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# Men who have sex with men: a comparison of a probability sample survey and a community based study

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We compared characteristics of men who have sex with men (MSM) in a probability sample survey with a community based study in London. The majority of men in both surveys reported male sex partner(s) in the last year but MSM recruited through the population based survey had lower levels of HIV risk behaviour, reported fewer sexually transmitted infections and HIV testing than those recruited from gay venues. Community samples are likely to overestimate levels of risk behaviour among all MSM.

Men who have sex with men (MSM) remain disproportionately affected by the HIV epidemic in the United Kingdom.[1] MSM continue to report increasing levels of high risk sexual behaviour and sexually transmitted infections (STIs).[2] There are several community studies in the United Kingdom monitoring the sexual behaviour of MSM,[2–4] and data have been published recently on MSM identified from a national probability sample survey.[5] This paper compares characteristics of MSM identified from the general population sample, National Survey of Sexual Attitudes and Lifestyles 2000 (Natsal), with those men in a community based convenience sample of MSM, Gay Men's Sexual Health Survey 2000 (GMSHS).

## METHODS

Details of both surveys' methodologies have been published elsewhere.[6 7] Briefly, using a stratified probability sample the Natsal survey interviewed men and women aged 16–44 years old resident in Britain between 1999 and 2001. A combination of face to face interviewing and computer assisted self interviewing was used.

GMSHS men were recruited from gay bars, clubs, saunas, and GUM (genitourinary medicine) clinics across London in 2000 as part of a repeat cross sectional survey. Men were offered a short self completion paper questionnaire.

The Natsal sample was weighted to be representative of the population in terms of age, gender, and region.[7] Survey samples were compared using odds ratios and 95% confidence intervals calculated through logistic regression using the survey analysis functions of the statistical software Stata 9.

## RESULTS

A total of 11 161 people completed the Natsal survey with a response rate of 65.4%. Of these, 176 men were included for further analysis. In all, 2015 men were recruited from the GMSHS with a response rate of 70%, of these 1406 men were included for further analysis. Men who reported sex with another man in the last year were included from Natsal (n = 138) and the GMSHS (n = 1,305). Further men from Natsal were included if they reported being sexually attracted to same sex only (n = 10), more often same sex (n = 10), and about equally often to opposite sex and same sex (n = 18). Similarly, men included for analysis in the GMSHS also included men who reported their sexual orientation as gay/homosexual (n = 88), bisexual (n = 9), or other (n = 4), but did not report sex with another man in the last year. Men who had already completed the GMSHS questionnaire that year were excluded from further analysis (n = 32), as were men recruited from GUM clinics (n = 566) to achieve a sample recruited entirely from community venues. Nearly half of the men recruited from Natsal (42.9% [75/175]) reported visiting a gay pub or club in the last month, while 14.3% (25/175) reported never visiting gay pubs or clubs. Comparisons were made between the GMSHS (socialising in London), and Natsal MSM resident in only London (n = 79) and all Natsal MSM (n = 176), in order to explore any geographical variation in behaviour that might account for differences between the two surveys.

Compared with GMSHS men, Natsal London men were significantly less likely to reside in inner London compared to the GMSHS (table 1), more likely to not be currently employed, and more likely not to be white. Men in the two samples were similar in terms of age and education levels.

The Natsal London men were less likely than the GMSHS men to report having attended an GUM clinic in the last year and less likely to have ever tested for HIV. However, of the men who had tested, there were no significant differences between the two samples in having tested in the last year. Natsal London men were less likely to report an STI in the last year compared to the GMSHS men.

There were significant differences in sexual behaviour between the two samples of MSM. Natsal London men were less likely to report a male sex partner in the last year and less likely to report more than five male sex partners ($p<0.01$). They were also somewhat less likely to report more than five unprotected anal intercourse (UAI) partners in the last year ($p = 0.13$). These comparisons with GMSHS men were broadly similar for all Natsal men (national sample), except for ethnicity status, which was not significantly different between the GMSHS and the national Natsal sample.

## DISCUSSION

These results show that the Natsal London men recruited by a probability sample were less likely to report STIs, GUM clinic attendance, or HIV testing than GMSHS men recruited from gay venues. They were also less likely to report a high number of male sex partners or UAI partners. All of these factors are predictors of HIV risk.

By comparing London Natsal men with GMSHS men we were able to establish that the differences between the two surveys are unlikely to be due to the geographical differences, rather they are likely to be due to differences in the populations sampled.

**Abbreviations:** GMSHS, Gay Men's Sexual Health Survey; GUM, genitourinary medicine; MSM, men who have sex with men; Natsal, National Survey of Sexual Attitudes and Lifestyles 2000; STI, sexually transmitted infections; UAI, unprotected anal intercourse

**Table 1** Demographics, sexual health service use, STIs, and sexual behaviour: comparing MSM in the GMSHS and MSM in Natsal[1 2]

| | GMSHS | Natsal London MSM only | Natsal all MSM |
|---|---|---|---|
| | (n = 1406) | (n = 46.1) (weighted*), (n = 79) (unweighted) | (n = 156.8) (weighted*), (n = 176) (unweighted) |
| Median age | 32 | 32 | 32 |
| % not white | 12.9% | 22.9% | 9.2% |
| Odds ratio (95% CI)† | 1 | 2.01 (1.02 to 3.95) | 0.69 (0.40 to 1.17) |
| % reside in Inner London | 78.5% | 61.3% | 18.0% |
| Odds ratio (95% CI) | 1 | 0.43 (0.22 to 0.83) | 0.06 (0.04 to 0.09) |
| % no education after the age of 16 | 13.7% | 12.7% | 18.1% |
| Odds ratio (95% CI) | 1 | 0.92 (0.43 to 1.98) | 1.39 (0.87 to 2.22) |
| % not currently employed | 13.8% | 30.5% | 29.2% |
| Odds ratio (95% CI) | 1 | 2.74 (1.50 to 5.00) | 2.57 (1.73 to 3.82) |
| % attended GUM clinic in the last year | 41.7% | 17.5% | 18.6% |
| Odds ratio (95% CI) | 1 | 0.30 (0.16 to 0.56) | 0.32 (0.20 to 0.51) |
| % ever tested for HIV | 68.3% | 47.2% | 43.9% |
| Odds ratio (95% CI) | 1 | 0.41 (0.23 to 0.74) | 0.36 (0.25 to 0.53) |
| Of those testing, % who test for HIV in last year | 30.8% | 29.0% | 34.8% |
| Odds ratio (95% CI) | 1 | 0.92 (0.44 to 1.93) | 1.20 (0.68 to 2.11) |
| % STI in the last year | 19.2% | 5.2% | 1.6% |
| Odds ratio (95% CI) | 1 | 0.23 (0.09 to 0.61) | 0.07 (0.03 to 0.18) |
| % 1+ male sex partners in the last year | 96.6% | 88.5% | 83.6% |
| Odds ratio (95% CI) | 1 | 0.27 (0.11 to 0.67) | 0.18 (0.10 to 0.32) |
| % >5 male sex partners in the last year | 52.9% | 29.1% | 19.2% |
| Odds ratio (95% CI) | 1 | 0.37 (0.21 to 0.63) | 0.21 (0.14 to 0.33) |
| % 1+ UAI partners in the last year | 41.8% | 31.8% | 35.3% |
| Odds ratio (95% CI) | 1 | 0.65 (0.37 to 1.14) | 0.76 (0.53 to 1.10) |
| % >5 UAI partners in the last year | 3.2% | 0.6% | 2.2% |
| Odds ratio (95% CI) | 1 | 0.19 (0.23 to 1.43) | 0.68 (0.21 to 2.23) |

*Weighting for the inverse probability of selection and to match age/gender/region distribution of British population according to the Office for National Statistics (ONS) population estimates for mid-1999.[7]
†Odds ratios and 95% confidence intervals use weighted data.

It is important to consider the appropriate sampling frame for a particular set of research questions. The GMSHS enables the surveillance of trends among riskier MSM in this community population and will yield the greatest number of men of interest to this research question. Natsal provides general population estimates of behaviour patterns among MSM, including those who do not frequent the types of gay venues or services sampled in community surveys, but inevitably the number of MSM participating in such surveys will be limited. Our findings suggest that focusing on a community sample of MSM is likely to result in an overestimate in the prevalence of sexual risk behaviour and sexual health outcomes with respect to all MSM in Britain. Thus both methods contribute to our knowledge and understanding of behaviour patterns in MSM, but a comparison such as that performed in this paper is important to assess how findings from community surveys can be considered to be representative of the general population.

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