Condom use among gay and bisexual men in New Zealand

Findings from the GAPSS and GOSS surveys 2002-2011
Research brief to the Ministry of Health

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Introduction

Unprotected anal intercourse (UAI) is the main source of HIV transmission between gay and bisexual men or "men who have sex with men" (MSM). Condoms prevent HIV transmission during this activity. They are the single most important method available to MSM to reduce HIV risk for themselves, their partners and the communities of gay and bisexual men in New Zealand. This research brief summarises findings on use of condoms from the Gay Auckland Periodic Sex Surveys (GAPSS) and Gay men's Online Sex Surveys (GOSS) to inform HIV prevention in this country. The aims are to:

1. describe how condom use differs according to the type of sexual relationship
2. examine whether condom use is changing over time among all respondents
3. examine whether condom use is changing over time among subgroups of MSM.

The studies

GAPSS and GOSS are regular surveys designed to measure changes in HIV risk behaviours, testing and attitudes among MSM, the group most at risk of HIV infection in New Zealand. GAPSS is conducted at a large gay community event (approximately 70% of the sample), gay bars and sex-on-site venues in Auckland with recruitment occurring in 2002 (n=812), 2004 (n=1220), 2006 (n=1228), 2008 (n=1527) and 2011 (n=1320). GOSS uses the same questionnaire and is conducted nationwide on Internet dating sites at the conclusion of GAPSS. Recruitment for GOSS occurred in 2006 (n=2141), 2008 (n=1477) and 2011 (n=1917).

Respondents to GAPSS are demographically and behaviourally diverse and provide a broad cross section of MSM to study. GOSS respondents are also diverse but tend to be younger, are more bisexually identified, and are less gay community affiliated than GAPSS respondents. In this research brief we report the results of GAPSS and GOSS separately. Detailed information on the study recruitment and sample characteristics is reported elsewhere.

Measures

Frequency of condom use is collected for episodes of receptive ("bottom") and insertive ("top") anal intercourse in the six months prior to survey. Respondents are asked to report their condom use using a five-point scale of "always", "almost always", "about half the time", "very rarely" and "never". This information is combined and presented in two measures, being the proportions who during anal intercourse over this period:

1. “always” used a condom
2. were “High” condom users (used condoms “always or almost always”), “Low” users (used condoms “never or very rarely”), and “Medium” (used condoms in between these frequencies).

Respondents are asked to report condom use within different relationships contexts: with casual male sex partners and with any current regular male sexual partner. Those with a current regular partner are asked to describe this person as either a “boyfriend, long-term lover, life partner, or civil union partner” (hereafter described as “boyfriend-type”) or as a “fuckbuddy, friend I have sex with” (“fuckbuddy-type”).

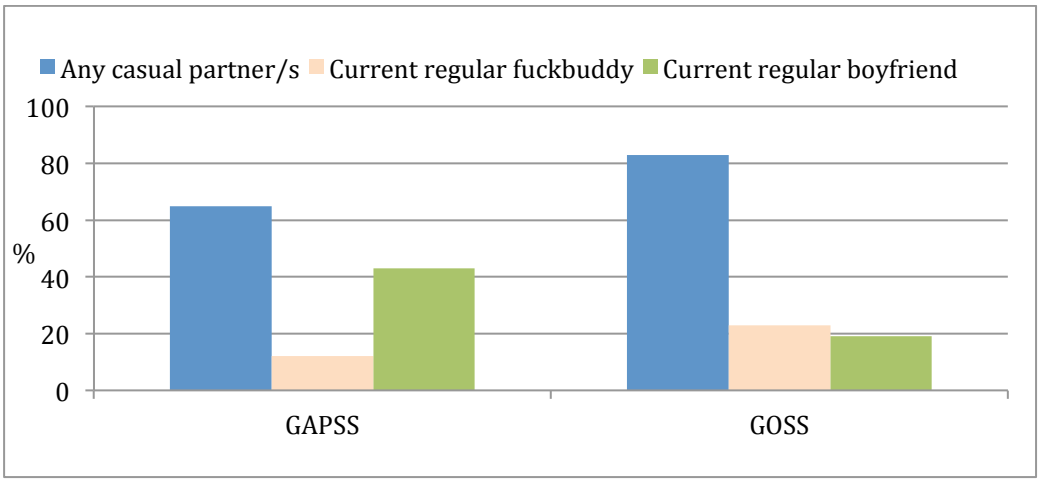
1. Condom use by partner type in the 2011 survey round

Sexual partnering and anal intercourse

The pattern of recent male sexual partner types that respondents reported differed between the 2011 GAPSS and GOSS surveys (Figure 1). These percentages add to more than 100% as more than one relationship type could be reported.

As shown below, in the 2011 GAPSS survey 65% reported any casual partner/s in the previous six months, 12% reported a current regular fuckbuddy-type partner, and 43% reported a current regular boyfriend-type partner. In the 2011 GOSS survey, 83% reported any casual partner/s in the previous six months, 23% reported a current regular fuckbuddy-type partner, and 19% reported a current regular boyfriend-type partner.

Figure 1. Types of sexual partnerships in the 2011 GAPSS and GOSS surveys



In general, engagement in anal intercourse was less common with casual partners than with fuckbuddy or boyfriend-type partners in the 6 months prior to survey (Table 1).

Table 1. Proportion having any anal intercourse in previous 6 months by partner type and survey (2011)

Partner type		% any anal intercourse	
		GAPSS	GOSS
With casual partner/s		76	83
With current regular partner:	Fuckbuddy-type	85	88
	Boyfriend-type	84	92

Condom use

"Always" using a condom (Measure 1) was reported in GAPSS 2011 by 60%, 53% and 27% of respondents with casual, fuckbuddy-type and boyfriend-type regular partners respectively (Figure 2). In GOSS 2011, the proportions doing so were 48%, 44% and 24% respectively (Figure 3).

Condom use at "High", "Medium" and "Low" frequency (Measure 2) is also presented in Figures 2 and 3. In GAPSS 2011, 81%, 68% and 34% used condoms at "High" frequency (i.e always or almost always using condoms) with their casual, fuckbuddy-type and boyfriend-type partners in the previous 6 months. Among GOSS respondents this was 72%, 59% and 33% respectively.

Figure 2. Condom use in previous 6 months by partner type (GAPSS 2011)

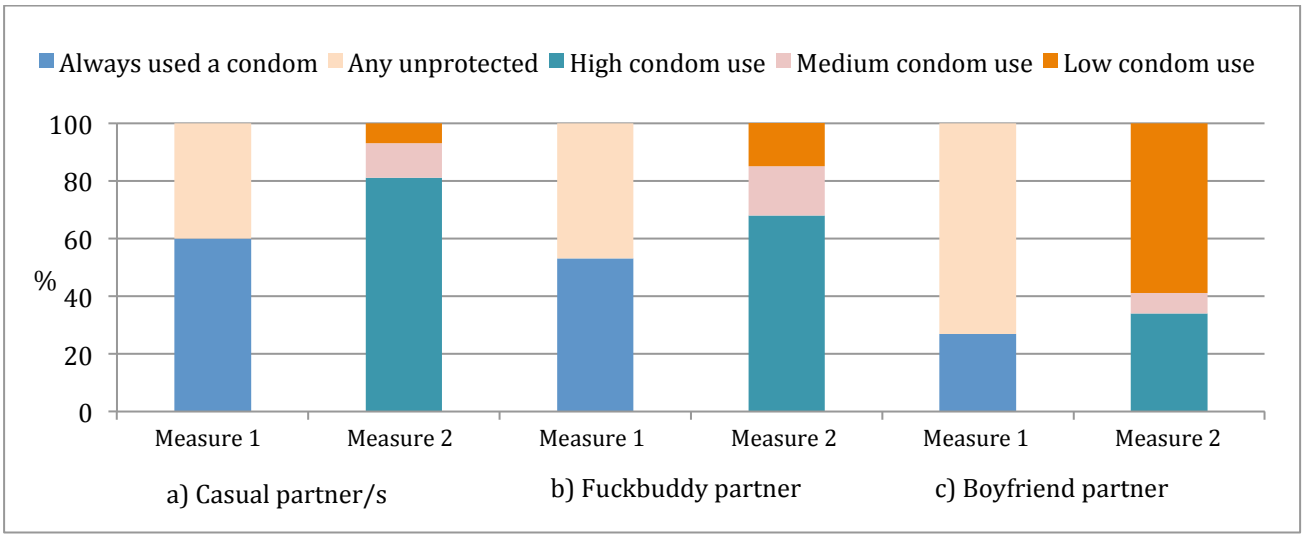
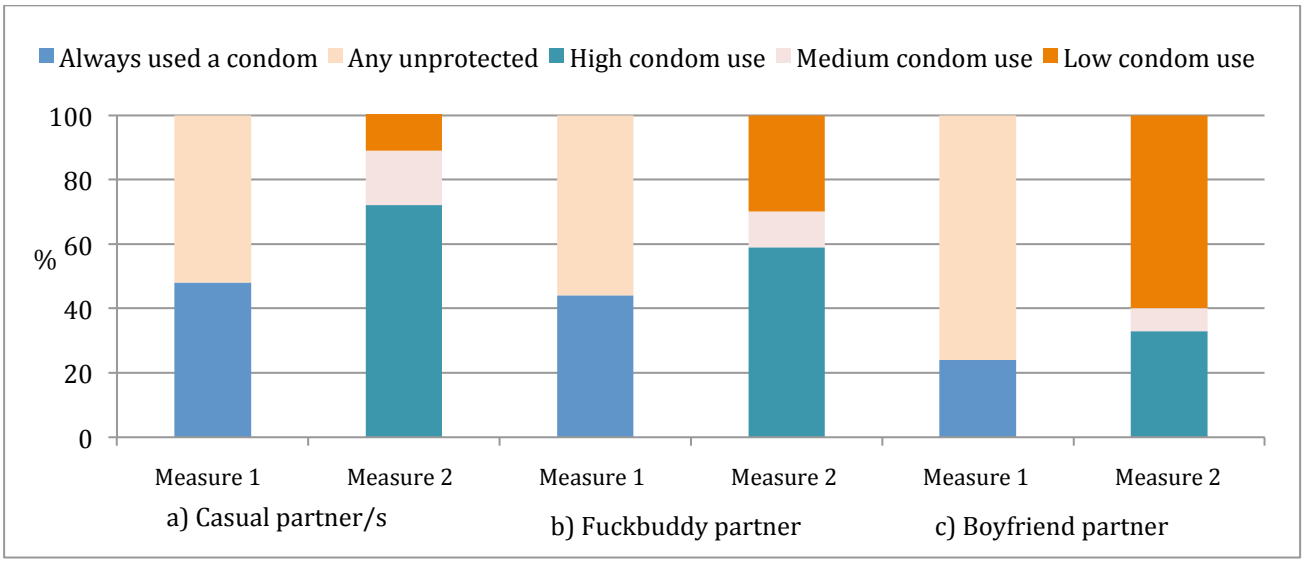


Figure 3. Condom use in previous 6 months by partner type (GOSS 2011)



The findings in Figures 2 and 3 are summarised in Table 2.

Table 2. Measures of condom use in previous 6 months by partner type and survey (2011)

Partner type	Measure	Proportion (%)	
		GAPSS	GOSS
With casual partner/s	Always used a condom	60	48
	Any unprotected sex	40	52
	High	81	72
	Medium	12	17
	Low	7	12
With regular fuckbuddy-type	Always used a condom	53	44
	Any unprotected sex	47	56
	High	68	59
	Medium	17	11
	Low	16	30
With regular boyfriend-type	Always used a condom	27	24
	Any unprotected sex	73	76
	High	34	33
	Medium	7	7
	Low	59	60

Note: Percentages may add to more than 100 due to rounding.

2. Patterns of condom use over time

We analysed condom use for these three partnering contexts to determine whether there were statistically significant changes over time. We examined: (a) the trend over the whole period; (b) any change between the first (2002 for GAPSS, 2006 for GOSS) and the 2011 round; and (c) any change between the 2008 and 2011 rounds. The statistical analysis controlled for the age profile at each survey round. Among GAPSS respondents, we controlled for the site of recruitment (Big Gay Out community fair day, gay bar, sex-on-site venue). For all tests we used a threshold for statistical significance of $p<0.05$.

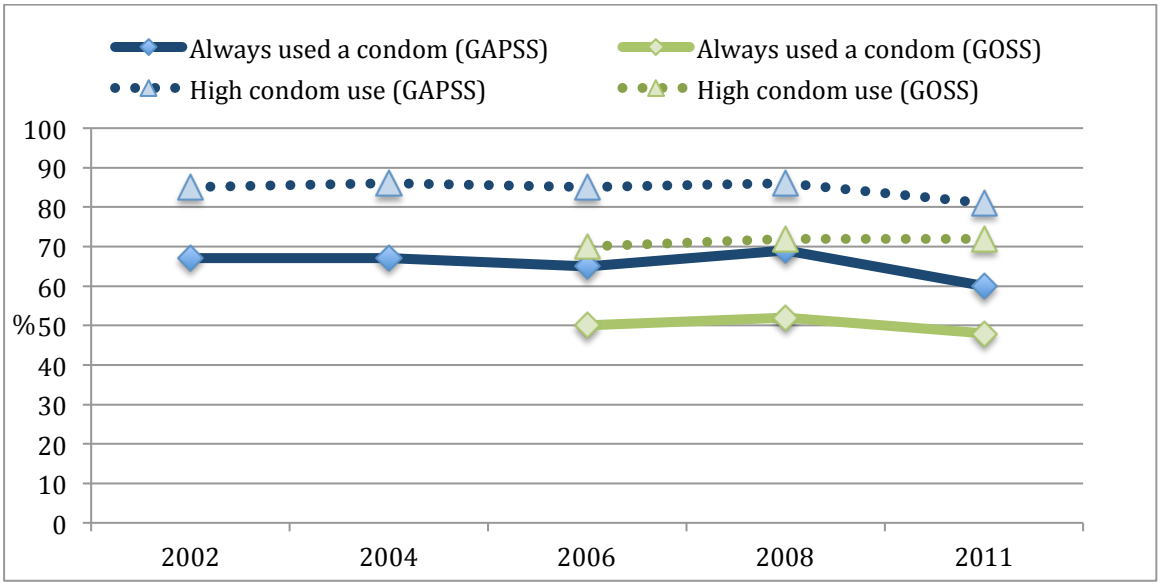
Figures 4-6 show rates of condom use over time among respondents reporting anal intercourse in a given sexual partnering context. The actual proportions are provided in Table 3.

Condom use with casual sex partners

In GAPSS, condom use with casual sex partners was very stable between 2002 and 2008, but dropped slightly in 2011 (Figure 4). For both measures of condom use, the drop in 2011 was statistically significant compared to 2008.

In GOSS, condom use with casual partners was stable over the period 2006-2011 with no overall increase or decline. There was a small statistically significant drop in the proportion who “always used a condom” in 2011 compared to 2008. However, rates of “High” condom use were steady.

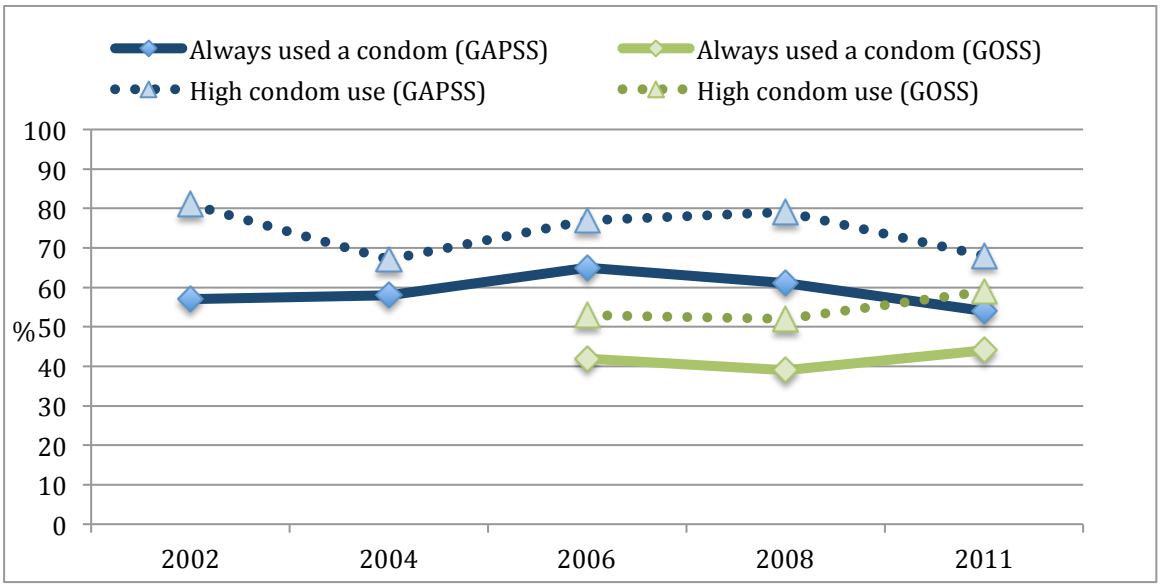
Figure 4. Condom use among respondents reporting anal intercourse with casual partner/s



Condom use with fuckbuddy-type partners

Condom use with fuckbuddy-type regular partners (Figure 5) was less stable over time compared to condom use with casual partners. There were no statistically significant overall trends in either direction evident over time. A drop in "High" condom use with a fuckbuddy partner among GAPSS respondents in 2011 was statistically significant when compared to the previous round in 2008, but not compared to 2002. Conversely, there was a non-statistically significant increase in condom use among GOSS respondents in 2011 compared to 2008 (Figure 5).

Figure 5. Condom use among respondents reporting anal intercourse with current fuckbuddy partner



Condom use with boyfriend-type partners

Condom use with a current boyfriend-type regular partner over the survey rounds is shown in Figure 6. There were no statistically significant changes in condom use among GAPSS or GOSS respondents.

Figure 6. Condom use among respondents reporting anal intercourse with current boyfriend partner

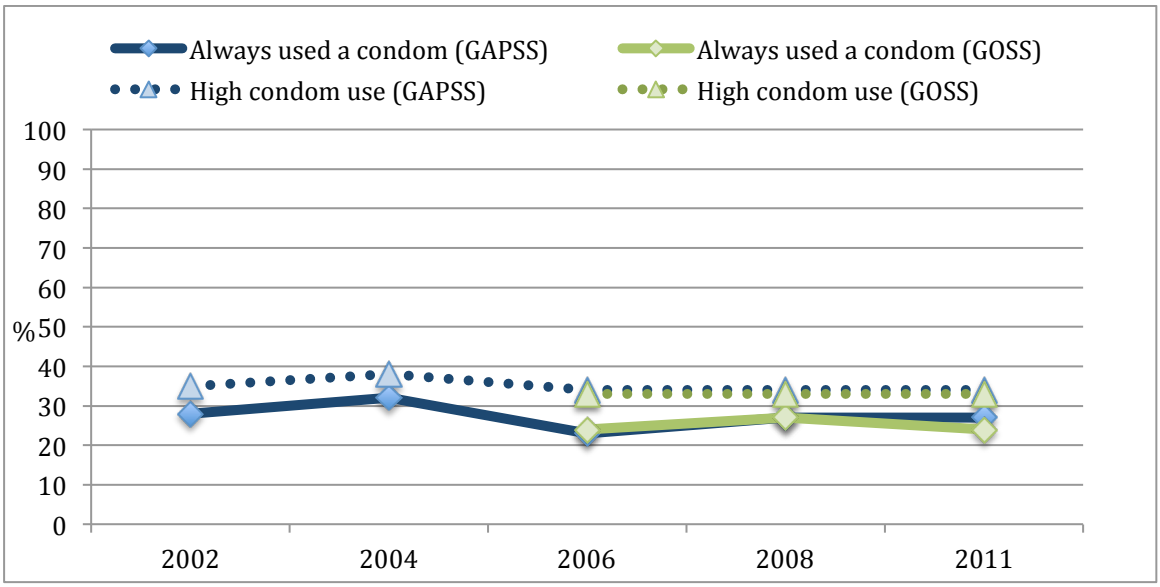


Table 3. Condom use in the previous 6 months by partner type, survey and survey round

Partner type	Survey	Measure	% Condom use by round				
			2002	2004	2006	2008	2011
Casual	GAPSS	Always used a condom	67	67	65	69	60
	GAPSS	High condom use	85	86	85	86	81
	GOSS	Always used a condom			50	52	48
	GOSS	High condom use			70	72	72
Fuckbuddy-type	GAPSS	Always used a condom	57	58	65	61	54
	GAPSS	High condom use	81	67	77	79	68
	GOSS	Always used a condom			42	39	44
	GOSS	High condom use			53	52	59
Boyfriend-type	GAPSS	Always used a condom	28	32	23	27	27
	GAPSS	High condom use	35	38	34	34	34
	GOSS	Always used a condom			24	27	24
	GOSS	High condom use			33	33	33

3. Patterns of condom use over time among subgroups of MSM

Rates of condom use over time with casual, fuckbuddy and boyfriend-type partners were subsequently examined among smaller subgroups of MSM. Subgroups examined were target audiences for the NZAF HIV Prevention Plan 2009-14, or were of particular epidemiological or public health relevance. For simplicity, this analysis was limited to Measure 1 “always used a condom”.

Potential changes in condom use with casual partners were investigated among 23 different subgroups. These included site of recruitment in GAPSS (Big Gay Out, bars, sex-on-site venues) and region of residence in GOSS (Auckland, Wellington, Christchurch). For both surveys these included age group (under 30, 30 and over), ethnic group (European, Maori, Pacific, Asian), sexual identity (bisexual), frequency checking Internet dating profiles (once or more a day), number of recent sexual partners (greater than 20), modality of anal intercourse (receptive only, insertive only), HIV test status (HIV positive, never tested). It also included responses to four attitude statements (disagree that "condoms are ok as part of sex", agree that "HIV is a less serious threat than it used to be because of new treatments", agree that "I would sometimes rather risk HIV transmission than use a condom during anal sex", agree that "I don't like wearing condoms because they reduce sensitivity").

For analysis of sex with a fuckbuddy-type partner, changes in condom use were examined among 8 subgroups thought to be relevant to this regular relationship context. These included length of current relationship (less than 12 months), age group (under 30, 30 and over), number of sexual partners (greater than 20), modality of anal intercourse (receptive only, insertive only) and HIV test status (HIV positive, never tested).

For analysis of sex with a boyfriend-type partner, 9 subgroups were examined that were thought to be relevant to this regular relationship context. These included seroconcordancy at last HIV test (negative-negative concordant, positive-positive concordant, discordant, unknown concordancy), length of current relationship (less than 12 months), age group (under 30, 30 and over) and modality of anal intercourse (receptive only, insertive only).

Details of all these analyses are not reported here. However, we found consistent evidence of changes in condom use among the following subgroups which deserves further attention:

Condom use with casual partners:

- declined among MSM reporting over 20 recent sexual partners (GAPSS only, rates in GOSS were stable)
- declined among MSM who agreed that "I don't like wearing condoms because they reduce sensitivity" (GAPSS and GOSS).

No changes over time in condom use with fuckbuddy-type or boyfriend-type partners were consistently seen among subgroups of MSM.

Summary

- Most MSM surveyed in 2011 used condoms for anal intercourse with casual sex partners. 80% of GAPSS respondents reported using them always or almost always ("High" condom use), and 60% reported them all the time in the previous 6 months.
- Of the three partnering types, condom use was lowest with regular boyfriend-type partners, and use with regular fuckbuddy-type partners was at an intermediate level between casual and regular boyfriend-type partners.
- GOSS respondents reported lower rates of condom use than GAPSS respondents for the sex they had with casual or fuckbuddy-type partners. Rates of condom use with a current boyfriend-type were the same between the two studies.
- Condom use has been steady in each of the sexual partnering contexts since the beginning of the GAPSS and GOSS surveys in 2002 and 2006 respectively with no evidence of sustained increases or declines.

- There was however a drop in condom use with casual partners among GAPSS respondents in the most recent 2011 round.
- Few subgroups of MSM displayed trends in condom use that diverged with these overall patterns. We found evidence of a gradual decline in use over time with casual partners among men with multiple sexual partners (>20 in the previous 6 months) and those who agreed that they didn't like wearing condoms due to reduced sensitivity.

Discussion

GAPSS and GOSS monitor the modifiable behaviours of the group most at risk of HIV infection, and for this reason they offer an evaluation of the "sum total" impact of HIV prevention activities delivered to this population in New Zealand. Condom use over the period 2002-2011 has been shown to be high among MSM, indicating that interventions designed to sustain this behaviour have been effective. Importantly, our analysis of "High" condom use shows that even among MSM who report any unprotected casual anal intercourse, half of these men still use condoms frequently. Thus this group should not be described as "non-condom users" or individuals for whom prevention activities have failed. Uptake in other contexts such as with regular sexual partners is not as high however, and appears to be lower among certain subgroups of MSM such as those with multiple sexual partners. Efforts to further increase condom use in all these circumstances should be supported.

The analysis of behaviours in this report has focussed on rates of condom use during anal intercourse, as this is the aim of health promotion and social marketing campaigns in the NZAF Prevention Plan 2009-2014. Nevertheless, controlling the spread of HIV will also require an understanding of changing patterns of "risk" in a broader sense, including changes in the frequency of sexual partnering and anal intercourse. For example, steady rates of condom use might still be accompanied by an increase in the overall number of risky episodes, if more sexual partnering or more anal intercourse is occurring. Although modifying engagement in anal intercourse or partnering is not the goal of organisations such as NZAF, an appreciation of how these factors combine to facilitate HIV transmission in the sexual networks of MSM is vital for considering control strategies. Given the extent of these underlying sexual partnering patterns and practices, and the particular biological vulnerability to HIV of anal intercourse that is higher than vaginal intercourse, it may mean that condom use needs to be increased even further to effectively impede HIV spread in MSM communities.

Both GAPSS and GOSS are established survey programmes with large and diverse samples of MSM, and the consistency in most findings suggests that they are robust. This has subsequently enabled us to investigate the experiences of smaller subgroups of MSM that would not otherwise be possible. While the survey methodology means it is not possible to generalise the data to all MSM in New Zealand, we believe the respondents offer a good reflection of the experiences of most MSM as we recruit from community settings, commercial venues and Internet dating sites; places where most gay and bisexual men at risk of HIV socialise. Furthermore, the consistent recruitment approach at every new survey round means that any biases in the survey are also held stable over time and should not unduly influence the investigation of trends in behaviours.

The main limitations to the analysis are that the data are cross-sectional and therefore we cannot follow specific individuals over time, and that data by necessity are based on self-reported behaviour. In the first instance, this means that we cannot rule out the possibility that any changes witnessed over time are the reflection of different cross-sections of the

MSM population participating at different rounds rather than actual changes in this population's behaviour as a whole. We do not believe this explanation applies to GAPSS and GOSS however, due to the consistent recruitment approach and that close scrutiny is made of the demographic characteristics of each sample. Statistical techniques are also applied to control for this potential confounding effect.

Self-report is an unavoidable potential bias of sexual behaviour research. Again, as recruitment and participation is the same across all surveys, this should also mean that any over-reporting of socially desirable or under-reporting of stigmatised behaviours is kept constant over time. The survey is also self-completed and no personally identifying information is collected. One exception to the consistent approach was the introduction of voluntary biological specimen collection into GAPSS only in 2011 to anonymously test for HIV antibodies. Analysis of GAPSS 2011 showed that GAPSS respondents who provided a specimen (80% of participants) were more likely to report any unprotected casual sex in the questionnaire than those who did not provide a specimen. As rates of unprotected casual sex were higher in GAPSS 2011 than in previous years - and this was not found in GOSS 2011 – it raises the possibility that providing a specimen that respondents knew would be tested for HIV led to an increase in accurately recalling or disclosing any episodes of non-condom use with a casual partner. While this would help explain the apparent drop in reported condom use in GAPSS 2011, we cannot know whether this explanation is correct. Therefore condom use may actually have declined between the 2008 and 2011 GAPSS rounds.

Differences in condom use between the GAPSS and GOSS samples have not been extensively examined here. GOSS respondents are younger, more bisexually identified and less gay community attached than GAPSS respondents. Further analyses would need to investigate whether the differences seen in behaviours between the GAPSS and GOSS samples remain or disappear after taking account of these characteristics, and consider any possible biases.

In conclusion, uptake of condoms is being sustained among most MSM in New Zealand. New HIV diagnoses among MSM recently declined in 2011 from a prolonged high level. To further constrain HIV spread, it will be important to encourage the adoption of condoms among those who are infrequent users as well as continuing to support MSM who do use them frequently. Finally, the February 2011 surveys were conducted near the beginning of prevention campaigns such as *Get it On!*. The next scheduled surveys are in February 2014 and this will provide a valuable opportunity to more fully measure the impact of these interventions.

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