

Sex Partying Among Gay Men in Sydney, Melbourne and Brisbane, Australia

Garrett Prestage · Ian Down · Andrew Grulich · Iryna Zablotska

Published online: 14 October 2010
© Springer Science+Business Media, LLC 2010

Abstract Group sex is relatively common among gay men, and is a likely risk factor for infection with HIV and other sexually transmissible infections (STI). The 5,432 participants in the 2008 Gay Community Periodic Survey in Sydney, Melbourne and Brisbane, Australia, were asked about their participation in group sex. Nearly half (44.0%) of those who reported sex with casual male partners in the previous 6 months also reported engaging in group sex. Among other factors, using drugs odds ratios (OR) and confidence intervals (CI) (OR = 1.89, CI = 1.61–2.21), being HIV-positive (OR = 1.62, CI = 1.13–2.32), and engaging in anal intercourse, both with a condom (OR = 3.03, CI = 2.46–3.73) and without a condom (OR = 5.68, CI = 4.53–7.12) were independently associated with having engaged in group sex. This study suggests that gay men who engage in group sex represent an important priority for targeted HIV and STI prevention activities and research.

Keywords Gay men · Group sex · HIV · Sexual behaviour · Condoms

Introduction

Group sex among Australian gay men has been associated with unprotected anal intercourse with casual partners (UAIC) and, specifically, with UAIC that is not

seroconcordant (i.e., between casual partners with differing HIV serostatus or where one or both partners' HIV serostatus was unknown) [1]. Also, group sex is a key indicator of participation in highly sexually active 'scenes' which have been associated with sexual risk behaviours and illicit drug use among gay men [2, 3].

While group sex in itself may not necessarily be 'unsafe' depending on the specific sexual practices involved, increased risk of sexually transmissible infections (STI) has been associated with group sex. Group sex is one key indicator of participation in sexually adventurous subcultures which have previously been associated with HIV seroconversion [4] and STI transmission [5] among gay men and have been identified as a key factor for sexual risk behaviour among gay men [6–9]. Group sex also necessarily involves multiple concurrent partners, and the men who engage in this activity are therefore at increased risk of STI in general and, specifically, of HIV infection and transmission where it involves UAIC [10].

Sowell et al. [11] found that men who engaged in group sex devalued the possibility of HIV risk, in favour of an emphasis on sexual pleasure and excitement. This accords with the concept of 'intensive sex partying' where considerations of pleasure, and its intensification, may sometimes be given greater value than concerns about HIV, or other risk [12]. In these contexts, party drugs are often used to enhance the sexual experience and are associated with an increased likelihood to engage in UAIC [13].

In consideration of the fact that gay men who engage in group sex are probably at high risk of infection with and transmission of HIV and other STI, the Australian behavioural surveillance system's Gay Community Periodic Surveys (GCPS), which commenced in 2006, started collecting data about group sex in 2007 [14, 15]. In this paper, we investigated the extent of sexual risk taking among gay

G. Prestage (✉) · I. Down · A. Grulich · I. Zablotska
National Centre in HIV Epidemiology and Clinical Research,
University of New South Wales, 376 Victoria Street, Sydney,
NSW 2010, Australia
e-mail: gprestage@nchecr.unsw.edu.au

men who engaged in group sex. We sought to document the prevalence and frequency of group sex and to examine factors associated with participation in group sex within this well-established community survey of risk behaviour among Australian gay men.

Methods

Participants

Participants were from the ongoing Australian GCPS of gay men in 2008 in Sydney, Melbourne and Brisbane. Participants were recruited from gay community venues, events and clinics. To be eligible, participants had to live in each of the cities or to regularly participate in that city's local gay community; regular participation was self-defined. They also had to either identify as homosexual or bisexual or have had any sexual contact (any of oral or anal intercourse or other penetrative practices, or mutual masturbation) with another man in the previous 5 years. Approximately 78% of eligible men who were asked to participate completed a questionnaire. In each state capital, the survey is conducted over one-week period to coincide with a major gay community festival, but is also conducted on a second occasion 6 months later each year in Sydney. To ensure comparability across the samples, the Sydney sample included only those men recruited during the first round of the survey in each year. In 2008, 5,432 men were recruited.

Questionnaire

Participants completed a brief self-administered paper and pencil questionnaire on a broad range of topics including: demographics, sexual self-identity, HIV testing, sexual relationships and sexual practices with regular and casual partners. Questions about group sex experience were introduced in 2007 [14].

Outcome Variables

Men were asked several questions about sexual behaviour: whether they had sex with casual or regular male partners in the previous 6 months; group sex; oral and anal intercourse, separately for the insertive and receptive positions, with these partners; and whether they used condoms during each of insertive and receptive anal intercourse. HIV serostatus of casual partners was not assessed. A single measure of any unprotected anal intercourse with casual partners was created from these separate items to assess sexual risk behaviour.

Data Analyses

There was no difference between 2007 and 2008 in terms of likelihood to engage in group sex so we have included the most recent year in our analyses. The samples from all three states were combined and only men who reported sex with casual partners in the previous 6 months were included in analysis. Among men who did not report sex with casual partners, an additional 114 men indicated they had engaged in group sex that involved their regular partner—these men most likely attended group sex events with regular partners only and restricted their actual sexual behaviour to just their regular partners. Sexual behaviour with regular partners has been found to be very different to sexual behaviour with casual partners, particularly on the key indicators of HIV risk, and as our analyses concern sex partying that mostly occurs in the context of casual sex, respondents who did not report sex with casual partners have not been included in these analyses. We tested for associations with having engaged in group sex with casual partners, both ever in previous 6 months and at least monthly during that time. For univariate analyses, categorical variables were analysed using Pearson's chi-square test with Type I error of 5%. To estimate statistical associations, we used logistic regression models and presented unadjusted and adjusted odds ratios (OR) and 95% confidence intervals (CI).

Results

There were 5,432 completed survey questionnaires in Sydney, Melbourne or Brisbane in 2008 (Table 1). When asked about sexual contacts during the previous 6 months, 3,707 men (68.2%) reported having sex with casual partners. Men who reported no sexual contact with casual partners in the preceding 6 months were excluded from further analysis. Among the 3,707 men who reported sex with casual partners, the majority (59.9%) also reported having had sex with a regular partner in the previous 6 months.

Men included here were recruited through gay community events (56.7%), social venues (23.7%), sex-on-premises venues (13.5%) and clinics (6.2%). Consistent with the recruitment strategies, most men identified as gay or homosexual (88.5%) and had extensive gay community social networks: 46.3% indicated that most or all of their friends were gay men and 41.9% spent a lot of their free time with gay men. Nearly three quarters (72.0%) were of an Anglo-Australian origin. One-third (32.4%) were in managerial or professional occupations and half (51.3%) had some university education. Mean age was 36.4 years.

Table 1 Univariate associations with group sex during previous 6 months, 2008

N (%)	Frequency of group sex			
	At least monthly (% within category)	Less than monthly (% within category)	No group sex (% within category)	Total (% of total sample)
Total	443 (12.0)	1187 (32.0)	2077 (56.0)	3707 (100)
Sexual identity**				
Homosexually identified	372 (11.3)	1067 (32.4)	1859 (56.4)	3298 (89.0)
Not homosexually identified	71 (17.4)	120 (29.3)	218 (53.3)	409 (11.0)
City**				
Sydney	169 (11.5)	491 (33.4)	810 (55.1)	1470 (39.7)
Melbourne	177 (12.4)	474 (33.1)	780 (54.5)	1431 (38.6)
Brisbane	97 (12.0)	222 (27.5)	487 (60.4)	806 (21.7)
Recruitment source***				
Clinics	36 (15.9)	74 (32.6)	117 (51.5)	227 (6.1)
Social venues	92 (10.5)	236 (26.8)	551 (62.6)	879 (23.7)
Sex venues	136 (20.2)	251 (37.2)	287 (42.6)	674 (18.9)
Gay community events	178 (9.3)	613 (32.2)	1113 (58.5)	1904 (51.4)
Education*				
Less than university level	218 (12.3)	528 (29.8)	1028 (57.9)	1774 (47.9)
University level	225 (11.6)	659 (34.1)	1049 (54.3)	1933 (52.1)
Employment***				
Professional/Managerial	130 (11.7)	386 (34.8)	593 (53.5)	1109 (29.9)
Other employment	208 (11.1)	618 (32.8)	1056 (56.1)	1882 (50.8)
Not in paid employment	105 (14.7)	183 (25.6)	428 (59.8)	716 (19.3)
HIV serostatus***				
HIV-positive	89 (22.7)	146 (37.2)	157 (40.1)	392 (10.6)
HIV-negative	307 (10.6)	944 (32.6)	1648 (56.8)	2899 (78.2)
Untested/Unknown	47 (11.3)	97 (23.3)	272 (65.4)	416 (11.2)
Number of partners***				
0–10 partners	125 (5.1)	625 (25.5)	1705 (69.5)	2455 (66.2)
11–50 partners	191 (19.1)	483 (48.3)	326 (32.6)	1000 (27.0)
>50 partners	127 (50.4)	79 (31.3)	46 (18.3)	252 (6.8)
Anal intercourse with casual partners***				
No anal intercourse	36 (4.6)	126 (16.1)	619 (79.3)	781 (21.1)
Protected anal intercourse only	160 (8.9)	633 (35.4)	997 (55.7)	1790 (48.3)
Any UAIC	247 (21.7)	428 (37.7)	461 (40.6)	1136 (30.6)
Anal intercourse with regular partners***				
No regular partner	143 (9.6)	534 (36.0)	808 (54.4)	1485 (40.1)
No anal intercourse	14 (6.2)	56 (24.8)	156 (69.0)	226 (6.1)
Protected anal intercourse only	80 (9.7)	215 (26.2)	526 (64.1)	821 (22.1)
Any UAIC	206 (17.5)	382 (32.5)	587 (50.0)	1175 (31.7)
Mean age (years)***	38.6	38.2	34.9	35.9

Note Includes only those men reporting sex with any casual male partners in previous 6 months

$P < 0.1$, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$

Among the men reporting sex with casual partners during the previous 6 months, 44.0% reported having engaged in group sex with any of those partners, although mostly they did so infrequently (Table 1). Also among men reporting sex with casual partners, nearly one in five

indicated that their regular partners had participated in some of these group sex encounters.

The majority of those who had engaged in group sex reported doing so infrequently: 443 men (12.0%) reported engaging in group sex at least monthly; 238 men (6.4%)

about once every 6 months, and 949 men (25.6%) just once or a few times only. Respondents were also asked whether they had attended private sex parties in the previous 6 months: 604 (16.3%) indicated they had attended sex parties.

In the univariate analyses, men who engaged in group sex were somewhat older, had slightly lower education levels, and were more likely to report having tested HIV-positive than men who did not engage in group sex (Table 1). Unsurprisingly, engaging in group sex was associated with being recruited at sex venues and having a greater number of partners in the previous 6 months. Brisbane men were slightly less likely to have engaged in group sex than men from other cities in univariate analysis. Men who engaged in UAI both with their regular partners and with casual partners were more likely to have engaged in group sex, and to have done so more frequently, than those who did not engage in UAI. Those who did not engage in anal intercourse at all were particularly less likely to have engaged in group sex. These associations were generally true regardless of HIV serostatus. Nonetheless, HIV-positive men were more likely to report UAIC in general: 55.6% of HIV-positive men reported engaging in UAIC in the previous 6 months, compared with 27.7% of HIV-negative men and 27.4% of those whose HIV status was unknown. These differences were more pronounced among men who engaged in group sex (Table 2).

Respondents were also asked about use of illicit drugs during the previous 6 months. Those who did not report engaging in group sex were less likely to report using drugs in general (Table 3). This was also true for each type of drug and those who used drugs more often were even more

likely to report group sex. Over a quarter (28.6%) of the men who engaged in group sex at least monthly, and one in six (18.5%) of those who engaged in group sex less frequently, reported using ‘party drugs’ specifically to enhance their sexual performance and pleasure, compared to 4.4% of those who did not engage in group sex at all ($P < 0.001$).

Items identified as being significant (at $P < 0.1$) in univariate analysis (age, education, employment, sexual identity, HIV serostatus, site and city of recruitment, any drug use, having had a regular partner in the previous 6 months, and anal intercourse with casual partners) were included in the multivariate analysis. In multivariate analysis, being somewhat older, using drugs, being HIV-positive, living in Melbourne, being recruited at a sex venue, having university education, and engaging in anal intercourse, both with a condom and without a condom, were independently associated with having engaged in group sex (Table 4). Apart from education, these same items were also independently associated with having engaged in group sex at least monthly.

Discussion

Men who engaged in group sex, and particularly those that did so more often, were more likely to engage in anal intercourse, both with and without a condom, with both their regular and casual partners. They were also more likely to report drug use, and more frequent drug use, and to have been recruited in sex venues.

Melbourne men were somewhat more likely to have been recruited in sex venues (data not shown) but as living in Melbourne was independently associated with group sex, there may be additional aspects of gay sexual subcultures in Melbourne which distinguish that city from the others in this sample. Men who were somewhat older were also more likely to report group sex. This reflects previously reported findings that Australian gay men in their 30–40s in particular are more sexually active and adventurous than their younger counterparts [16]. Other socioeconomic indicators, such as education, suggest that there may be class-related factors involved in the likelihood to engage in group sex. We were unable to explore these issues of class and geography further in these data.

HIV-positive men were more likely to engage in group sex, though not necessarily any more frequently, than non HIV-positive men, and they were more likely to engage in UAIC. Some of the UAIC reported by HIV-positive men would have included positive–positive sex, where both partners were HIV-positive [1, 17], but, nonetheless, HIV-positive men who engaged in group sex were noticeably more likely to also report UAIC. However, regardless of

Table 2 HIV serostatus, UAIC and group sex during previous 6 months, 2008, $n(\%)$

	Frequency of group sex			<i>P</i> -value
	At least monthly	Less than monthly	Never	
HIV-positive				
No UAIC	11 (12.4)	63 (43.2)	100 (63.7)	<0.001
Any UAIC	78 (87.6)	83 (56.8)	57 (36.3)	
Total	89 (100)	146 (100)	157 (100)	
HIV-negative				
No UAIC	166 (54.1)	634 (67.2)	1295 (78.6)	<0.001
Any UAIC	141 (45.9)	310 (32.8)	353 (21.4)	
Total	307 (100)	944 (100)	1648 (100)	
Untested/Unknown status				
No UAIC	19 (40.4)	62 (63.9)	221 (81.3)	<0.001
Any UAIC	28 (59.6)	35 (36.1)	51 (18.8)	
Total	47 (100)	97 (100)	272 (100)	

Note Includes only those men reporting sex with any casual male partners in previous 6 months

Table 3 Drug use and group sex during previous 6 months, 2008

	Frequency of group sex			Total (% of total sample)
	At least monthly (% within category)	Less than monthly (% within category)	No group sex (% within category)	
Total	443 (12.0)	1187 (32.0)	2077 (56.0)	3707 (100.0)
Use of any drugs in general***				
Used none	106 (8.0)	335 (25.3)	884 (66.7)	1325 (35.7)
Used any	337 (14.1)	852 (35.8)	1193 (50.1)	2382 (64.3)
Amyl nitrite***				
Ever used	280 (16.7)	655 (39.1)	740 (44.2)	1675 (45.2)
Used at least ten times	170 (25.6)	274 (41.3)	220 (33.1)	664 (17.9)
Cannabis***				
Ever used	197 (15.0)	462 (35.2)	652 (49.7)	1311 (35.4)
Used at least ten times	85 (17.7)	173 (36.0)	223 (46.4)	481 (13.0)
Crystal***				
Ever used	125 (23.1)	205 (38.0)	210 (38.9)	545 (14.7)
Used at least ten times	50 (37.3)	42 (31.3)	42 (31.3)	134 (3.6)
Cocaine***				
Ever used	99 (16.9)	208 (35.4)	280 (47.7)	587 (15.8)
Used at least ten times	25 (24.8)	28 (27.7)	48 (47.5)	101 (2.7)
Ecstasy***				
Ever used	191 (13.9)	493 (36.0)	687 (50.1)	1371 (37.0)
Used at least ten times	61 (18.0)	118 (34.8)	160 (47.2)	339 (9.1)
GHB***				
Ever used	86 (20.0)	156 (36.4)	187 (43.6)	429 (11.6)
Used at least ten times	36 (31.6)	33 (28.9)	45 (39.5)	114 (3.1)
Heroin				
Ever used	10 (20.4)	14 (28.6)	25 (51.0)	49 (1.3)
Used at least ten times	5 (41.7)	1 (8.3)	6 (50.0)	12 (0.3)
LSD**				
Ever used	45 (19.1)	79 (33.6)	111 (47.2)	235 (6.3)
Used at least ten times	9 (23.7)	11 (28.9)	18 (47.4)	38 (1.0)
Speed***				
Ever used	111 (16.3)	246 (36.1)	324 (47.6)	681 (18.4)
Used at least ten times	38 (25.2)	43 (28.5)	70 (46.4)	151 (4.1)
Special K***				
Ever used	88 (21.9)	147 (36.6)	167 (41.5)	402 (10.8)
Used at least ten times	24 (35.3)	18 (26.5)	26 (38.2)	68 (1.8)
Viagra***				
Ever used	160 (21.9)	305 (41.7)	266 (36.4)	731 (19.7)
Used at least ten times	62 (34.1)	69 (37.9)	51 (28.0)	182 (4.9)

Note Includes only those men reporting sex with any casual male partners in previous 6 months

$P < 0.1$, * $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, $N = 3707$

the respondents' own HIV serostatus, those who engaged in group sex were more likely to also report UAIC.

The older age, higher HIV prevalence, greater likelihood to engage in anal intercourse, including UAI, and greater use of drugs among men who engaged in group sex in this sample indicates that these men are not unlike other men

recruited through group sex networks [1]. These data strongly support the argument that 'intensive sex partying' contexts, where sex with multiple partners and drug use are often used in combination to maximise the experience, is an appropriate high priority for targeted HIV and STI prevention [12].

Table 4 Multivariate associations with group sex during previous 6 months, 2008

	Any group sex		OR	95% CI	P-value
	Never	Ever			
City of recruitment					
Sydney	810 (55.1)	660 (44.9)	1	–	0.013
Melbourne	780 (54.5)	651 (45.5)	1.19	1.01–1.41	
Brisbane	487 (60.4)	319 (39.6)	0.90	0.74–1.10	
Recruitment venue type					
Community event	1113 (58.5)	791 (41.5)	1	–	<0.001
Social venue	554 (62.6)	331 (37.4)	0.87	0.72–1.04	
SOPV	287 (42.6)	387 (57.4)	1.64	1.35–1.99	
Clinic	123 (50.4)	121 (49.6)	0.96	0.71–1.30	
Education					
Less than university level	1028 (57.9)	746 (42.1)	1	–	0.026
University level	1049 (54.3)	884 (45.7)	1.18	1.02–1.36	
UAIC last 6 months					
No anal intercourse	619 (79.3)	162 (20.7)	1	–	<0.001
Always used condoms	997 (55.7)	793 (44.3)	3.03	2.46–3.73	
Ever without condom	461 (40.6)	675 (59.4)	5.68	4.53–7.12	
Any drug use last 6 months					
No	836 (67.6)	400 (32.4)	1	–	<0.001
Any	1241 (50.2)	1230 (49.8)	1.89	1.61–2.21	
HIV serostatus***					
Untested/Unknown	222 (69.6)	97 (30.4)	1	–	0.030
HIV-negative	1648 (56.8)	1251 (43.2)	1.29	0.98–1.70	
HIV-positive	157 (40.1)	235 (59.9)	1.62	1.13–2.32	
Mean age	35.0	38.3	1.03	1.02–1.04	<0.001

Note Includes only those men reporting sex with any casual male partners in previous 6 months

We recruited this community-based sample through a broad range of sites in the local gay communities. Our findings are, however, at least restricted to urban gay men, and the extent to which they can be applied to other populations and other locations is unclear. Also, the Australian context may not always correspond to that found in other countries, and at least some of the differences between these data and those observed elsewhere may be due to those wider differences between countries. In particular, the relatively high rates of HIV testing among gay men in Australia may mean that sexual risk behaviour is understood differently by Australian gay men compared with gay men in other countries where testing rates are lower. Also, the GCPS is based on a relatively brief questionnaire designed to monitor risk behaviours over time. While we were able to identify patterns of behaviour, there is little capacity in these data to explore the reasons and motivations for those behaviours. Also, while sexual identity was not an independent predictor of likelihood to engage in group sex, this was a sample overwhelmingly of gay-identified men and men with strong connections to local Australian gay communities, and the findings may not

apply to other men who have sex with men. Some men reporting UAIC may have been using some other method of risk-reduction, such as strategic positioning or serosorting. Although we collected information on sexual position during UAIC, information about the HIV serostatus of casual partners was not available in this survey.

Although it is not possible to determine from these data whether the risk behaviour reported by these men occurred in the context of group sex, it is clear that men who engaged in group sex were in general taking risks more often compared with those who did not. This was particularly true of men who engaged in group sex more frequently. Also, the greater likelihood for HIV-positive men to report UAIC that has often been reported [16] appears in this study to apply especially to those HIV-positive men who also engaged in group sex.

Conclusion

Our findings confirm that group sex is a relatively common activity among homosexually active men in Australia, and

that those who engage in group sex are at high risk of HIV and STI transmission and infection. This is likely to be particularly true of men within sexually adventurous networks [12]. Group sex among gay men, and the sexual networks in which this occurs, are an important priority for targeted HIV prevention activities and research. Further investigation into the motivations for and contexts of risk behaviours during group sex is needed. Nonetheless, these data suggest that targeted HIV prevention within this population, where the potential for HIV and STI transmission is exacerbated by high levels of partner concurrency and of prevalence of sexually transmitted infections, would potentially have a significant impact on incidence rates of HIV and other STI.

Acknowledgments The authors thank the New South Wales Health Department (Sydney), the Victorian Department of Human Services (Melbourne), and the Queensland Health Department (Brisbane). The National Centre in HIV Epidemiology and Clinical Research, and the National Centre in HIV Social Research, are funded by the Commonwealth Department of Health and Ageing. We also thank the AIDS Council of New South Wales, PLWHA (NSW), the Victorian AIDS Council, PLWHA (Victoria), the Queensland Association for Healthy Communities, and Queensland Positive People for collaboration with the project, and the men who have participated in the Gay Community Periodic Surveys over the years.

Conflict of Interest All authors declare that they have no conflicts of interest.

References

- Prestage GP, Hudson J, Down I, Bradley J, Corrigan N, Hurley M, Grulich AE, McInnes D. Gay men who engage in group sex are at increased risk of HIV infection and onward transmission. *AIDS Behav.* 2009;13(4):724–30. doi:10.1007/s10461-008-9460-7.
- Halkitis PN, Green KA, Mourgues P. Longitudinal investigation of methamphetamine use among gay and bisexual men in New York City: findings from Project BUMPS. *J Urban Health.* 2005;82(1):18–25.
- Crosby R, Mettey AA. Descriptive analysis of HIV risk behavior among men having sex with men attending a large sex resort. *J Acquir Immune Defic Syndr.* 2004;37(4):1496–9.
- Kippax S, Campbell D, Van De Ven P, Crawford J, Prestage GP, Knox S, Culpin A, Kaldor J, Kinder P. Cultures of sexual adventurousism as markers of HIV seroconversion: a case control study in a cohort of Sydney gay men. *AIDS Care.* 1998;10:677–88.
- Phang CW, Hocking J, Fairley CK, Bradshaw C, Hayes P, Chen MY. More than just anal sex: the potential for sexually transmitted infection transmission among men visiting sex-on-premises venues. *Sex Transm Infect.* 2008;84(3):217–9.
- Smith G, Worth H, Kippax S. Sexual adventurousism among Sydney gay men. Monograph. University of NSW, Sydney: National Centre in HIV Social Research; 2004.
- Van de Ven P, Mao L, Prestage G. Gay Asian men in Sydney resist international trend: no change in rates of unprotected anal intercourse, 1999–2002. *AIDS Educ Prev.* 2004;16(1):1–12.
- Crosby R, Di Clemente RJ, Mettey A. Correlates of recent unprotected anal sex among men having sex with men attending a large sex resort in the South. *Sex Transm Dis.* 2003;30(12):909–13.
- Di Francisco W, Ostrow DG, Chmiel JS. Sexual adventurousism, high-risk behaviour, human immunodeficiency virus type 1 seroconversion among the Chicago MACS-CCS Cohort, 1984 to 1992, a case-control study. *Sex Transm Dis.* 1996;23:453–60.
- Morris M, Kretzschmar M. Concurrent partnerships and the spread of HIV. *AIDS.* 1997;11(5):641–8.
- Sowell RL, Lindsey C, Spicer T. Group sex in gay men, its meaning and HIV prevention implications. *J Assoc Nurses AIDS Care.* 1998;9(3):59.
- Hurley M, Prestage GP. Intensive sex partying among gay men in Sydney. *Culture Health and Sexuality* 2009; June 3:1. doi:10.1080/13691050902721853.
- Schilder AJ, Lampinen TM, Miller ML, Hogg RS. Crystal methamphetamine and ecstasy differ in relation to unsafe sex among young gay men. *Can J Public Health.* 2005;96(5):340–3.
- Frankland A, Zablotska I, Prestage G, Batrouney C, Kennedy M, Clift P, Nixon R, de Wit J. Melbourne gay community periodic survey: 2008. National Centre in HIV Social Research, The University of New South Wales Sydney; 2008 (GCPS 3/2008) <http://nchsr.arts.unsw.edu.au/pdf%20reports/Melbourne2008.pdf>.
- Prestage G, Jin F, Zablotska I, Imrie J, Kaldor JM, Grulich AE. Trends in HIV prevalence among homosexual and bisexual men in Eastern Australia states. *Sex Health.* 2008;5(2):103–7.
- Prestage G, Kippax S, Jin F, Frankland A, Imrie J, Grulich AE, Zablotska I. Does age affect sexual behaviour among gay men in Sydney, Melbourne and Brisbane, Australia? *AIDS Care.* 2008;21(9):1098–105.
- Van de Ven P, Campbell D, Kippax S, Knox S, Prestage GP, Crawford J, Kinder P, Cooper D. Gay men who engage repeatedly in unprotected anal intercourse with casual partners: the Sydney men and sexual health study. *Int J STD AIDS.* 1998;9:336–40.