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"Long-tailed MSM": Prevalence and characteristics of MSM with frequent partner change in web-based surveillance in New Zealand

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Introduction

The proportion of individuals with frequent partner change - the "long tail" in a partnering distribution - is a fundamental determinant of HIV spread in communities. It can be used as a proxy for properties of a community's sexual network, for example how interconnected it is, and therefore how susceptible it is to spread of a sexually transmitted infection. Populations in which there is a "long tail" in the distribution of sexual partner numbers are modelled to have lower epidemic thresholds [1] in which ongoing chains of transmission are likely (hence more difficult to control). A better understanding of sexual partnering patterns would help identify effective HIV prevention responses.

We aimed to describe the size of the "long tail", whether this changed over time, and condom use and testing characteristics using of men who have sex with men (MSM) in New Zealand.

Methods

HIV behavioural surveillance in Auckland, New Zealand collected anonymous self-completed questionnaires in 2006, 2008 and 2011 from NZDating.com, an Internet dating site. Full methods are described in [2]. Eligibility was being male at least 16 years old, having had sex with another man in the past five years and resident in Auckland. "Sex" was defined as "any physical contact you felt was intimate". Response options for number of male sexual partners in the six months prior to survey were 0, 1, 2-5, 6-10, 11-20, 21-50 and >50. Changes over time in the proportion reporting >10, >20 and >50 recent partners - corresponding to three alternative "long tails" - were examined adjusting for sample age and recruitment site. Differences between "long-tail" MSM (LTMSM) and non-LTMSM were assessed by logistic regression and adjusted odds ratios (AOR).

Results

Overall 1,585 MSM provided information. Fig.1 summarises the distribution of male sex partners by respondents in the six months prior to survey across all three rounds 2006-2011 combined. Three alternative measures of LTMSM are highlighted.

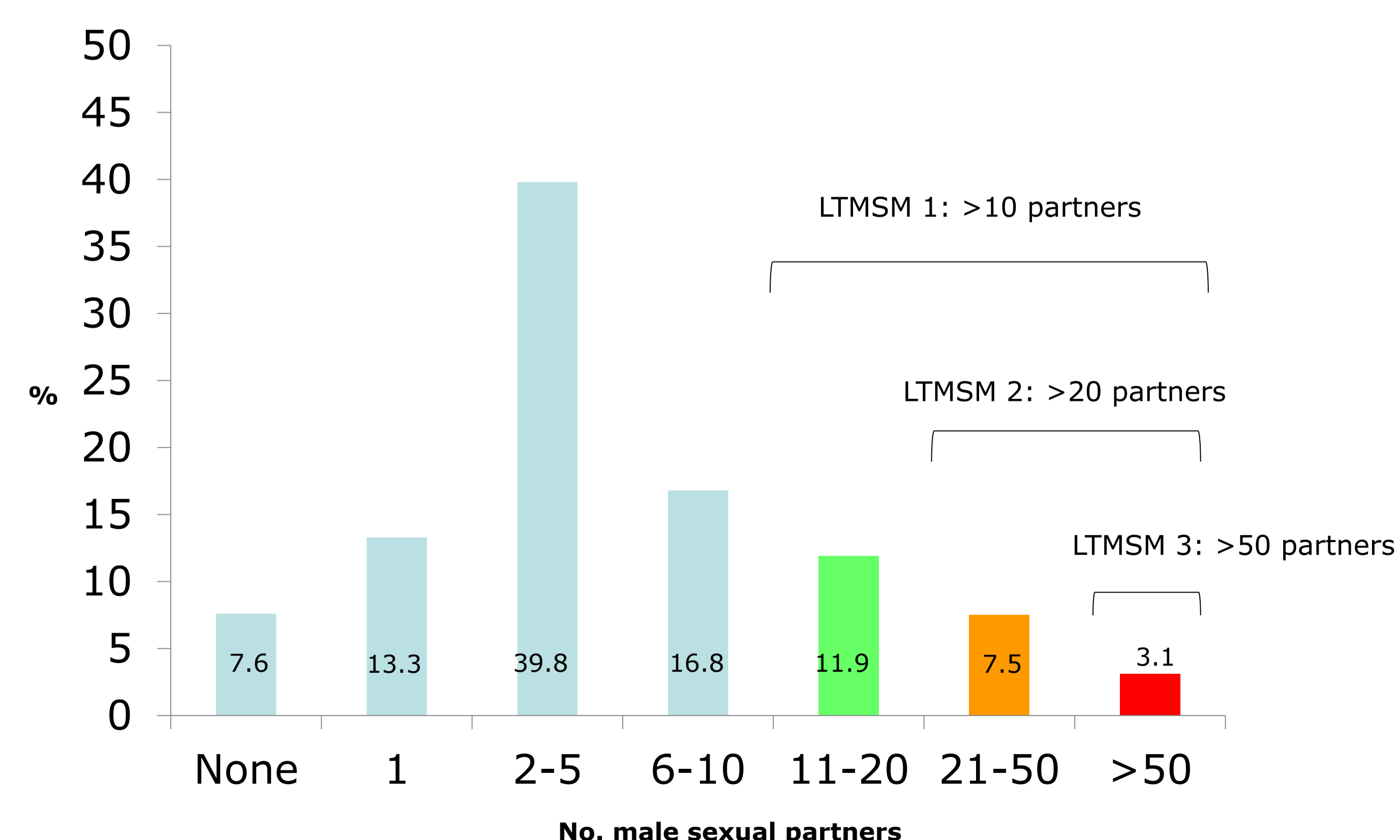


Fig.1 No. of male sex partners in last six months 2006-2011

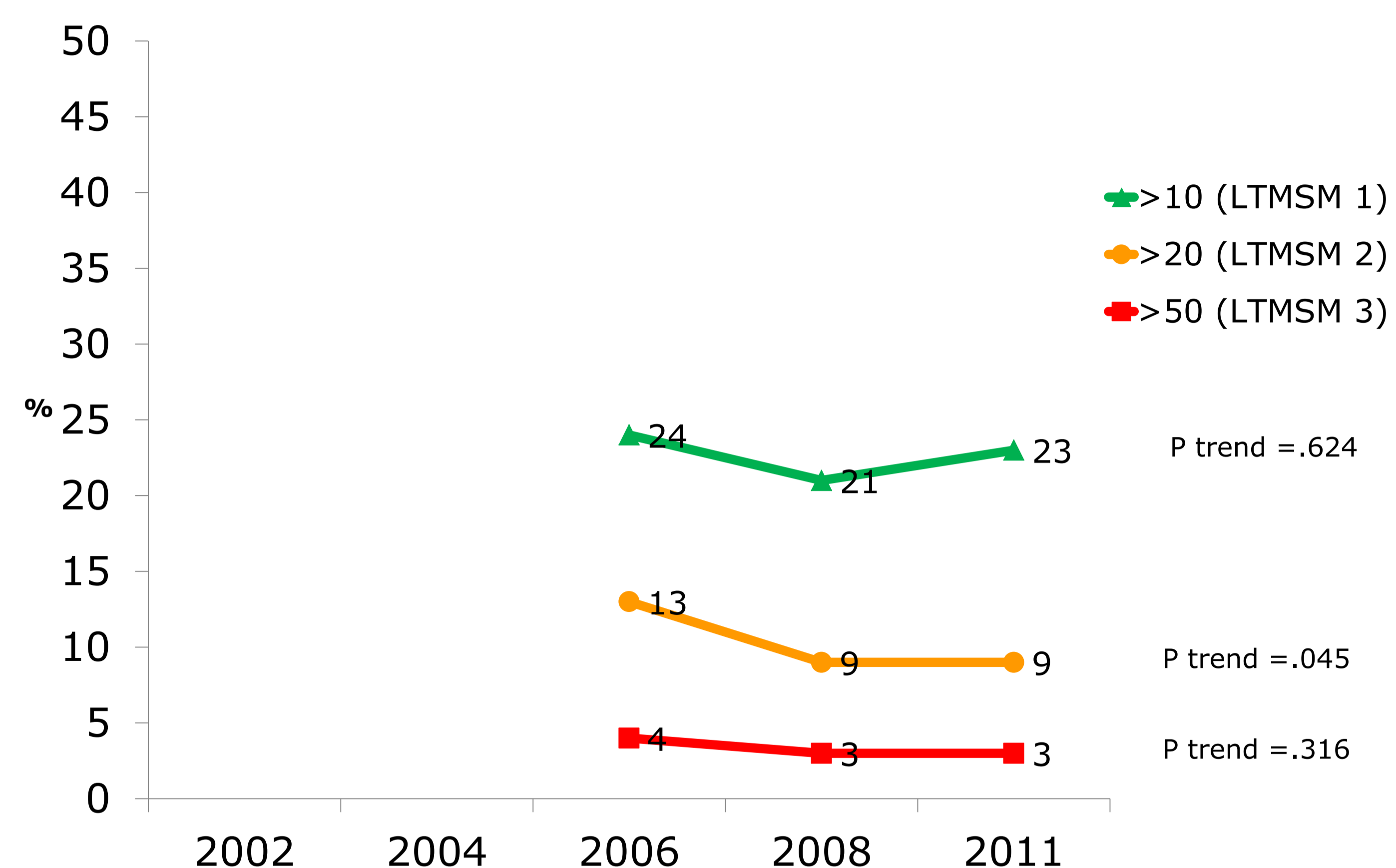


Fig.2 Proportion of sample reporting >10, >20 and >50 male sex partners in last six months by survey round

Figure 2 shows the size of the three cumulative partnering tails over time. The proportion reporting >10, >20 and >50 partners was 24%, 13%, 4% in 2006, which was 23%, 9%, 3% respectively in 2011.

The change in proportion remained significant for those reporting >20 only, after controlling for sample age.

Table 1 shows that compared to respondents reporting <20 partners in the last six months, LTMSM 2 respondents were:

- older, more gay-identified and more ethnically diverse

Controlling for age group, LTMSM 2 respondents were:

- more likely to have engaged in any unprotected sex with a casual partner
- more likely to have tested for HIV in the six months prior to survey and to have a confirmed HIV positive status
- more likely to have had a sexual health checkup
- more likely to have had an STI diagnosed in the last year
- more likely to report unfavourable attitudes to condoms
- more likely to believe HIV posed less of a threat than it used to
- less likely to expect an HIV positive sex partner to disclose their status

Despite these differences, the majority of LTMSM 2 respondents in these samples agreed that "condoms are ok as part of sex" (87%), and two-thirds of LTMSM 2 respondents engaging in anal sex with a casual partner used condoms "always" or "almost always" (66%) (Table 1).

Table 1. Comparison of non-LTMSM 2 respondents (≤ 20 partners) and LTMSM 2 respondents (>20 partners) in web-based surveillance 2006-2011

	% of ≤ 20 partners	% of >20 partners	Chi ² p	AOR
<i>Socio-demographics</i>				
Aged <30	45	33	.017	
European ethnicity	72	64	.040	
Post-secondary school education	66	70	ns	
Gay identified	64	73	<.001	
<i>Condom use with casual partner/s</i>				
Any UAI, total ^a	26	60	<.001	4.4 (3.2-6.2)
Any UAI, those having AI ^b	43	64	<.001	2.5 (1.8-3.6)
High condom use, those having AI ^b	78	66	.001	0.5 (.35-.74)
<i>Condom use with regular partner</i>				
Any UAI, total ^a	22	28	.022	1.4 (1.0-2.1)
Any UAI, those having AI ^b	64	62	.746	0.9 (.46-.75)
High condom use, those having AI ^b	47	51	.531	1.2 (.74-2.0)
<i>HIV & STI testing</i>				
Ever tested for HIV	65	73	.027	1.4 (.96-2.0)
Tested for HIV <6 months	23	30	<.001	1.5 (1.1-2.2)
Confirmed HIV positive	2	6	.002	2.9 (1.3-6.4)
STI checkup/treatment <12 months	43	56	.001	1.9 (1.2-3.1)
Diagnosed with STI <12 months	6	15	.001	3.0 (1.5-6.2)
<i>Attitudes (strongly agree/agree)</i>				
"Condoms are ok as part of sex"	95	87	<.001	0.4 (.22-.61)
"HIV is a less seriously threat"	17	35	<.001	2.6 (1.8-3.7)
"Some times I'd rather risk HIV than use a condom"	12	26	<.001	2.6 (1.8-3.8)
"I don't like condoms because they reduce sensitivity"	42	56	<.001	1.7 (1.2-2.4)
"A man who knows he has HIV would tell me before sex"	40	31	.022	0.7 (.49-.98)

Note: UAI = unprotected anal intercourse, AI = anal intercourse, High = condoms used always or almost always during AI. AOR = odds ratio adjusted for age group, bold denotes statistically significant. ^a As a proportion of all non-tail/tail respondents; ^b as a proportion of non-tail/tail respondents engaging in anal intercourse with this partner type.

Conclusions

LTMSM are strategically important prevention targets as they play a disproportionate role in facilitating (through non-condom use) or controlling (through condom use and testing) HIV spread.

LTMSM recruited from Internet dating sites in Auckland, New Zealand reported better health screening practices, but significantly worse protective behaviours and attitudes to condoms than non-LTMSM recruited from online dating sites. Furthermore, the magnitude of these differences was greater than found among MSM recruited in location-base surveillance in Auckland [poster no: WEPE133].

HIV prevention responses must maintain a constructive engagement with LTMSM and policy makers must consider LTMSM when evaluating the effectiveness of new approaches. **Prevention goals for LTMSM on internet dating sites include raising condom use, reinforcing the importance of HIV and STI testing, and shaping attitudes.**

References

- [1] Schneeberger A. et al. "Scale-free networks and sexually transmitted diseases: a description of observed patterns of sexual contacts in Britain and Zimbabwe." *Sexually Transmitted Diseases*. 2004; 31: 380-387.
- [2] Saxton P, Dickson N, Hughes A. "Who is omitted from repeated offline HIV behavioural surveillance among MSM? Implications for interpreting trends." *AIDS and Behavior*. 2013; 17: 3133-3144.