

GAPSS/GOSS

Research Brief

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Mar 2015 | **Infrequent condom use between regular male partners**

Introduction

Gay, bisexual and other men who have sex with men (GBM) are the group most at risk of HIV infection in New Zealand [1] and over the last decade the annual number diagnosed with HIV has not declined. Although almost all HIV infections among GBM are acquired through anal intercourse without a condom, the context of infection is not well understood in this country. This includes information about the type of sexual partnerships HIV transmission is occurring in, such as short term or longer term sexual partnerships.



Although anonymous or casual sexual contact increases a person's likelihood of encountering HIV from different sexual partners, regular sexual partnerships offer highly favourable conditions for HIV transmission in other ways. This is because sexual behaviour between regular partners is more frequent, anal intercourse is more common, and condom use often deteriorates with greater familiarity between partners. While increased commitment and communication about HIV test status can be protective factors in regular relationships, this is not always perfect. Furthermore, sexual contact with other men outside the partnership sometimes occurs. If one partner introduces a newly acquired HIV infection into the relationship there is a high probability of their partner acquiring it as well. The aim of the current analysis was therefore to investigate factors predicting non-condom use with regular sexual partners among GBM participating in HIV behavioural surveillance in 2014.

Methods

Respondents were invited into the survey at the Big Gay Out fair day, gay bars and sex-on-site venues in Auckland (GAPSS) or from Internet dating sites nationwide (GOSS) in early 2014. Eligibility criteria were being male, having had sex with a man in the previous five years and being at least 16 years old. Participation was voluntary and anonymous and the questionnaires were self-completed. Detailed methods are published elsewhere [2].

Respondents were asked about sexual contact in the past six months with casual partners (men they had had sex with no more than three times over this period) and regular partners (men they had sex with four or more times). Those with a current regular partner at the time of survey were asked to describe the relationship (“boyfriend, long term lover, civil union partner, husband” [hereafter “BF”] or “fuckbuddy/friend I have sex with” [hereafter “friend with benefits” or “FB”]). Respondents were asked if they had engaged in anal intercourse with a current regular and/or a casual partner and if so, the role (receptive, insertive) and for each role the frequency of condom use on a five point scale (always, almost always, about half the time, very rarely, never). The questionnaire also contained socio-demographic items and items about sexual partnering, health screening and attitudes to HIV and condoms.

First we describe how common regular relationships were among respondents, including the characteristics of BF and FB partnerships. The rest of the analysis then focuses on condom use with a BF or FB, and these are presented separately.

For this analysis, condom use was categorised either as “frequent” (at least “almost always” or “always” for any anal intercourse role) or “infrequent” (at most “half the time”, “very rarely” or “never”). The denominator is respondents reporting any anal intercourse with a current BF or FB partner in the previous six months. We report the basic frequency of infrequent condom use, whether this varied by characteristics of respondents, and identified factors that were independently associated with infrequent condom use.

Results

Regular sexual partnering at the time of survey

There were 3214 respondents to the 2014 surveys. Of those providing information, 1429 (45.6%) had a current regular sexual partner at the time of survey.

The majority of current regular sexual partners were described as a BF (63%) rather than as a FB (37%). This meant that overall, around 28% (n=890) of all respondents had a BF and 17% (n=523) had a FB (Figure 1).

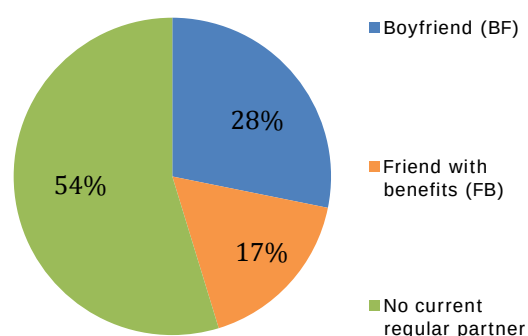


Figure 1. Proportion with a current regular male sexual partner, by description of the regular partner

Figure 2 shows that the proportion reporting a current regular male sexual partner, and also how this man was described, varied among respondents. For example, participants at the BGO were proportionately most likely to report a current regular partner overall (57%, including 45% who had a BF and 12% who had a FB). Conversely, 29% of bisexual identifying respondents had a current regular male partner, and this man was more likely to be described as a FB than a BF.

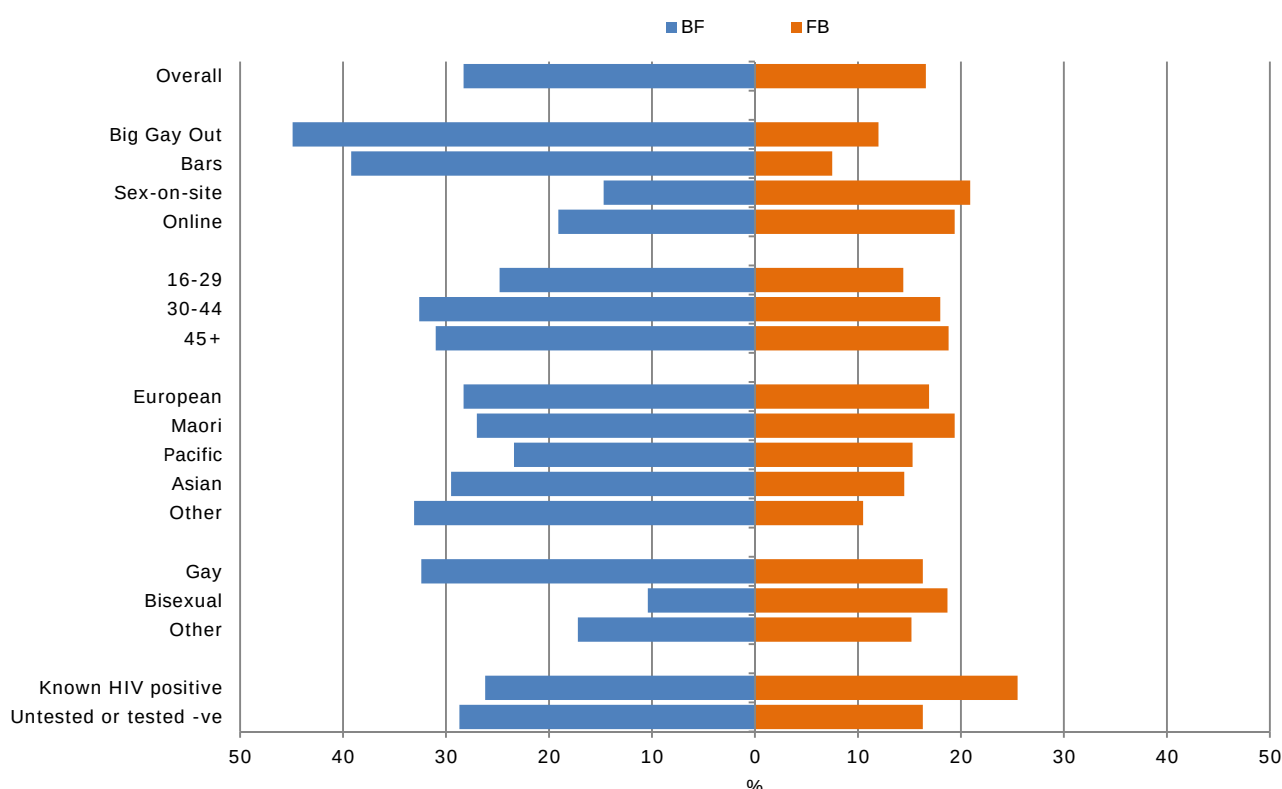


Figure 2. Proportion reporting a current boyfriend (BF) or friend with benefits (FB) by respondent characteristics

Characteristics of BF and FB partnerships

BF and FB partnerships differed in the length of the current relationship, cohabitation (living together), HIV test awareness and whether sex occurred with other male partners (“concurrent” or non-exclusive partnerships). As Figure 3 shows, 40% of current BF relationships were over five years in length, whereas this was true for just 11% of FB partnerships and most were less than a year old. Seventy one percent of respondents with a BF lived together, which was true for 5% of respondents with FB.

Respondents were asked about their current partner’s HIV test status. Although one in five (21%) of those with a BF believed that he hadn’t tested for HIV or they hadn’t asked, this was half as common as among those with a FB (43%). Sexual exclusivity was estimated by examining recent behaviours among respondents in relationships of at least six months duration. Over half (55%) of those with a BF had had sex with another male in this time, being almost universal (96%) among those with a current FB.

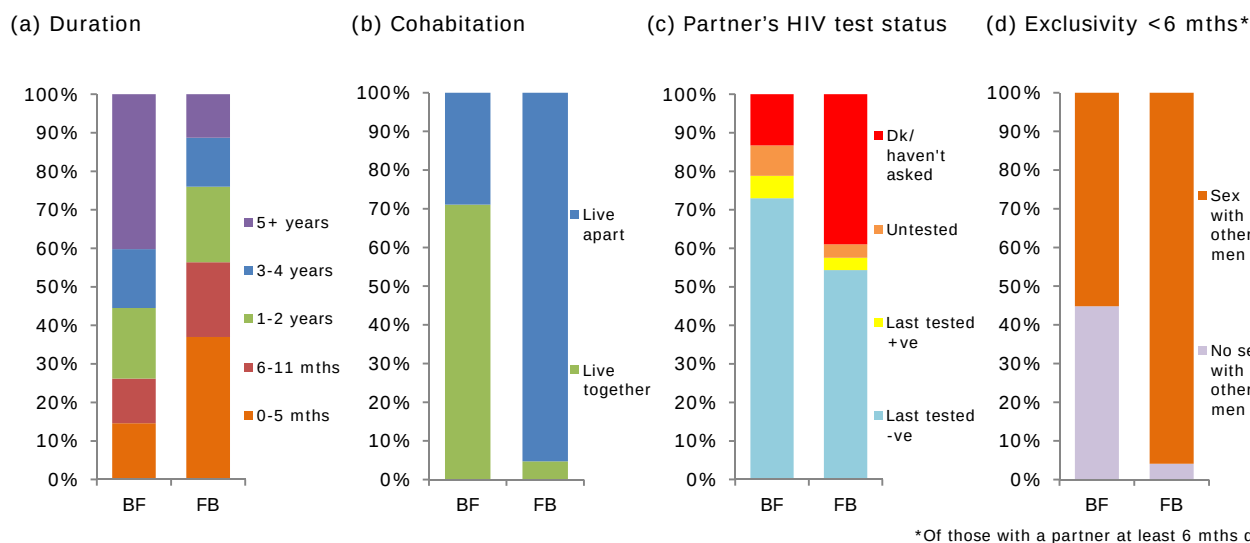


Figure 3. Relationship characteristics of BF versus FB partnerships

Anal intercourse and condom use with BF and FB partnerships

A similar proportion of respondents with a BF had engaged in anal intercourse with their partner (82%) as did those with a FB (79%) (Figure 4).

Those having anal intercourse with a BF were proportionately more likely to have engaged in both receptive and insertive anal intercourse with this partner (57%) compared to those having anal intercourse with a FB (41%) (Figure 4).

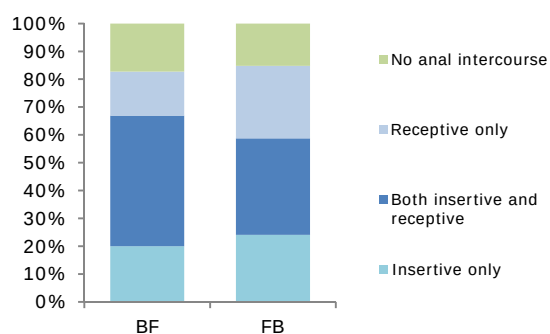


Figure 4. Anal intercourse with BF and FB partners

Condom use differed between BF and FB partnerships. With BF partners, 29.3% frequently used condoms in the last six months and 70.7% infrequently used condoms. With FB partners, 56.6% frequently used condoms and 43.4% infrequently did so (Figure 5).

In the context of the entire 2014 sample, 16.7% were infrequent condom users with their current BF and 6.2% were infrequent condom users with their current FB.

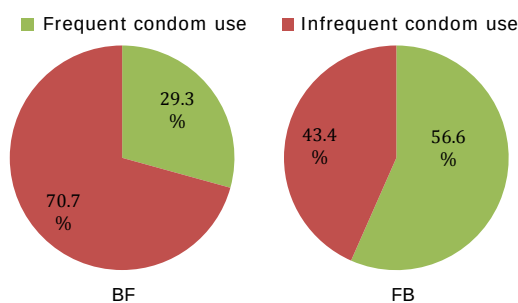


Figure 5. Infrequent condom use with BF and FB partners

Association of infrequent condom use with respondent characteristics, behaviours and attitudes

The prevalence engaging in infrequent condom use is reported separately for BF and FB partners. Among those with a BF regular partner, statistically significant differences in the rate of infrequent condom use were found for recruitment site, age group and sexual identity (Table 1). Infrequent condom use was proportionately lower among those who were recruited from sex-on-site venues (37.5%), aged under 30 (64.9%) or identified as bisexual (54.1%).

Among those with a FB regular partner, differences in condom use were only found for recruitment site, with respondent recruited from sex-on-site venues also proportionately less likely to report infrequent condom use (Table 1).

Table 1. Prevalence of infrequent condom use with BF and FB partners in preceding 6 months by respondent characteristics

		Number	BF		Chi-squared p-value	Number	FB		Chi-squared p-value
			Reported infrequent condom use				Reported infrequent condom use		
			n	%			n	%	
	Total	738	522	70.7		445	193	43.4	
Recruitment site									
	Offline - community event	393	279	71.0	**	110	46	41.8	**
	Offline- bars	33	22	66.7		8	3	37.5	
	Offline – sex-on-site venue	24	9	37.5		32	5	15.6	
	Online dating site	288	212	73.6		295	139	47.1	
Age group									
	16-29	288	187	64.9	*	172	70	40.7	NS
	30-44	250	184	73.6		142	59	41.6	
	45+	189	144	76.2		119	58	48.7	
Ethnicity									
	European	529	387	73.2	NS	316	137	43.4	NS
	Maori	65	46	70.8		48	22	45.8	
	Pacific	20	12	60.0		12	6	50.0	
	Asian	76	45	59.2		46	17	37.0	
	Other	33	21	63.6		11	6	54.6	
Highest education qualification									
	Less than tertiary degree	186	127	68.3	NS	150	65	43.3	NS
	Tertiary degree or higher	532	382	71.8		282	123	43.6	
Free time spent with other gay men									
	None	11	7	63.6	NS	11	5	45.5	NS
	A little	118	81	68.6		152	66	43.4	
	Some	221	154	69.7		149	57	38.3	
	A lot	368	266	72.3		112	54	48.2	
Sexual identity									
	Gay or homosexual	673	485	72.1	**	346	152	43.9	NS
	Bisexual or other	61	33	54.1		98	40	40.8	

** p<0.01. *p<0.05. NS=not statistically significant

Table 2 shows infrequent condom use by characteristics of the regular partnership. For those with a BF partner, condom use varied by length of relationship, HIV test status concordance and sexual exclusivity/concurrency. Infrequent condom use was proportionately greater among respondents whose BF relationship was longer, and was lowest among those in HIV discordant partnerships.

Among those with a FB partner, condom use also varied by length of relationship and HIV test concordance, infrequent condom use being higher in longer relationships and HIV discordant relationships (21.4%), and higher in HIV positive concordant partnerships (93.3%) (Table 2).

Table 2. Prevalence of infrequent condom use with BF and FB partners in preceding 6 months by partnership characteristics

		Number	BF		Chi-squared p-value	Number	FB		Chi-squared p-value
			n	%			n	%	
	Total	738	522	70.7		445	193	43.4	
Length of relationship									
	0-5 months	96	57	59.4	*** ^a	153	57	37.3	*** ^a
	6-11 months	94	60	63.8		96	35	36.5	
	1-2 years	145	106	73.1		91	41	45.1	
	3-4 years	119	87	73.1		58	32	55.2	
	5+ years	284	212	74.7		47	28	59.6	
Cohabitation									
	Yes	531	384	72.3	NS	19	12	63.2	NS
	No	204	136	66.7		425	180	42.4	
HIV test concordance ^c									
	HIV negative concordant	485	361	74.4	***	202	88	43.6	***
	HIV positive concordant	17	15	88.2		15	14	93.3	
	HIV discordant	32	10	31.3		14	3	21.4	
	HIV nonconcordant	184	121	65.8		196	83	42.4	
Respondent sexual concurrency/exclusivity									
	Undetermined – relationship <6 months	96	57	59.4	NS ^b	151	55	36.4	NS ^b
	Exclusive <6 months	290	218	75.2		12	5	41.7	
	Concurrent casual or regular	351	246	70.1		278	131	47.1	

*** p<0.001. NS=not statistically significant. ^a P-value for trend. ^b Test is only of those in exclusive or concurrent relationships. ^c Negative concordant = respondent last tested HIV negative and reported that his regular partner last tested HIV negative. Positive concordant = respondent has tested HIV positive and reported that his regular partner has tested HIV positive. Discordant = respondent has tested HIV negative and his partner has tested HIV positive, or the reverse. Nonconcordant = either the respondent or his partner has never tested for HIV or the partner's last test status is unknown. Proportions are calculated from non-missing sample.

Variations in the proportion reporting infrequent condom use with a regular partner according to the respondents' behaviours and health screening are shown in Table 3. For condom use with a BF, this varied by condom use at first intercourse with a male, modality (sexual position) of anal intercourse and HIV test history. Infrequent condom use with a BF was higher among those who were sexually versatile (74.9%), and was lower among those who used a condom at first sex with a male (66.5%) or had been diagnosed HIV positive (58.1%).

Among those with a FB, condom use varied by modality of intercourse and STI diagnosis history. Infrequent condom use was higher among those who were sexually versatile (50.3%) and among those who had been diagnosed with an STI in the previous 12 months (60.2%) (Table 3).

Table 3. Prevalence of infrequent condom use with BF and FB partners in preceding 6 months by partnership characteristics

		Number	BF		Chi-squared p-value	Number	FB		Chi-squared p-value
			n	%			n	%	
	Total	738	522	70.7		445	193	43.4	
Condom use at first anal intercourse with a male									
	No	248	197	79.4	***	188	90	47.9	NS
	Yes	471	313	66.5		249	100	40.2	
Number of male sexual partners in last 6 months									
	One	337	245	72.7	NS ^a	29	10	34.5	NS ^a
	2-5	209	143	68.4		144	61	42.4	
	6-10	90	60	66.7		114	48	42.1	
	11-20	54	41	75.9		68	28	41.2	
	21-50	29	19	65.5		66	34	51.5	
	>50	10	8	80.0		20	10	50.0	
Number of regular male sexual partners in last 6 months									
	One	583	420	72.0	NS ^a	127	60	47.2	NS ^a
	Two	76	47	61.8		155	68	43.9	
	3-4	63	45	71.4		100	37	37.0	
	5+	16	10	62.5		63	28	44.4	
Modality of anal intercourse									
	Insertive only	170	111	65.3	*	126	50	39.7	*
	Both insertive and receptive	418	313	74.9		181	91	50.3	
	Receptive only	142	94	66.2		138	52	37.7	
HIV testing history									
	Last tested HIV negative	593	430	72.5	*	309	130	42.1	NS
	Tested HIV positive	31	18	58.1		37	21	56.8	
	Untested / no result	96	60	62.5		88	39	44.3	
STI diagnosed in last 12 months									
	No	617	432	70.0	NS	341	134	39.3	***
	Yes	88	69	78.4		88	53	60.2	

*** p<0.001. *p<0.05. NS=not statistically significant. ^b P-value for trend. Proportions are calculated from non-missing sample.

Less condom use with a current regular partner varied according to the frequency of respondents seeing condoms being promoted, and also the number of different sources where condoms were seen being promoted (Table 4).

Among those with a BF partner, less exposure to condom promotion was associated with infrequent condom use (being 76.4% among respondents who rarely saw condom promotion, but 68.5% among those who frequently saw condom promotion).

Among respondents with a FB, those with less exposure to condom promotion were more likely to report infrequent condom use (infrequent use was 62.5% of those who “rarely” saw condom promotion) compared to those who had been exposed more (infrequent use was 37.2% among those who “frequently” saw condom promotion) (Table 4). Similarly, respondents with a FB who had seen no advertising channels featuring condoms were proportionately more likely to report infrequent condom use (69.6%) compared to those who had seen more advertising channels (for example it was just 37.5% among those who had seen five different condom marketing channels, such as “promos at gay events”, “billboards or bus-stop adverts”, “condom packs”, promos online or on a mobile app”, “posters”, “material at saunas or cruise clubs”).

Table 4. Prevalence of infrequent condom use with casual partners in preceding 6 months by recent exposure to condom social marketing

		Number	BF		Chi-squared p-value	Number	FB		Chi-squared p-value
			n	%			n	%	
	Total	738	522	70.7		445	193	43.4	
Frequency of seeing condom promotion in last 12 months									
	Very frequently	330	226	68.5	* ^b	199	74	37.2	** ^b
	Often	186	123	66.1		118	52	44.1	
	Occasionally	143	114	79.7		74	37	50.0	
	Rarely	55	42	76.4		40	25	62.5	
	Never	15	12	80.0		6	2	33.3	
Number of places recall seen condoms promoted in last 12 months ^a									
	None	33	26	78.8	NS ^b	23	16	69.6	* ^b
	1	166	116	69.9		103	52	50.5	
	2	101	73	72.3		66	30	45.5	
	3	125	85	68.0		80	31	37.8	
	4	118	79	67.0		56	17	30.4	
	5	126	91	72.2		64	24	37.5	
	6	58	44	75.9		42	19	45.2	

^a Options included “promos at gay events”, “billboards or bus-stop adverts”, “condom packs”, promos online or on a mobile app”, “posters”, “material at saunas or cruise clubs”. ***p<0.01. *p<0.5. ^b p value for trend. Proportions are calculated from non-missing sample.

In general, respondents who reported more favourable attitudes to HIV and safe sex were less likely to report infrequent condom use with casual partners (Table 5). This held true for those with a BF and those with a FB.

For example, infrequent condom use was greater among those with a BF (81.3%) if they agreed with the statement “[I]f he doesn’t want to use condoms I won’t bother using them” than if they disagreed with this statement (68.5%). For those with a FB, the proportions were 78.6% and 31.1% among those who agreed and disagreed respectively.

Similarly, respondents who disagreed with the statement “I don’t like wearing condoms because they reduce sensitivity” were less likely to report infrequent condom use with their BF (61.3%) compared to those who agreed (82.5%). Among respondents with a FB, these proportions were 28.1% and 61.2% respectively.

Table 5. Prevalence of infrequent condom use with casual partners in preceding 6 months by attitudes to condom use and safe sex

		Number	BF		Chi-squared p-value	Number	FB		Chi-squared p-value
			n	%			n	%	
	Total	738	522	70.7		445	193	43.4	
“HIV/AIDS is a less serious threat than it used to be because of new treatments”									
	Agree/strongly agree	235	163	69.4	NS	171	80	46.8	NS
	Disagree/strongly disagree	494	353	71.5		267	111	41.6	
“Condoms are OK as part of sex”									
	Agree/strongly agree	698	489	70.1	*	411	169	41.1	***
	Disagree/strongly disagree	35	30	85.7		26	22	84.6	
“If he doesn’t want to use condoms I won’t bother using them”									
	Agree/strongly agree	128	104	81.3	**	117	92	78.6	***
	Disagree/strongly disagree	596	408	68.5		318	99	31.1	
“We all have a shared responsibility to protect other gay and bisexual men by using condoms for anal sex”									
	Agree/strongly agree	699	487	69.7	**	404	161	39.9	***
	Disagree/strongly disagree	30	28	93.3		32	29	90.6	
“I don’t like wearing condoms because they reduce sensitivity”									
	Agree/strongly agree	325	268	82.5	***	201	123	61.2	***
	Disagree/strongly disagree	403	247	61.3		231	65	28.1	
“It’s no-one else’s business whether or not I use condoms”									
	Agree/strongly agree	264	207	78.4	**	156	88	56.4	***
	Disagree/strongly disagree	461	306	66.4		274	100	36.5	
“I would sometimes rather risk HIV transmission than use a condom during anal sex”									
	Agree/strongly agree	69	53	76.8	NS	68	48	70.6	***
	Disagree/strongly disagree	657	462	70.3		359	139	38.7	
“The sex I have is always as safe as I want it to be”									
	Agree/strongly agree	647	451	69.7	*	361	139	38.5	***
	Disagree/strongly disagree	74	61	82.4		69	49	71.1	
“I would never be willing to use condoms for anal sex”									
	Agree/strongly agree	41	26	63.4	NS	34	22	64.7	*
	Disagree/strongly disagree	685	488	71.2		390	163	41.8	
“A man who knows he has HIV would tell me he was positive before we had sex”									
	Agree/strongly agree	261	168	64.4	**	181	80	44.2	NS
	Disagree/strongly disagree	461	344	74.6		248	109	44.0	

*** p<0.001, **p<0.01. *P<0.05. Proportions are calculated from non-missing sample.

Factors independently associated with infrequent condom use

We first examined whether eight of the attitudes to HIV and safe sex were associated with condom use after controlling for respondents' socio-demographic characteristics.^b To increase statistical power, for this analysis we combined all respondents with a current regular sexual partner regardless of whether they described this man as a BF or FB. All eight of these statements remained significantly predictive of infrequent condom use with a current regular partner (Table 6).

For example, respondents who disagreed with the statement "[T]he sex I have is always as safe as I want it to be" were significantly more likely to report infrequent condom use during anal sex with their current regular partner (OR 2.0, 95% CI 1.3-3.1) or with their FB partner (OR 3.3, 95% CI 1.7-6.4) than those who disagreed with this statement, after controlling for their site of recruitment, age, ethnicity, education and sexual identity.

Table 6. Attitudes independently associated with infrequent condom use with a current regular partner (BF and FB combined) in preceding 6 months controlling for socio-demographic factors ^{b,c}

Attitudes independently associated with infrequent condom use		Adjusted odds ratio (95% CI)	p-value for variable
"HIV/AIDS is a less serious threat than it used to be because of new treatments"			
	Agree/strongly agree	0.7 (0.5-0.9)	0.02
	Disagree/strongly disagree (ref)	1	
"Condoms are OK as part of sex"			
	Agree/strongly agree (ref)	1	0.027
	Disagree/strongly disagree	2.5 (1.1-5.7)	
"If he doesn't want to use condoms I won't bother using them"			
	Agree/strongly agree	2.4 (1.6-3.6)	<0.001
	Disagree/strongly disagree (ref)	1	
"We all have a shared responsibility to protect other gay and bisexual men by using condoms for anal sex"			
	Agree/strongly agree (ref)	1	0.001
	Disagree/strongly disagree	5.6 (2.1-15.2)	
"I don't like wearing condoms because they reduce sensitivity"			
	Agree/strongly agree	2.7 (2.0-3.6)	<0.001
	Disagree/strongly disagree (ref)	1	
"It's no-one else's business whether or not I use condoms"			
	Agree/strongly agree	1.5 (1.1-2.1)	0.007
	Disagree/strongly disagree (ref)	1	
"The sex I have is always as safe as I want it to be"			
	Agree/strongly agree (ref)	1	0.002
	Disagree/strongly disagree	2.0 (1.3-3.1)	
"A man who knows he has HIV would tell me he was positive before we had sex"			
	Agree/strongly agree	0.7 (0.5-0.9)	0.005
	Disagree/strongly disagree (ref)	1	

^b Two attitude statements were omitted from the model because they would obviously be related to condom use, including "I would never be willing to use condoms for anal sex" and "I would sometimes rather risk HIV transmission than use a condom during anal sex".

^c Socio-demographic variables included in the model were recruitment site, age group, ethnic group, education and sexual identity.

Table 7 shows the independent predictors of infrequent condom use apart from the attitudes. The variables tested included socio-demographic (recruitment site, age group, ethnicity, education, sexual identity), relational (type of partner, length of partnership, HIV test concordance), behavioural (concurrency, modality of intercourse, condom use at first anal intercourse) and condom promotion (frequency recalling condom promotion, number of different promotional avenues) variables.

Table 7. Socio-demographic, relationship, behavioural and condom social marketing factors independently associated with infrequent condom use with current regular sexual partner (BF and FB combined) in preceding 6 months

Socio-demographic, behavioural, HIV testing and social marketing factors independently associated with infrequent condom use		Adjusted odds ratio (95% CI)	p-value for variable
Recruitment site			0.001
	Offline – fair day (ref)	1	
	Offline – bars and sex-on-site venues	0.3 (0.2-0.6)	
	Online dating site	1.1 (0.8-1.5)	
Age group			0.700
	16-29 (ref)	1	
	30-44	1.1 (0.8-1.6)	
	45+	1.2 (0.8-1.8)	
Ethnic group			0.374
	European (ref)	1	
	Maori	1.3 (0.8-2.0)	
	Pacific	1.4 (0.6-3.4)	
	Asian	0.3 (0.5-1.2)	
	Other	0.8 (0.4-1.6)	
Highest education			0.686
	Up to tertiary degree (ref)	1	
	Tertiary degree or higher	1.1 (0.8-1.4)	
Sexual identity			0.082
	Gay or homosexual (ref)	1	
	Bisexual or other	0.7 (0.5-1.05)	
Type of regular partner			<0.001
	Boyfriend, long term lover, civil union partner, husband (BF)	1	
	Fuckbuddy, friend I have sex with (FB)	0.4 (0.3-0.5)	
Length of current partnership			0.004
	Up to 6 months (ref)	1	
	6-11 months	0.8 (0.5-1.3)	
	1-2 years	1.6 (1.04-2.5)	
	3-4 years	1.7 (1.1-2.8)	
	5+ years	1.6 (0.99-2.6)	
HIV test concordance			<0.001
	HIV negative concordant	1.3 (0.9-1.7)	
	HIV positive concordant	6.2 (1.7-22.3)	
	Either unknown or untested (ref)	1	
	HIV discordant	0.2 (0.09-0.4)	
	HIV test data missing for either respondent or partner	0.3 (0.09-1.07)	
Respondent sexual concurrency/exclusivity			0.277
	Undetermined – relationship <6 months	-	
	Exclusive <6 months	1.2 (0.8-1.8)	
	Concurrent casual or regular (ref)	1	
Condom used at first anal intercourse with a male			0.001
	No (ref)	1	
	Yes	0.6 (0.5-0.8)	
Modality of anal intercourse with casual partners			0.003
	Insertive only	1.05 (0.7-1.5)	
	Both insertive and receptive	1.7 (1.2-2.3)	
	Receptive only (ref)	1	
Frequency of seeing condom promotion in last 12 months			0.021 ^a
	For each decline in frequency seeing condom promotion	1.2 (1.03-1.4)	
Number of places recall seen condoms promoted in last 12 months			0.831 ^a
	For each increase in number of places seen condoms promoted	0.99 (0.9-1.1)	

^a P-value is for variable entered as ordinal categories.

The model showed that after controlling for all these variables, having a longer relationship, being in an HIV positive concordant relationship (i.e. with a partner who was also HIV positive), being sexually versatile (i.e. having both receptive and insertive anal intercourse with this partner) and being exposed to condom promotion less frequently were independently predictive of infrequent condom use with a current regular partner.

Conversely, describing the current regular partner as a FB, being recruited from a gay bar or sex-on-site venue, being in a known HIV discordant relationship (i.e. one partner is HIV positive and one partner is HIV negative), and using a condom at first anal intercourse with a male was predictive of frequent condom use with a current regular partner.

When attitudes were added to this model, all the attitudes remained significantly independently associated with infrequent condom use with the exception of “HIV/AIDS is a less serious threat than it used to be because of new treatments” and “A man who knows he has HIV would tell me he was positive before we had sex” (data not shown). However, the effect of some of the variables in Table 7 altered, suggesting that their predictive effect may be due to their correlation with unfavourable attitudes. This most affected condom use at first sex (which became non-significant).

Summary

Regular relationships were common among GBM taking part in the 2014 surveys, with just under half (45.6%) reporting a regular male sexual partner at the time of survey. This man was more often described as a boyfriend-type (BF) than a fuckbuddy-type (FB) partner, although both the proportion reporting a current partner and what he was described as fluctuated within the sample depending on respondents' age, sexual identity and survey recruitment source.

Respondents were equally likely to have engaged in anal intercourse with their BF partner as with a FB partner, but in all other respects these two regular relationship types differed. Those with a BF were more likely to have been sexually versatile with him (both insertive and receptive anal intercourse), to have been in this relationship for longer, to be living with this man, to be aware of his HIV testing history, and to have been sexually exclusive with this man in the preceding six months compared to respondents with their FB partner.

Conversely, condom use was less likely with a BF than with a FB partner. Seventy-one percent of respondents having anal intercourse with a BF partner had used condoms infrequently (never, very rarely or about half the time) in the previous six months, compared to 43.4% of those with a FB partner. Factors that were independently predictive of infrequent condom use with a current regular partner included having a longer relationship, being in an HIV positive concordant relationship (i.e. with a partner who was also HIV positive), being sexually versatile

(i.e. having both receptive and insertive anal intercourse with this partner) and being exposed to condom promotion less frequently. Alternatively, factors that were protective included describing the current regular partner as a FB, being recruited from a gay bar or sex-on-site venue, being in a known HIV discordant relationship (i.e. one partner is HIV positive and one partner is HIV negative), and having used a condom at first anal intercourse with a male. Attitudes to condoms were also predictive of condom use frequency with regular sexual partners.

Strengths of this study include the broad non-clinic based sampling approach, the anonymous and self-completed participation that should have minimised reporting bias about sensitive behaviours, the question specificity that gave us information not only about frequency of condom use but details about the nature of the relationship including partner type, and the range of potential factors related to condom use included in the 2014 questionnaire.

Limitations include the non-random sampling, meaning the findings may not be generalisable to all gay and bisexual men attending these settings or to all GBM. Our analysis was restricted to the current regular partner the respondent had the most sex with, meaning we could not examine experiences with multiple ongoing regular sexual partners.

These results can help HIV prevention efforts with GBM in New Zealand. Immediate responses include continuing to improve attitudes to condoms and safe sex and raising condom use at first anal intercourse among younger MSM, as these both encourage condom use even in the context of regular relationships.

Other findings potentially require more nuanced prevention responses. In general, greater familiarity corroded condom use. This can be seen in the findings on partner type (BF vs FB), relationship length, and communication about HIV test history. Although these factors can understandably lead many GBM to feel more protected from HIV, regular relationships do not offer a sanctuary from HIV if condoms are not used for anal intercourse. This is demonstrated by other findings on sexual concurrency, which was true for over half of BF type relationships and was almost universal in FB type partnerships in which concurrency/exclusivity could be ascertained. Most concerning is the finding that condom use with the main current regular partner was no different even if the respondent was having sex with other men.

More analysis will be required among this subset to examine whether condom use within the relationship is patterned by condom use external to the relationship. Recent work with younger GBM in New Zealand for example has suggested that, for many couples, condom use is better explained by habit (either using them or not) than by these risk calculations [3].

FB partnerships in particular present efficient conditions for HIV acquisition for individuals and also for spread among the GBM population. Those with a FB were less likely to be using condoms than respondents with casual partners [4], but were also less aware of their partner's HIV test history than those with a BF. Given that concurrent sexual relationships were the norm for respondents with a FB (and, by

extension, were the norm for their FB), STIs as well as newly acquired HIV infections that are in the highly infectious early acute phase can be transmitted rapidly across these multiple overlapping regular sexual contacts. In other words, without new sexual partnerships needing to be formed. FB partnerships were more common in respondents recruited from Internet dating sites, and interventions that highlight the risks of non-condom use in the FB context should be considered.

Condom use tended to be highest in HIV discordant partnerships and lowest in partnerships where both individuals had known HIV infection. While non-condom use in the latter situation can protect against novel HIV transmission, there is a risk of superinfection with a different HIV strain that may be more treatment resistant. Furthermore, STIs are more efficiently transmitted among individuals with immune deficiency, and outbreaks of syphilis and LGV have been documented among HIV positive GBM in New Zealand and elsewhere. Maintaining condom use among all individuals with known HIV infection remains important for their own health but also that of non-HIV positive GBM in their sexual networks.

Similarly, couples in which both men have tested HIV negative have a lower risk of HIV transmission, and consequently condom use was less frequent than in couples where one of the partner's HIV test status was unknown. However, this lower risk depends greatly on the timing of that last negative test in relation to the last episode of unprotected anal intercourse, and with whom that act occurred. Communication between BF or FB partners about prior testing and other sexual partners also needs to bear in mind the accuracy and verifiability of any information exchanged. Because HIV is more common among sexual networks of GBM than in heterosexual networks, misjudgements about a partner's actual HIV status have more serious consequences for GBM.

Several attitudes to condoms and safe sex were highly predictive of condom use with regular partners, as was found for sex with casual partners [4]. Among men in regular partnerships, negative perceptions of condoms are more likely to lead to non-use than with casual partners, if the greater familiarity with a regular partner is perceived as an alternative buffer against infection. The counterpoint is that GBM with more positive attitudes to condoms were more likely to use condoms even with familiar regular partners. Positive promotion of condoms and self-efficacy tools are important to deliver at scale for all GBM.

Certain attitudes in particular were strongly associated with non-condom use, for example the small proportion who disagreed that "we all have a shared responsibility to protect other gay and bisexual men by using condoms for anal sex." Condom use was also lower among respondents who agreed that "if he doesn't want to use condoms I won't bother using them" and among those who disagreed that "the sex I have is always as safe as I want it to be". These attitudes draw on broader principles such as mutual care, personal resilience and consent, and ought to be addressed in safe sex promotion and community development initiatives.

References

[1] AIDS Epidemiology Group. AIDS – New Zealand. Issue 73. Dunedin: Department of Preventive and Social Medicine, University of Otago, 2014.

[2] Saxton P, Dickson N, Hughes A, Ludlam A. *Gay Auckland Periodic Sex Survey (GAPSS) and Gay men's Online Sex Survey (GOSS): Basic frequency tables 2002-2014*. Auckland, New Zealand: The University of Auckland, 2014.

[3] Lachowsky, N. J., Dewey, C. E., Dickson, N. P., Saxton, P. J. W., Hughes, A. J., Milhausen, R. R., & Summerlee, A. J. S. (2015). Habitual condom use across partner type and sexual position among younger gay and bisexual men: findings from New Zealand HIV behavioural surveillance 2006-2011. *Sexually Transmitted Infections*. doi:10.1136/sextrans-2014-051759

[4] Saxton P, Dickson N, Hughes A, Ludlam A. *GAPSS/GOSS Research Brief: Infrequent condom use between casual male partners*. Auckland: The University of Auckland, 2014.

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