8% to 22.0%); gamma-hydroxybutyrate (9.8% to 13.1%); erectile dysfunction medications (18.1% to 21.8%).<sup>12</sup> Marijuana use declined (42.1% to 33.1%). About one in twenty men reported recent injecting drug use and 2.1% reported at least monthly injecting drug use.<sup>14</sup> Among Queensland men, 27.2% reported use of more than two drug types in the previous six months during 2010.<sup>15</sup> The Health in Men cohort study (2001-2007) showed that individual gay and bisexual men's use of particular drugs changed over time but overall rates remained very high over time.<sup>16</sup> The continuing high rates of drug use among Australian gay and bisexual men is a major public health issue.

### **Associations between drug use and sexual risk behaviour among gay and bisexual men**

Recent increases in condomless anal intercourse with casual partners among gay and bisexual men, have been linked to increasing HIV incidence.<sup>17-19</sup> Drug use has been associated with condomless anal intercourse with casual partners and with HIV seroconversion,<sup>2,10,20-23</sup> particularly when used to enhance sexual pleasure.<sup>9,23-25</sup> So, drug

use plays a significant role in HIV infection.<sup>26</sup> Reasons for drug use among gay and bisexual men have mainly focussed on individual psychological causes: The effects of stigma, social isolation, and sexual abuse. Possible social and subcultural factors have rarely been explored, although high rates of drug use, specifically to enhance sexual pleasure, are associated with gay party subcultures and sexually adventurous networks.<sup>27-28</sup> Participation in networks of sexually adventurous gay and bisexual men is a key factor in sexual risk behaviour and HIV seroconversion.<sup>10,20,26,25-32</sup> Sexual adventurism<sup>33</sup> plays a key role in the specific connections between drug use and sexual risk behaviour in the concept of 'intensive sex partying'.<sup>34</sup> Drug use, particularly crystal (methamphetamine) and erectile dysfunction medication, has been described as causally associated with sexual risk behaviour and HIV infection among gay and bisexual men.<sup>35-37</sup> In two cohort studies of Australian gay and bisexual men, despite a general association between use of drugs and condomless anal intercourse with casual partners in the preceding six months, no such association at the event-level was found.<sup>6,38</sup> Men who took risks sexually were more likely to use drugs, but condomless anal intercourse with casual partners was also a strong predictor of subsequent drug use, suggesting that the use of drugs may be a method of enhancing and extending sexual experiences.<sup>5</sup> This indicated a subcultural association rather than a direct causal relationship. Also, the strong social support provided by particular gay community sexual networks can mediate individuals' drug use to prevent associated harms.<sup>39</sup>

### **Knowledge gaps**

All jurisdictions have health promotion campaigns targeting drug use in general; ACON has specific programs targeting drug use among gay and bisexual men;<sup>40</sup> HIV-prevention campaigns targeting gay and bisexual men usually also address drug use.<sup>40-41</sup> Yet, drug use remains high within gay communities and rates of associated harms are largely unknown. Also, the specific role of drug use in HIV infection and sexual risk behaviour remains unclear. Little research has been conducted into the patterns and contexts of gay and bisexual men's drug use, and how this varies over time, or understandings of harm reduction. gay and bisexual men's sexual behaviours are influenced by shared understandings of HIV risk and gay community norms regarding 'safe sex'.<sup>42</sup> Similar arguments may apply to their drug-using behaviours and attitudes toward harm reduction, but little research has addressed these issues, other than their association with HIV infection and sexual risk behaviour. Gay



and bisexual men's shared understandings of risk and pleasure in relation to drug use and sexual behaviour are likely to be key factors in their own drug using behaviour. Little is known about gay community norms regarding drug-using behaviours and harm reduction or beliefs about associated harms or how these norms intersect with behavioural norms around sexual risk behaviour. Even less is understood about the role of specific gay community subcultures, and how engagement in particular sexual and social networks might influence the commencement of, contexts for, and changes in drug use over time. Broad attitudes toward drug use among gay and bisexual men have been explored in the US<sup>43-45</sup> but normative beliefs about drug use within Australian gay community networks have never been investigated.

### **Rationale for the Flux study**

Most currently available epidemiological data concerning drug use among gay and bisexual men are cross-sectional. Little is known about the changing patterns of drug use over time within individual men and their networks, or associated harms in this population. Also, little is known about the predominant beliefs within Australian gay community networks regarding drug use, or, particularly, how individual men's perspectives on these issues help shape their drug-using behaviours. Elsewhere, subjective beliefs about what peers think and descriptive beliefs about the prevalence of behaviours have been positively associated with some regulation of potentially harmful drug-using behaviours among gay and bisexual men.<sup>43</sup> Most currently available data focus on the role of drugs in relation to HIV risk behaviours among gay and bisexual men as a simple one-way association, often implying direct causality but lacking clear evidence. Far less is known about the role of other social and interpersonal factors in predicting drug use. Drug use and harm reduction programs specifically targeting gay and bisexual men have commenced in recent years; however, it is not clear whether there are differences in gay and bisexual men's drug-using and harm reduction behaviours depending on the nature of their personal and subcultural connections. Further insights into their behaviours and social networks may identify barriers to the adoption of harm reduction messages and help to better target drug use programs within these same networks.

## The significance of the Flux study

The national drug strategies recognise that gay and bisexual men have higher rates of drug use, including amphetamine-type stimulants, and have more limited access to treatment services.<sup>51-52</sup> Pillar One of the National Drug Strategy 2010-15 (Demand Reduction) prioritises the prevention and delay of the uptake of use of drugs and the reduction of the misuse of drugs, while Pillar Three (Harm Reduction) prioritises the reduction of the drug-related harms.<sup>52</sup> The National Drug Strategy seeks to strengthen the evidence base regarding drug use in Australia in general. The Flux study is the first longitudinal study to examine prevalence and incidence rates of drug use, associated harms, and risk factors for uptake and changes in drug use over time among gay and bisexual men in Australia. The National Drug Strategy notes that drug use affects families and communities, and that interventions must be sensitive to specific populations.<sup>52</sup> Significantly, given the associations between drug use, risk behaviour and HIV infection, this study also addresses the National HIV Strategy<sup>53</sup> objective to reduce rates of HIV infection in the most affected population group in Australia. Information from this study can directly inform programs addressing drug use in this high risk population and be a significant tool in targeting harm reduction messages.

- We are collecting quantitative data not previously collected in Australia. We recruited participants through networks of gay and bisexual men at high risk for drug use and its associated harms. The study will provide important insights into how to better target local harm reduction programs.
- We will advance Australia's strong reputation in HIV prevention and research, and in harm reduction approaches to drug use by addressing some of the most significant predictors of HIV infection and the contextual factors associated with drug use.

## Methods

### Study aims

The aims of the Flux study are to:

1. Identify contextual and individual factors associated with the use, and changes in use, of drugs among gay and bisexual men, and associations with risk behaviours, over time.
2. To describe the relationship between social and community norms, and the shared understandings of risk and pleasure, and drug use behaviours and beliefs among gay and bisexual men with differing social connections to other gay and bisexual men.
3. To describe the role of particular gay community subcultures, sexual and social networks, in influencing attitudes and beliefs about drug use and in affecting drug-using behaviours.

### Outcomes

The Flux study is working toward these outcomes:

- New knowledge of the incidence of drug-using behaviours and associated harms among gay and bisexual men;
- Better knowledge of how social norms, particularly those regarding shared understandings of risk and pleasure, explain drug-using and other risk behaviours of gay and bisexual men;
- Research-based evidence on the differences between distinct networks of gay and bisexual men in Australia;
- Practical recommendations for health promotion, alcohol and other drugs and HIV and hepatitis C-prevention agencies and policy makers to improve the targeting of prevention messages to local gay communities, and to promote sustainable behaviour change;

- Newly generated data to further advance social research concerning the interconnections between drug use and sexual behaviour, sexual mixing, and modelling HIV and hepatitis C epidemics in Australia;
- Publications in relevant peer-reviewed academic journals;
- Presentations of findings at relevant peer-reviewed national and international conferences;
- Tailored dissemination outputs for relevant alcohol and other drugs and HIV and hepatitis C sector organisations.

### **Eligibility**

To be eligible to participate in this study, participants had to:

- Be male, currently living in Australia;
- Be 16 years and 6 months of age or older;
- Have had sex with another man in the preceding 12 months OR identify as homosexual or bisexual; and
- Be willing to consent to the study requirements.

### **Recruitment and enrolment**

Participants were identified through Facebook targeted advertising, popular online hook-up websites, and smart phone applications. Participants were also encouraged to refer other men into the study. Those who consented to follow-up will be asked to complete a follow-up questionnaire every six months for two to three years.

### **Data linkage**

We sought optional consents from participants to link their responses with two available databases: the National HIV Registry and hospital admissions. We will also match for hepatitis C notifications with state health departments. This was an additional optional consent and not a requirement for participation. Linkage to the HIV registry allows us to identify baseline and incident HIV infections within the cohort and link them with relevant

risk behaviours, including drug use. A similar process can be achieved for hepatitis C infections through hepatitis C notifications to state health departments. Linkage with hospital admissions will allow us to identify significant adverse events related to drug use within the cohort and to determine risk factors including drug using behaviour and other risk indicators. Data linkages will be completed at the end of the study period.

### **Protecting confidentiality**

Confidentiality of all data is strictly maintained at all times. Participants were assigned a unique study identifier which is used to identify all data sources. The questionnaires are electronically coded and stored in a secure database. Questionnaires do not contain individuals' identifying details. Access to any data or identifying information is protected by secure barriers at each level of access. The data are only accessible to the research team directly involved with managing or analysing the data.

## Description of the Sample

A total of 2251 participants completed the baseline questionnaire, of whom, 1711 (76.0%) also gave consent to a two to three year follow-up at six-monthly intervals.

### Source of recruitment

The majority of participants were recruited through Facebook targeted advertising (Table 1). About one in six were recruited through popular dating sites (such as Manhunt and Squirt), and one in twenty through smart phone dating apps (such as Jack'd and Grindr). Also about one in twenty were recruited through participants' own personal networks. The remaining men were recruited through various gay community organisations, online forums, and community events.

**Table: Recruitment source.** N = 2251

Social media (Facebook)	1478	65.7%
Dating sites (Manhunt/Squirt)	393	17.5%
Phone apps (Jackd/Grindr)	112	5.0%
Personal networks	105	4.6%
Gay community organisations	49	2.2%
Community events (Fair day)	27	1.2%
Online forums (Craigslist)	8	0.4%
Other	79	3.5%

### Gender

Most of the men in Flux identified as male, but there were 15 transgender men and two intersex men (0.1%).

**Table: Gender.** N=2251

Male	2234	99.2%
Transgender male	15	0.7%
Intersex male	2	0.1%

## Age

The mean age of the sample was 33.0 years (range 16.6 to 81.0; SD 12.6). The majority were over the age of 25.

**Table: Age.** N=2251

Less than 18	70	3.1%
18 to 25	736	32.7%
Over 25	1444	64.1%

## Sexual identity

Most men identified as gay or homosexual, with another one in twelve identifying as bisexual. Very few identified as heterosexual, and a small number reported other types of identities, such as: uncategorised, queer, pansexual, bi-curious, asexual, and fluid.

**Table: Sexual identity.** N=2251

Gay	1990	88.4%
Bisexual	199	8.8%
Heterosexual	7	0.3%
Other	55	2.4%

## Aboriginal and Torres Strait Islander background

Just 54 men identified themselves as being Aboriginal or Torres Strait Islander.

**Table: Aboriginal or Torres Strait Islander background.** N=2251

Aboriginal	46	2.0%
Torres Strait Islander	5	0.2%
Both Aboriginal and Torres Strait Islander	3	0.1%
Neither Aboriginal or Torres Strait Islander	2197	97.7%

## Education

More than half of men in this sample were university educated (52.4%). 1 in 7 were trade qualified, one in five had completed year 12 high school, and one in ten had not completed year 12.

**Table: Education.** N=2251

Less than year 12 high school	232	10.3%
Completed high school (year 12)	508	22.6%
Trade certificate	324	14.4%
Undergraduate degree	698	31.0%
Postgraduate degree	482	21.4%
Other	7	0.3%

## Employment status

Half of the men in Flux were full time employed, with approximately 1 in 10 employed part time. One in five men were students, and approximately one in ten were not in the workforce.

**Table: Employment status.** N=2251

Full time	1218	54.1%
Part time	310	13.8%
Student	473	21.0%
Unemployed	123	5.5%
On pension/social security	105	4.7%
Did not answer	22	1.0%

## Occupation

Of those men who were employed in a part or full time position, well over half were in a managerial or professional role (61.5%).



**Table: Occupation.** N=1550

Manager	349	22.5%
Professional	604	39.0%
Para-professional	39	2.5%
Tradesman	46	3.0%
Clerical/administration	92	5.9%
Retail/customer service	196	12.6%
Skilled labour	35	2.3%
Unskilled labour	16	1.0%
Other	137	8.8%
Did not answer	36	2.3%

*Note: Includes only those men in full or part-time employment.*

## Location

The geographic distribution of the sample was similar to that found in other studies of gay and bisexual men in Australia. Over a third lived in New South Wales, followed by one in four in Victoria, and one in seven in Queensland.

**Table: Geographical location.** N=2251

New South Wales	895	39.8%
Victoria	563	25.0%
Queensland	356	15.8%
Northern Territory	17	0.8%
Western Australia	152	6.8%
South Australia	141	6.3%
ACT	79	3.5%
Tasmania	33	1.5%
Overseas	9	0.4%
Did not answer	6	0.3%

## HIV Status

Approximately one in five had never been tested for HIV.

**Table: Tested for HIV. N=2251**

Never been tested for HIV	431	19.1%
Tested for HIV	1808	80.3%
Did not answer	12	0.5%

Three quarters were HIV-negative, with about one in fifteen being HIV-positive (similar to other national samples of gay and bisexual men in Australia). The remaining men – about one in five – either did not know their HIV status or had never been tested.

**Table: HIV status. N=2251**

HIV-positive	171	7.6%
HIV-negative	1623	72.1%
Don't know/unsure	457	20.3%

Most (89.4%) HIV-positive men were on antiretroviral treatment, and most (87.7%) indicated that they had an undetectable viral load.

## Sex and Relationships

Most men (83.5%) reported having had sex with other men in the previous six months. One in eight (13.9%) had only one sex partner in that time, while one in five (20.9%) reported having had sex with more than ten partners. One third of men reported having a main partner with whom they were in a relationship. Another one third reported having had sex with other regular partners or ‘fuckbuddies’ in the previous six months, and over half reported having casual sex partners in that time. While most men who had sex with their main regular partner also reported having condomless anal intercourse with him (79.9%), this was somewhat less true of men who had sex with fuckbuddies (60.7%), and was true of less than half of those who had sex with casual partners (47.1%).

**Table: Sexual partners in the previous six months. N=2251**

	Main partner (boyfriend)	Other regular partners (fuckbuddies)	Casual partners
None	66.6%	64.6%	40.5%
No anal intercourse	2.6%	2.7%	6.6%
100% condom use	4.1%	11.2%	24.9%
Any condomless sex	26.7%	21.5%	28.0%

Among HIV-negative men, only 4.4% reported using HIV medication to prevent HIV infection in the previous six months. The majority of this was in the form of post-exposure prophylaxis (PEP), but 1.3% of all HIV-negative men were taking pre-exposure prophylaxis (PrEP).

## Gay Community Engagement and Drug Use

### Gay community social engagement

Most men in Flux had at least some gay male friends, and spent some of their free time socialising with them. One third (31.4%) indicated they were at least somewhat involved in gay community life.

**Table: Social engagement with gay friends.** N = 2251

---

Proportion of friends who are gay men	
None	4.2%
A few	34.9%
Some	34.2%
Most	25.9%
All	0.9%

---

Free time spent with gay male friends	
None	6.2%
A little	36.5%
Some	38.1%
A lot	19.2%

---

When asked about gay male friends and drug use, most men in Flux had at least some gay male friends who used drugs but usually only a few; they tended to spend little or none of their free time socialising with their gay male friends. Far fewer men reported having friends who used crystal, and fewer still reported having friends who injected drugs.

**Table: Social engagement with gay friends who use drugs.** N = 2251

	Friends who use drugs	Friends who use crystal	Friends who inject drugs
<b>Proportion of gay male friends</b>			
None	24.6%	68.0%	85.8%
A few	42.8%	25.5%	12.7%
Some	13.7%	3.8%	1.0%
Most	15.1%	2.3%	0.4%
All	3.7%	0.4%	0.1%
<b>Free time spent with gay friends</b>			
None	40.8%	78.1%	N.A.
A little	39.4%	16.3%	N.A.
Some	15.0%	4.3%	N.A.
A lot	4.9%	1.2%	N.A.

*Note: N.A. = 'Not asked'. Respondents were not asked about free time spent with gay male friends who inject drugs.*

## Beliefs about the acceptability of drug use among gay friends

When asked about the acceptability of drug use among their gay friends it varied substantially depending on the particular drug. The majority felt it was acceptable for their friends to use marijuana and ecstasy, but only a third felt it was acceptable to use crystal or GHB. About half felt that cocaine and speed were acceptable, and less than one in ten felt that heroin use was acceptable among their gay friends. The majority felt that use of erectile dysfunction medication was acceptable among their gay friends.

**Table: Beliefs about acceptability of using each drug among friends**

	Not acceptable	Acceptable
Marijuana	11.6%	88.4%
Erectile dysfunction medication	24.6%	75.4%
Ecstasy	28.1%	71.9%
Cocaine	42.5%	57.5%
Speed	43.7%	56.3%
Special K	61.1%	38.9%
GHB	61.5%	38.5%
Steroids	66.6%	33.4%
Crystal	67.3%	32.7%
Heroin	91.1%	8.9%

*Note: Only includes those men who responded to these questions.*

## Tobacco

The 2013 National Drug Strategy Household Survey, found that nearly half (44.3%) of men in the general population indicated having smoked tobacco in their lifetime.<sup>54</sup> In Flux, we found that two thirds of gay and bisexual men had smoked tobacco in their lifetime, with well over a third having smoked tobacco in the previous six months. The average age at which they first smoked was 16 years.

**Table: Smoking status.** N=2251

Ever smoked	1508	67.0%
Previous six months	891	39.6%

Among those who had smoked tobacco in the previous six months, half did so daily. One third indicated that they only smoked tobacco on social occasions. However, what constitutes as socially for one person may be every second day, whereas it may be once a fortnight for another.

**Table: Frequency of smoking tobacco.** N=891

Daily	448	50.6%
Every second day	39	4.4%
Weekly	56	6.3%
Monthly	19	2.1%
Randomly/socially	324	36.6%

*Note: Only includes men who had smoked tobacco in the previous six months.*

## Alcohol

The 2013 National Drug Strategy Household Survey found that seven out of eight (88.3%) men in the general population indicated *ever* having a drink. In Flux, we found that more than nine out of ten (93.3%) gay and bisexual men consumed alcohol in the previous six months, with nearly half (44.4%) drinking at least weekly. One in six (17.5%) drink alcohol at least four days a week. Among those who drink alcohol, over a quarter have one or two drinks on a typical day when drinking, a third have three or four drinks, one in six have five or six drinks, and one in fifteen have seven to nine drinks. One in twelve have more than ten drinks on a typical day when they drink alcohol.

**Table: Average number of drinks per sitting. N=2251**

---

1 or 2	620	27.5%
3 or 4	742	33.0%
5 or 6	382	17.0%
7 to 9	166	7.4%
10 or more	187	8.3%
No alcohol in the previous six months	154	6.8%

---



## Steroids

The 2013 National Drug Strategy Household Survey found that very few (0.2%) men in the general population indicated having used steroids in the previous twelve months. In Flux, we found that 1.4% of gay and bisexual men had used steroids for bodybuilding or sports in the previous six months. Among those who had used steroids in the previous six months, over half had used them at least weekly. Three quarters of those who had used steroids reported having injected them. One in nine (11.2%) men in Flux indicated that at least some of their gay friends used steroids for bodybuilding or sports.

## Erectile Dysfunction Medication

A third (34.9%) of the participants in Flux said that they knew of some of their gay friends who used erectile dysfunction medication. One third indicated they had ever used erectile dysfunction medication themselves, with one in five having used them in the previous six months. The average age at which they first used these medications was 35 years, although a small number first tried them in their teens.

**Table: Use of erectile dysfunction medication. N=2251**

Never used	1502	66.7%
Ever used	749	33.3%
Used in previous 6 months	491	21.9%

The most commonly used erectile dysfunction medications were Viagra (Sildenafil), and Cialis (Tadalafil). Among men who had used erectile dysfunction medications, most had ever used Viagra, and two thirds had used Cialis. Only about one in seven had ever used Levitra.

**Table: Types of erectile dysfunction medication ever used. N=749**

Viagra	630	84.1%
Cialis	493	65.8%
Levitra	113	15.1%

*Note: Only includes men who had ever used erectile dysfunction medications.*

Only a minority reported that they obtained their erection medication by prescription through a doctor. The most common method of obtaining these medications other than by prescription was online.

**Table: How obtained erectile dysfunction medication in the previous six months. N=491**

Prescribed by doctor	43.0%
Regular partner	8.8%
Casual partner	9.6%
Dealer	2.9%
Gay friend	6.7%
Online	18.9%
Other	9.9%

*Note: Only includes men who had used erectile dysfunction medications in the previous six months.*

Two main themes emerged when looking into the reasons for use: To prolong sex (which may be for the purposes of erectile dysfunction, though not always), and to intensify sexual pleasure.

**Table: Reasons for using erectile dysfunction medication in the previous six months.**

N=491

Easier to stay hard	55.6%
Stay hard longer	36.0%
Counter effects of other drugs	38.1%
Easier to use condom	22.0%
Difficulty with erections	35.8%
Can only top with medication	15.7%
For fun	27.3%

*Note: Only includes men who had used erectile dysfunction medications in the previous six months.*

Among the men who had never used erectile dysfunction medication, a third (33.0%) indicated being interested in trying them. Also, with the recent reductions in price for some of these medications, a quarter (26.3%) of the men who had never used them indicated they might now try them, and nearly half (44.6%) of the men who were currently using them indicated that they might use them more often.

## Illicit Drug Use

The 2013 National Drug Strategy Household Survey found that nearly half (45.5%) of men in the general population had used any illicit drug in their lifetime. In Flux, we found that over three quarters of gay and bisexual men had ever used any drug in their lifetime, with over half reporting that they have used any drug in the previous six months. Over half indicated using party drugs (ecstasy, speed, cocaine, crystal, gamma hydroxybutyrate [GHB], ketamine, lysergic acid diethylamide [LSD], heroin) in their lifetime, with over a quarter having used party drugs in the previous six months.

**Table: Use of illicit drugs.** N=2251.

	Ever used		Used in previous six months	
Any drug	1837	81.6%	1137	50.5%
Party drug	1272	56.5%	631	28.0%

The most commonly used drugs were amyl nitrite and marijuana: about two thirds had ever used them and a third had done so in the previous six months. While nearly half had ever used ecstasy, and about one in six had used it in the previous six months, over a quarter had ever used crystal and one in eight had recently done so. Although far fewer men reported recent use than had ever used most drugs, about half of those who ever reported using amyl, marijuana, and crystal reported any recent use. Very few men reported heroin use.

**Table: Types of illicit drugs used.** N=2251.

	Ever used		Used in previous six months	
Marijuana	1573	69.9%	662	29.4%
Amyl	1416	62.9%	723	32.1%
Ecstasy	1105	49.1%	398	17.7%
Speed	902	40.1%	135	6.0%
Cocaine	861	38.2%	281	12.5%
LSD	619	27.5%	81	3.6%
Crystal	605	26.9%	269	12.0%
Ketamine	506	22.5%	82	3.8%
GHB	461	20.5%	156	6.9%
Heroin	96	4.3%	3	0.1%

*Note: Men were asked specifically about 'crystal' use, rather than methamphetamine use in general.*

Among men who had never used any drugs, less than one in eight (11.8%) men indicated being at least somewhat interested in trying them.

Among men who had used marijuana, the average age at which they had first tried it was 19 years. Participants who had ever used drugs were also asked which, if any of the party drugs (ecstasy, speed, cocaine, crystal, GHB, or ketamine) they had used first: a quarter had used ecstasy first. The average age at which they had first used any party drugs was 21 years.

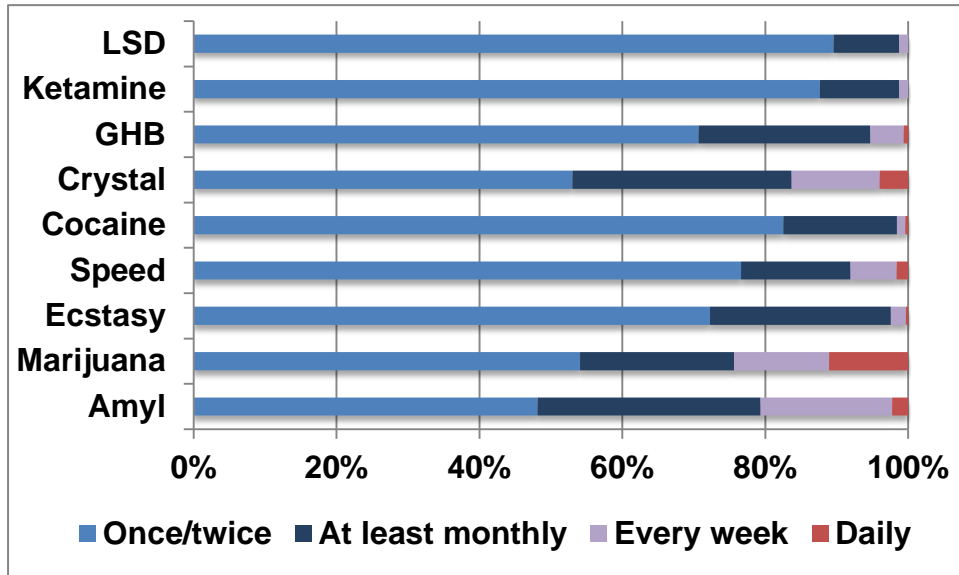
**Table: History of illicit drug use. N=1837**

	<b>First party drug used</b>	<b>Mean age of first use</b>
Marijuana	N.A.	18.7
Ecstasy	28.5%	21.2
Speed	13.4%	21.0
Cocaine	4.3%	21.5
Crystal	1.6%	21.5

*Note: Only includes men who had ever used each of these drug types.*

Among those who had used illicit drugs in the previous six months, the majority of use was infrequent (only once or twice), whereas few men used drugs daily or weekly. Marijuana and amyl were the drugs used most often. Nonetheless, about one in ten crystal (methamphetamine) users did so at least weekly.

**Chart: Frequency of use of illicit drugs in previous six months.**



*Note: Includes only those men who reported use of each drug in previous six months.*

When men were asked how they had obtained their drugs in the previous six months, a quarter indicated that they had purchased them from a dealer, but almost as many had obtained them from a straight friend and about one in six from a gay friend. One in five (22.5%) men indicated having difficulties obtaining these drugs.

**Table: Methods of obtaining illicit drugs in the previous six months. N=1137**

Mobile apps	4.1%
Online sites	5.7%
Dealer	23.6%
Boyfriend	2.2%
Straight friend	22.8%
Gay friend	18.6%
Sex partner	5.1%
Stranger	2.9%

*Note: Only includes men who had used illicit drugs in the previous six months.*

### Reasons for drug use

We asked those men who had used drugs to list their reasons for using illicit drugs. The most common reasons concerned socialising and pleasure, such as: To enjoy a sexual encounter, to relax, to socialise with friends, and to party.

**Table: Reasons for using illicit drugs in the previous six months. N=1137**

To enjoy a sexual encounter	703	61.8%
To chill out	620	54.5%
To party	600	52.8%
For a night out with friends	593	52.2%
For a night out on the gay scene	355	31.2%
To attend a gay dance party	335	29.5%
To attend a straight dance party	203	17.9%

*Note: Only includes men who had used illicit drugs in the previous six months.*



The men who had used party drugs in the previous six months were asked about sex in relation to their use of these drugs. A third (30.3%) indicated that they had used these drugs to enhance their sexual experiences. One in ten men who had used party drugs in the previous six months (9.8%) said they had done so the majority of times they had sex. Over a quarter (28.3%) of men who had used party drugs in the previous six months also indicated having had group sex when using party drugs, and one in 25 (4.0%) had done so the majority of times they had group sex.

## Drugs and Money

Participants were asked about the exchange of drugs for money, sex, and other forms of remuneration. About one in fifteen men (7.1%) indicated they had ever sold drugs, but only a few (1.8%) had done so in the previous six months. Eight men had done so at least monthly. As well as selling drugs, many of the men who had used illicit drugs in the previous six months indicated having provided someone with drugs in exchange for other things.

**Table: Exchanged drugs for money or other remuneration in the previous six months.**

N=1137

---

Other drugs	10.1%
Sex	4.5%
Money	3.6%
Place to sleep	1.2%
Transport	1.2%
Food	0.6%
Clothes	0.3%

---

*Note: Only includes men who had used illicit drugs in the previous six months.*

Separately, participants were also asked if they had exchanged sex for drugs. A small number of men (3.4%) indicated having had sex with someone in the previous six months in exchange for being given drugs.

## Methamphetamine Use

The 2013 National Drug Strategy Household Survey found that about one in twelve (8.6%) of men in the general population had ever used methamphetamine. In Flux, we found that the majority of gay and bisexual men had ever used methamphetamine (crystal and/or speed), including over a quarter having ever used crystal. About one in six indicated using methamphetamine in the previous six months, most of whom had used crystal.

Over a third (37.5%) of those who had ever used crystal indicated having ever used crystal regularly. The average age at which they had begun using crystal regularly was 29 years. Among men who had used crystal in the previous six months, most (81.4%) smoked it, but also a third (30.1%) had injected it.

Crystal users, both past and current, were asked about their motivations for using crystal. As for drug use in general, the most common reasons for using crystal concerned socialising and pleasure. Specifically, around one in five men indicated that they used crystal to enhance and extend their sexual experiences. Overall, two thirds (69.9%) of men who had used crystal in the previous six months reported having engaged in party and play (PNP) sessions, with a third (31.2%) having done so at least monthly. Most of these men (87.8%) who had recently used crystal indicated that they enjoyed to some degree 'being wired' while having sex.

**Table: Reasons for using crystal. N=605**

For fun	55.0%
To see what it was like	49.8%
To get a buzz	47.4%
For a party and play (PNP) session	40.5%
To party longer	33.7%
To become less inhibited	28.6%
Someone else wanted me to use it	24.1%
For longer sex	20.0%
To make it easier to get fucked	14.2%
I felt like I needed it	10.2%

*Note: Only includes men who had ever used crystal.*

## Injecting Drug Use

The 2013 National Drug Strategy Household Survey found that less than one in 200 (0.4%) men in the general population indicated having ever injected drugs. In the Flux study, we found that nearly one in ten (9.2%) gay and bisexual men had ever injected drugs in their lifetime, and one in 25 (4.1%) had injected drugs in the previous six months. With the exception of crystal methamphetamine, only about a quarter of those who had ever injected each drug had also done so recently. About half of those who had ever injected crystal, however, had also recently done so.

**Table: Injecting drug use.** N=2251

	Ever injected		Injected in previous six months	
Crystal	146	6.5%	85	3.8%
Speed	111	4.9%	9	0.4%
Cocaine	48	2.1%	5	0.2%
Ecstasy	45	2.0%	1	0.0%
Heroin	45	2.0%	4	0.2%
Ketamine	35	1.6%	6	0.3%
LSD	8	0.4%	1	0.0%
GHB	4	0.2%	2	0.1%

## Reasons for injecting

We asked participants who had injected drugs their reasons for doing so. The most common reason to inject was to enjoy a sexual encounter. Achieving a more immediate and stronger high were also common reasons for men having injected drugs. Other commonly cited reasons for injecting concerned relaxations and pleasure.

**Table: Reasons for injecting drugs in the previous six months. N=93**

To enjoy a sexual encounter	59	63.4%
To get a stronger high	54	58.1%
To get a more immediate high	48	51.6%
For fun	44	47.3%
To lose my inhibitions	38	40.9%
It was something different	16	17.2%
To see what it was like	14	15.1%
Someone else wanted me to inject	11	11.8%
Other	7	7.5%

*Note: Only includes men who had injected illicit drugs in the previous six months.*

Most men (86.0%) who had injected during the previous six months indicated that they had done so before or during sex, with over a quarter (28.0%) men having done so on the majority of times they had sex.

## Obtaining needles and syringes

Among men who reported injecting in the previous six months (n=93), somewhat less than half obtained their needles, syringes, and other injecting equipment through a needle and syringe program. One third obtained injecting equipment from sex partners, nearly as many obtained them through vending machines, a quarter from friends, another quarter through a community pharmacy, and nearly as many from a dealer. Other less common ways included hospitals and outreach programs.

**Table: How obtained injecting equipment in the previous six months. N=93**

Needles and syringe program	38	40.9%
Sex partners	31	33.3%
NSP vending machine	29	31.2%
Friends	24	25.8%
Chemist/community pharmacy	23	24.7%
Dealer	22	23.7%
Hospital	3	3.2%
Outreach program	3	3.2%
Strangers	2	2.2%
Other	2	2.2%
Partner	1	1.1%
Doctor	0	0.0%

*Note: Only includes men who had injected illicit drugs in the previous six months.*

## Sharing equipment

Of the men who had injected drugs in the previous six months, less than one in ten (8.6%) had shared a needle (and syringe) after someone else had already used it.

**Table: Sharing injecting equipment in the previous six months. N=93**

Never	84	90.3%
Once	3	3.2%
Occasionally	5	5.4%

*Note: Only includes men who had injected illicit drugs in the previous six months.*

Of the eight men who reported sharing their injecting equipment with someone else, seven indicated that they always sterilised the needle (and syringe) before using it, with only one man who indicated that he did not sterilise the needle (and syringe) before using it. No men indicated that they had ever used other injecting equipment (such as spoons, water, filters, tourniquets) after someone else had used it.

## Harms and Drug Use

When asked about drug ‘binges’, about one in six (16.4%) men who had used illicit drugs in the previous six months indicated that they had done so with one in eight (12.7%) having done so more than once. One in ten (9.8%) had binged while using crystal.

Participants who had used any illicit drugs in the previous six months were asked to describe what harms they had experienced that they ascribed to their drug use. A third cited 'unsafe sex', although we have not as yet determined whether there was an actual association between this assertion and their reported sexual behaviour. Other types of harms ascribed to drug use included being subjected to abuse from, or themselves abusing, others, relationship problems, and health related issues. Very few men reported having lost their jobs, or becoming homeless as a result of their drug use.

**Table: Harms ascribed to drug use in the previous six months. N=1137**

Had unsafe sex	34.0%
Accidentally hurt myself	19.2%
Became sick	14.5%
Was verbally abused	8.4%
Problems with family	7.7%
Became abusive to others	7.1%
Friendship break up	5.9%
Could not pay my bills	5.5%
Relationship break up	3.8%
Had to attend a hospital emergency department	3.6%
Needed medical attention	3.3%
Received warning or put on probation at work	2.9%
Was physically assaulted	2.6%
Was sexually assaulted	2.6%
Lost my job	1.7%
Was forced to move	1.7%
Was made homeless	0.7%

*Note: Includes only those men who reported illicit drug use in the previous six months.*



Participants were asked to report whether they had overdosed while using drugs. A definition of what constituted an overdose was provided\* to enable them to compare their experience to the definition provided. Overall, one in eight men who had used drugs had ever overdosed: one in twelve had overdosed once, and one in 25 overdosed more often.

\*Definition provided to participants: *Any of: nausea and vomiting, chest pain, tremors, increased body temperature, increased heart rate, seizures, extreme anxiety, panic, extreme agitation, hallucinations, excited delirium that are outside your normal drug experience, or where professional assistance would have been helpful.*

**Table: Overdose due to drug use. N=1837**

Did not answer	16.6%
Never overdosed	71.0%
Overdosed once	8.3%
Overdosed more than once	4.1%

*Note: Includes only those men who reported ever using drugs.*

When asked about how others perceived their drug use, one in six (17.7%) men who had ever used illicit drugs indicated that someone else had ever expressed concern about their drug use. Among men who had used illicit drugs in the previous six months, about one in eight indicated that someone had ever expressed concern about their drug use. Among those who had had someone express such concern in the previous six months the types of people expressing such concern were highly varied. Few men reported that their doctor had expressed concern about their drug use.

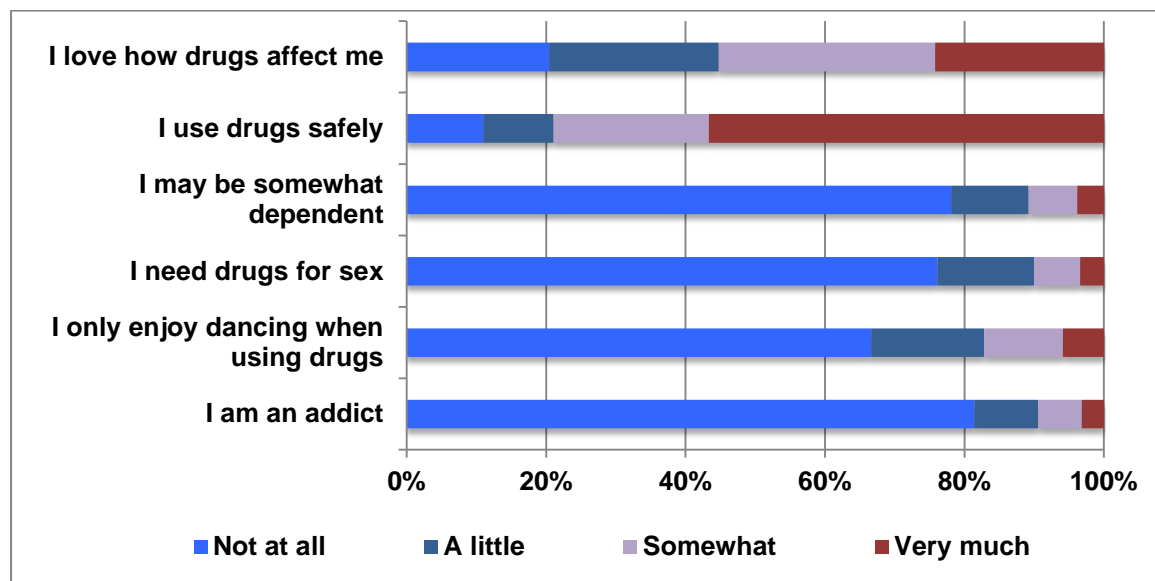
**Table: Concern by others about drug use in the previous six months. N=1137**

Anyone	13.2%
Straight friends	6.1%
Gay friends	5.2%
Family	5.1%
Partner (boyfriend)	3.8%
Doctor	2.0%
Work colleagues	1.3%

*Note: Includes only those men who reported ever using drugs.*

Relatively few men who had used illicit drugs in the previous six month indicated any concern about their own drug use, with one in seven (15.4%) indicating any level of concern about their current drug use. Less than one in five men felt even a little that they were ‘addicted’, although nearly a quarter described themselves as having some level of dependence. This discrepancy may reflect that the term ‘addict’ is often felt to be highly stigmatising whereas dependence has less of this sort of implication. Most, though, felt that they used drugs safely.

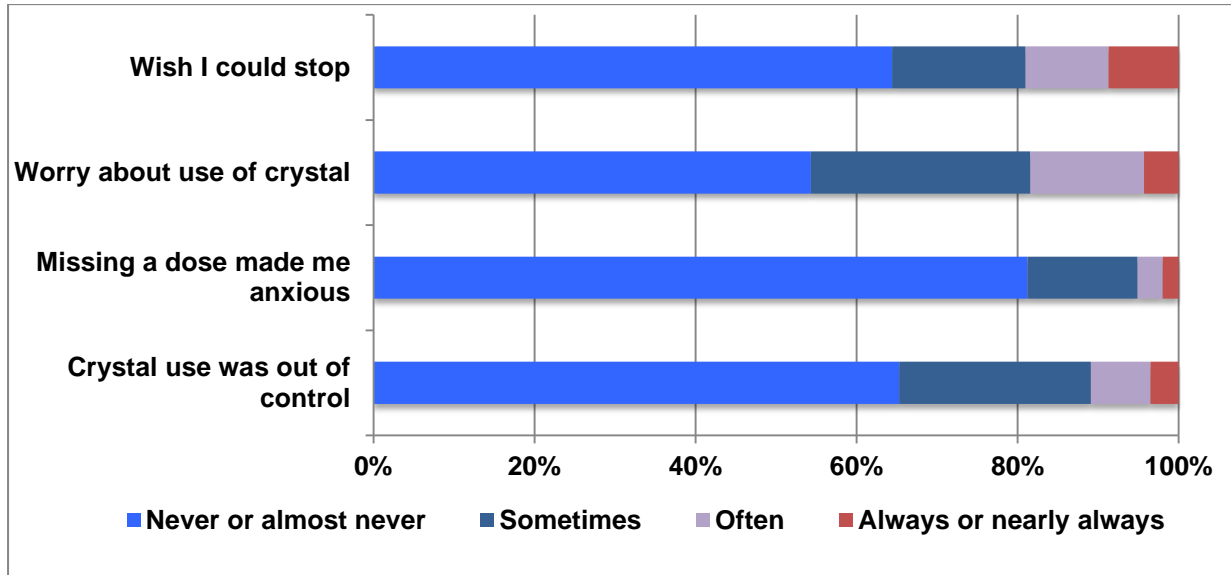
**Chart: Feelings about own drug use in the previous six months. N=1137**



*Note: Includes only those men who reported using illicit drugs in previous six months.*

Among the 269 men who had used crystal in the previous six months, nearly three quarters (70.3%) did not think it would be difficult to stop using crystal. Nonetheless, more than one in twenty (6.3%) did feel that it would be very difficult or impossible.

**Chart: Feelings about own crystal use. N = 269**



*Note: Includes only those men who reported using crystal in the previous six months.*

## Pleasures and Drug Use

We also asked men who reported drug use in the previous six months to describe what pleasures they derived from their drug use. The majority cited feeling happy, and nearly as many said they had gained more confidence. Nearly half indicated that their drug use had provided them with enjoyable parties, new friends, and better sex. Over a third said that drug use had brought them closer to people.

Overall, men in Flux ascribed more positive consequences of drug use than negative ones.

**Table: Pleasures ascribed to drug use in the previous six months. N=1137**

---

I felt happy	53.9%
Gained more confidence	48.8%
Had some great parties	45.6%
Met new friends	45.2%
Better sex	43.1%
Brought me closer to some people	38.2%

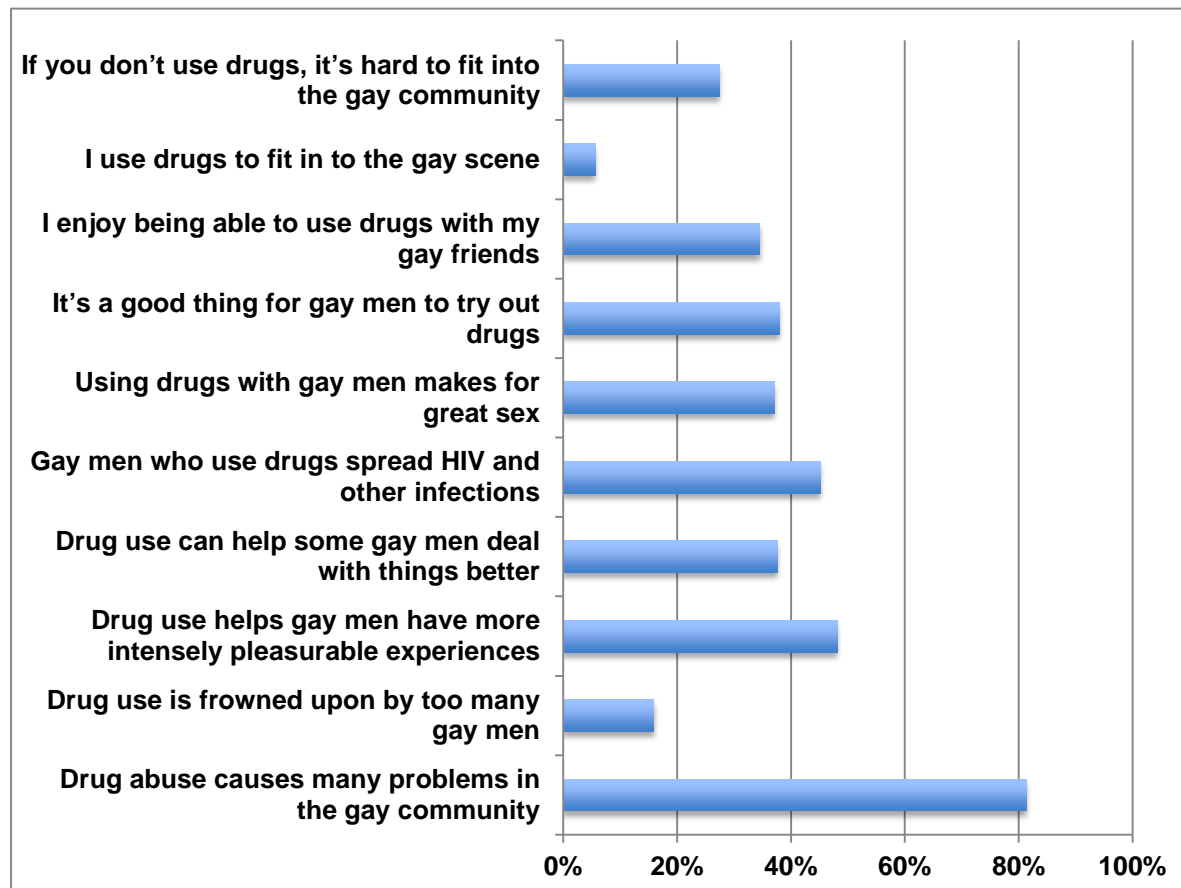
---

*Note: Includes only those men who reported drug use in the previous six months.*

## Attitudes Towards Drugs

Men in Flux generally held negative attitudes towards drug use, which is somewhat surprising given the high rates of drug use within the sample. For many men there appears to be a mismatch between attitudes about drug use and drug-using behaviours.

**Chart: Attitudes toward drug use in the gay community.**

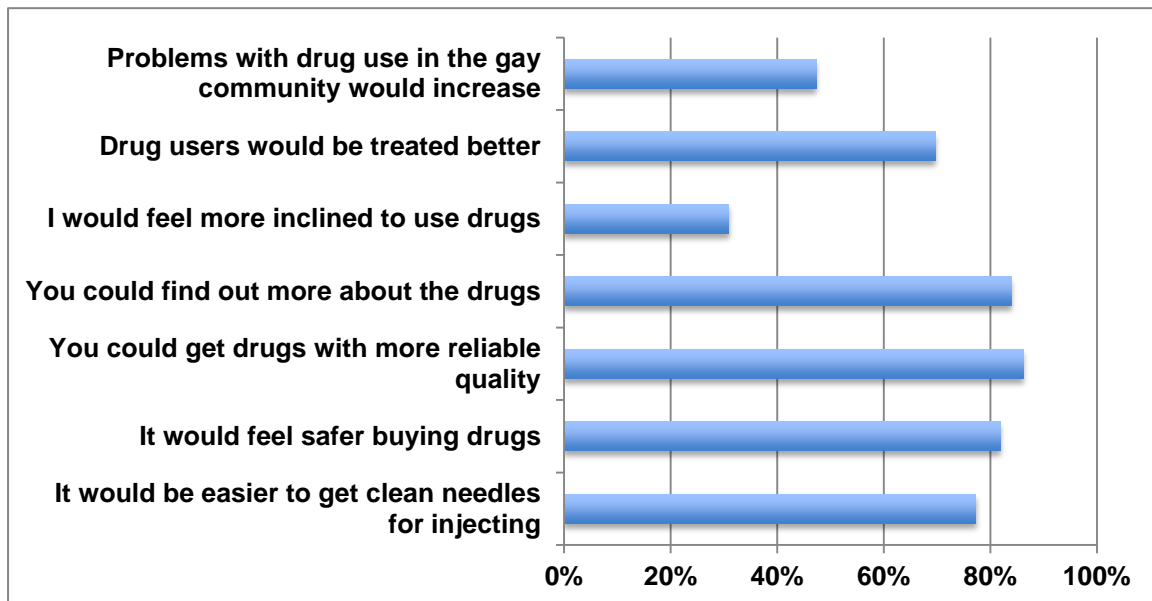


*Note: only includes those men who responded to these questions.*

## Participants' expectations if drug use was decriminalised

Men in Flux were asked what they thought would change if drug use were to be decriminalised. While the majority indicated that they would not change their own drug use, they did feel that decriminalising drugs would improve the quality and safety of access to drugs and needles, and allow greater access to information. Nonetheless, nearly half believed that drug use problems in the gay community would increase.

**Chart: Expectations if drug use was decriminalised**

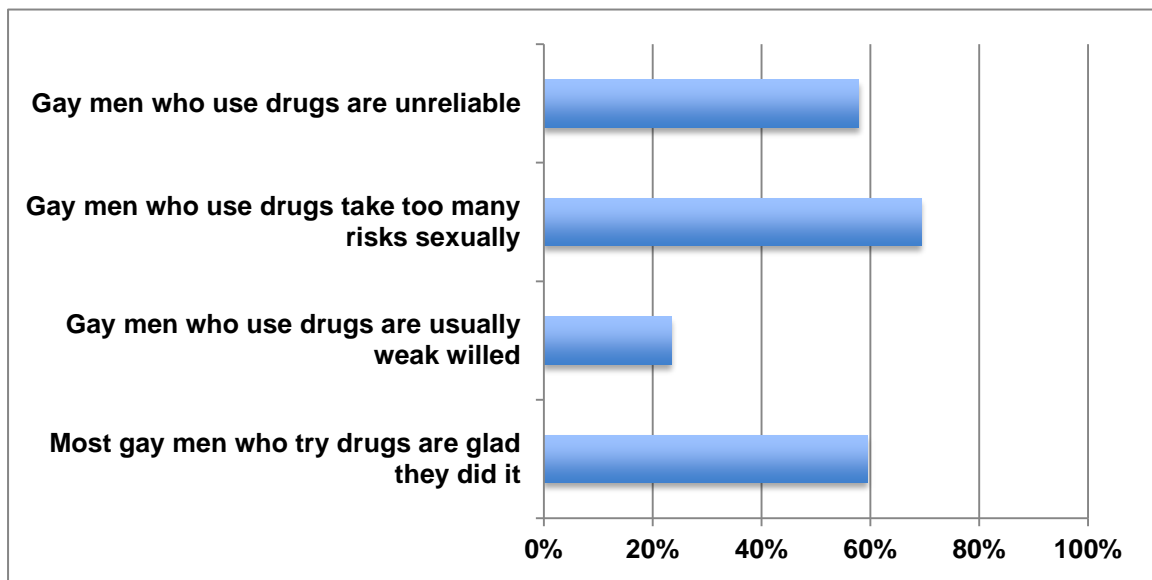


*Note: only includes those men who responded to these questions.*

## Beliefs about drug use among gay men

The majority of men in Flux appeared to hold fairly negative views toward gay men who used drugs, despite over half acknowledging that gay men who used drugs did not tend to have regrets about having done so.

**Chart: Beliefs about gay men's use of drugs**

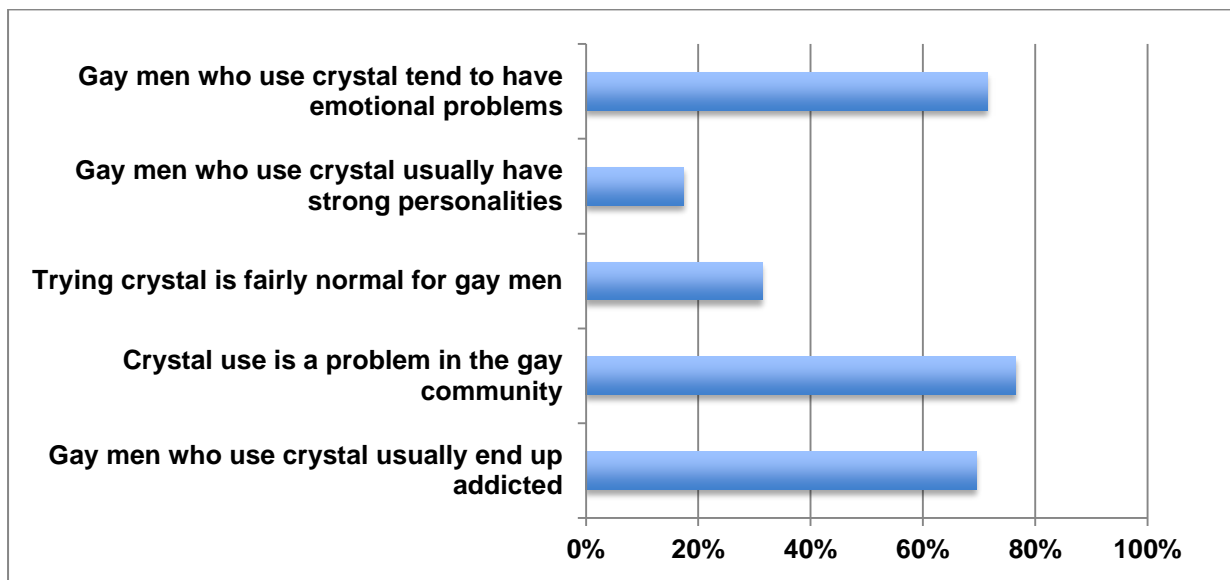


*Note: only includes those men who responded to these questions.*

## Attitudes toward 'crystal' use

Men were asked their attitudes towards 'crystal' use specifically. Overall, men in Flux held negative views toward crystal use. The majority viewed crystal use as a problem to the gay community and to the personal health and well-being of men who used crystal.

**Chart: Attitudes toward crystal use.**



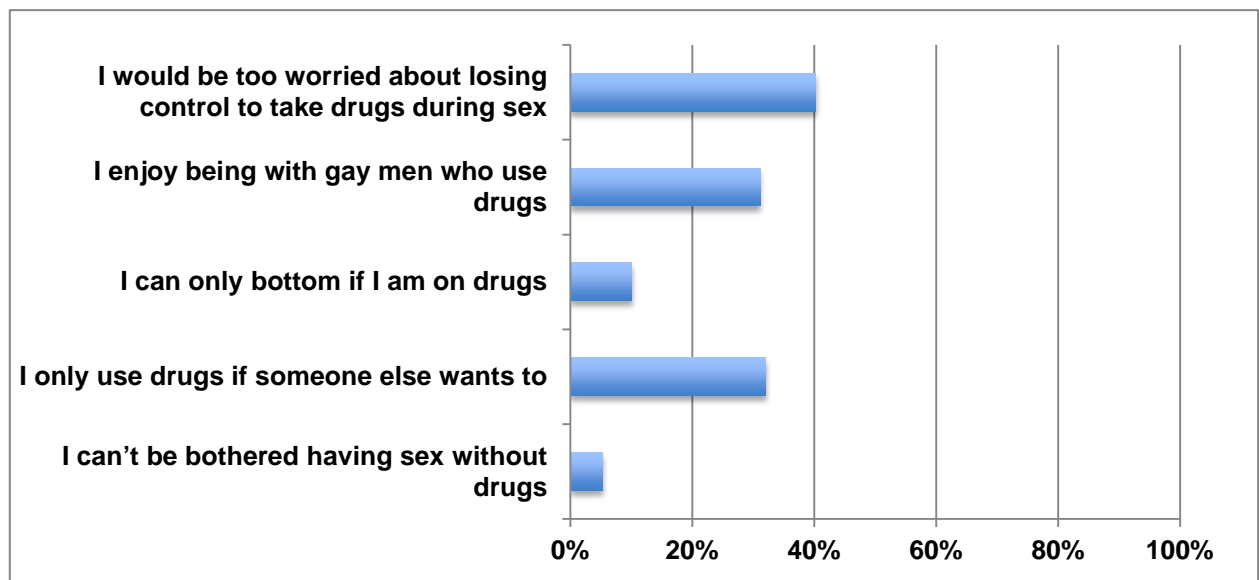
*Note: only includes those men who responded to these questions.*



## Beliefs about own drug use

Of those men who had ever used drugs, their attitudes toward their own drug use were more favourable than towards drug use in the gay community more broadly. Few men described their own drug use in terms of dependence, or the 'need' to use. Nonetheless, only a minority indicated that they enjoyed socialising with gay men who use drugs and somewhat more than that indicated some concern about the possibility of losing control during sex. One third said that they only use drugs when they are with someone else who wants to use drugs.

**Chart: Beliefs about own drug use. N=1837**



*Note: Includes only those men who reported ever using drugs and who responded to these questions.*

## Access to Alcohol and Other Drugs Services

Participants were asked whether they had used any health services in relation to alcohol and/or other drug use in the previous six months. More than one in ten indicated having consulted their doctor about their alcohol and/or other drug use at some time. More than one in twenty had consulted a psychologist. Very few men used dedicated alcohol and/or other drug services.

**Table: Use of alcohol and drug services in the previous six months. N=1137**

Doctor/GP	257	11.4%
Psychologist	138	6.1%
Other counsellor	81	3.6%
Telephone helpline	26	1.2%
Drug or alcohol support groups	22	1.0%
12-step program	23	1.0%
Group therapy	13	0.6%
Detox or rehab clinic	13	0.6%
Methadone clinic	3	0.1%

## Conclusion

The Flux sample is similar to most other online samples of gay and bisexual men in Australia (e.g., Gay Community Periodic Surveys), although it is slightly younger. Baseline enrolment was completed in 2015, with 2,251 men having completed the baseline questionnaire.

While illicit drug use was common in this sample, it was far from universal, and most men appeared to hold fairly negative views toward drug use within the gay community, although they often tended to hold less negative views about their own drug use. Frequent and regular use of most drugs was not the norm among men in Flux, with most drug use being occasional or incidental. Nonetheless, there was a small minority of men who appeared to use some drugs, particularly crystal (methamphetamine) quite often. Nonetheless, the majority of crystal users appeared to do so without harmful consequences, and seemingly without becoming dependent. The minority of men for whom their drug use, including crystal use, was problematic, and which led to harmful consequences, need particular attention. Few men had accessed dedicated alcohol and other drug services, which may be indicative of unmet treatment need.

Injecting drug use occurred in only a small minority of men in this sample, and while a few shared injecting equipment, almost all of them reported sterilising that equipment before reusing it (although we were unable to collect detail as to what constituted 'sterilising' for them).

Tobacco use was about twice as high within the Flux sample as has been found among adult Australian men in general. This has been a consistent finding in previous research where these questions have been asked as well, suggesting that tobacco use remains a persistent issue within the gay community. We also found that rates of alcohol use were at least as high as those found in the general population.

## **What to expect from Flux**

The Flux study will be investigating factors associated with current drug use, and with future uptake, or cessation, of drug use, as well as changes in patterns of drug use, and the consequences of drug use. Specifically, we will examine reasons why men start, and why men stop, using drugs and how peer norms and community attitudes influence men's drug use and their health related behaviours. Over 1,700 men of the 2,251 men who completed the baseline questionnaire have consented to follow-up every six months for two to three years. We will begin to report on these longitudinal data in coming years.

## References

1. Roxburgh, A., Lea, T., de Wit, J., & Degenhardt, L. (in press). Sexual identity and prevalence of alcohol and other drug use among Australians in the general population. *International Journal of Drug Policy*. Accepted for publication 10 November 2015.
2. Bolding, G., et al. (2006). Use of crystal methamphetamine among gay men in London. *Addiction*, 101, 1622-1630.
3. Cochran, S., et al. (2004). Prevalence of non-medical drug use and dependence among homosexually active men and women in the US population. *Addiction*, 99, 989-998.
4. Hickson, F., et al. (2010). Illicit drug use among men who have sex with men in England and Wales. *Addiction Research & Theory*, 18(1): 14-22.
5. **Prestage G, Degenhardt L, Jin F**, et al. (2007). Predictors of frequent use of amphetamine type stimulants among HIV-negative gay men in Sydney. *Drug & Alc. Dependence*, 91 (2-3): 260-269.
6. **Prestage GP**, Fogarty AS, Rawstone P, **Grierson J**, et al. (2007). Use of illicit drugs among gay men living with HIV in Sydney. *AIDS*, 21, Suppl 1: S49-S56
7. Stall R., et al. (2001). Alcohol use, drug use and alcohol-related problems among men who have sex with men: the urban men's health study. *Addiction*; 96: 1589–601.
8. Cochran S.D., et al. (2004). Prevalence of non-medical drug use and dependence among homosexually active men and women in the US population. *Addiction*; 99: 989–98.
9. McCabe SE. et al. (2009) Sexual orientation, substance use behaviors and substance dependence in the United States. *Addiction*. 104(8):1333-45.
10. Solomon TM, Kiang M Halkitis PN, et al. (2010). Personality traits and mental health states of methamphetamine abusing and dependent MSM. *Addictive Behaviors*, 35(10), 161-163.
11. Lea T, **Prestage G.**, et al. (2013). Trends in drug use among gay and bisexual men in Sydney, Melbourne and Queensland, Australia. *Drug and Alcohol Review.* , 32, 39-46.
12. **Prestage GP**, Ferris J, **Grierson J**, et al. (2008). Homosexual men in Australia: Population, distribution, and HIV prevalence. *Sexual Health*, 5(2): 97-102.
13. Bryant, J., et al. (2010). *Pharmacy Needle and Syringe Survey, New South Wales 2006–2008* (Monograph 2/2010). Sydney: National Centre in HIV Social Research.
14. Lea T, Mao L, Bath N, **Prestage G**, et al. (2013) Injecting drug use among gay and bisexual men in Sydney: Prevalence and associations with sexual risk practices and HIV and hepatitis C infection. *AIDS and Behavior.* 17, 1344-1351.
15. Hull, P., Holt, M., Mao, L., **Prestage, G.**, et al., 2011. *Gay Community Periodic Survey: Queensland 2010*. Sydney: National Centre in HIV Social Research.
16. Fogarty, A., Mao, L., Zablotska, I., Salter, M., Santana, H., **Prestage, G.**, et al., 2006. *The Health in Men and Positive Health cohorts*. Monog 1/2006. Sydney: Natl Cent in HIV Soc Res.
17. Elford J. 2006. Changing patterns of sexual behaviour in the era of highly active antiretroviral therapy. *Curr Opin Infect Dis.*;19:26-32.

18. **Jin F**, Crawford J, **Prestage GP**, et al. (2009). Unprotected anal intercourse, risk reduction behaviours, and subsequent HIV infection in a cohort of homosexual men. *AIDS*, 23(2): 243-252.
19. Zablotska I, **Prestage GP**, et al. (2010) Contemporary trends in HIV diagnoses in Australia can be predicted by trends in unprotected anal intercourse among gay men. *AIDS* 24: 1955-1966.
20. **Prestage, GP**. (2009) Using Drugs for Sex: playing with risk?. *Sexual Health* (6)175-77.
21. Buchacz, K., et al. (2005). Amphetamine use is associated with increased HIV incidence among men who have sex with men in San Francisco. *AIDS*, 19: 1423-4.
22. Koblin, BA. et al. (2003). High-risk behaviors among men who have sex with men in 6 US cities: baseline data from the EXPLORE study. *American Journal of Public Health*, 93, 926-32.
23. Rusch M, et al. (2004). Unprotected anal intercourse associated with recreational drug use among young MSM depends on partner type and intercourse role. *STD*, 31: 492-8.
24. Difranceisco W, et al. (1996). Sexual adventurousness, high-risk behaviour, and HIV type 1 seroconversion among the Chicago MACS-CCS Cohort. *STD*, 23:453-60.
25. **Prestage GP, Grierson J**, et al. (2009) The role of drugs during group sex among gay men in Australia. *Sexual Health* ; 6(4) 310 – 317.
26. **Prestage G, Jin F**, et al. (2009). The use of illicit drugs and erectile dysfunction medications and subsequent HIV infection among gay men in Sydney. *Journal of Sexual Medicine* 6(8):2311-20.
27. Halkitis PN, et al. (2007). Patterns of poly-club-drug use among gay & bisexual men: a longitudinal analysis. *Drug & Alcohol Dependence*, 89, 153-160.
28. Halkitis PN, & Palamar J (2008). Multivariate modeling of club drug use initiation among gay and bisexual men. *Substance Use & Misuse*, 43, 871-879.
29. Halkitis PN, et al. (2008) A Double Epidemic. *Journal of Homosexuality*, 41(2): 17-35.
30. Halkitis PN, et al. (2003). Barebacking, among gay and bisexual men in New York City. *Archives of Sexual Behavior*, 32(4), 351-358.
31. Mansergh G, et al. (2001). The circuit party men's health study: findings and implications for gay and bisexual men. *American Journal of Public Health*, 91: 953-958.
32. Semple, S., et al., (2009). Sexual marathons and methamphetamine use among HIV-positive men who have sex with men. *Archives of Sexual Behavior*, 38(4): 583-590
33. Kippax, S., Campbell, D., Van De Ven, P., Crawford, J., **Prestage, G.**, et al., (1998). Cultures of sexual adventurousness as markers of HIV seroconversion. *AIDS Care*, 10: 677-88.
34. Hurley, M., **Prestage, G.P.**, (2009). Intensive sex partying amongst gay men in Sydney. *Culture, Health and Sexuality*, 11, 6: 597-610.
35. Drumright LN. et al. (2006). Club drugs as causal risk factors for HIV acquisition among men who have sex with men: A review, *Substance Use & Misuse*, 41(10), 1551-1601.
36. Drumright LN, et al., (2006). Unprotected anal intercourse and substance use among men who have sex with men with recent HIV infection. *JAIDS*, 43(3), 344-350.
37. Colfax, G., et al. (2004). Substance use and sexual risk: a participant- and episode-level analysis among a cohort of men who have sex with men. *American Journal of Epidemiology*, 159: 1002–12.

38. **Prestage, G.**, et al, (2005). Contexts for last occasions of unprotected anal intercourse among HIV-negative gay men in Sydney: the Health in Men (HIM) cohort. *AIDS Care*, 17, 23–32.
39. Bauermeister, J.A., (2008). Latino Gay Men’s Drug Functionality: The Role of Social Networks and Social Support. *Journal of Ethnicity in Substance Abuse*. 7(1): 41-65.
40. ACON Annual Report 2010-2011, ACON, Sydney.  
[http://www.acon.org.au/sites/default/files/Annual\\_Report\\_10-11\\_0.pdf](http://www.acon.org.au/sites/default/files/Annual_Report_10-11_0.pdf)
41. QAHC Annual Report 2010-2011, Queensland Association of Healthy Communities, Brisbane.  
[http://qahc.org.au/files/shared/docs/Annual\\_report\\_EQ.pdf](http://qahc.org.au/files/shared/docs/Annual_report_EQ.pdf)
42. Kippax S., et al. (1993). Sustaining safe sex: gay communities respond to AIDS. Falmer Press, London.
43. Halkitis PN, et al. (2005). Explanations for Methamphetamine Use Among Gay and Bisexual Men in New York City. *Substance Use & Misuse*, 40( 9-10) : 1331-1345.
44. Palamar JJ, Halkitis PN. (2006). A qualitative analysis of GHB use among gay men: Reasons for use despite potential adverse outcomes. *International Journal of Drug Policy*, 17(1): 23-28.
45. Jerome R, Halkitis PN & Siconolfi D (2009). Club drug use, sexual behavior, and HIV seroconversion: a qualitative study on motivations of risky and protective drug and sex practices. *Substance Use & Misuse*, 44, 303-319.
46. **Gagnon JH, Simon W**, (2005). Sexual conduct: the social sources of human sexuality. Transaction Publishers, New Jersey.
47. Bandura A. (1986) *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall, Englewood Cliffs, New Jersey.
48. Hart G, Boulton M. Sexual behaviour in gay men: towards a sociology of risk. In: Aggleton P, Davis P, Hart G, eds. (1995). *AIDS: safety, sexuality and risk* ed. London: Taylor and Francis.
49. Rhodes T. (1997). Risk theory in epidemic times: Sex, drugs and the social organisation of `risk behaviour. *Sociology of Health & Illness*, 19:227.
50. Jones RH, Candlin CN. (2003). Constructing risk across timescales and trajectories: gay men's stories of sexual encounters. *Health, risk and society*, 5:199-213.
51. Ministerial Council on Drug Strategy, (2008). National Amphetamine-Type Stimulant Strategy 2008-2011. Commonwealth of Australia, Canberra, ACT.
52. Ministerial Council on Drug Strategy, (2011). The National Drug Strategy 2010–2015. A framework for action on alcohol, tobacco, and other drugs. Commonwealth of Australia, Canberra.
53. Sixth National HIV/AIDS Strategy 2010-2013. Commonwealth of Australia. 2010.
54. Australian Institute of Health and Welfare. (2014). National Drug Strategy Household Survey detailed report 2013. Drug statistics series no. 28. Cat. no. PHE 183. Canberra: AIHW.



**UNSW**  
AUSTRALIA



Kirby Institute



**LA TROBE**  
UNIVERSITY

For more information contact:  
Associate Professor Garrett Prestage  
Phone: +61 2 9385 0900  
Facsimile: +61 2 9385 0920  
Email: [g.prestage@unsw.edu.au](mailto:g.prestage@unsw.edu.au)

This publication is also available online:  
<http://www.kirby.unsw.edu.au/publications>  
<http://www.latrobe.edu.au/arcshs/publications>  
© The Kirby Institute  
ISBN-13 978-0-7334-3641-3