Evidence for change

Findings from the National Gay Men's Sex Survey 1998

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Original Research Report

Acknowledgments

Questionnaire Design: The design of the survey and its fieldwork was carried out by Sigma Research in collaboration with the following HIV health promotion agencies: Big-Up; Gay Men's Project at the Aled Richards Trust; Gay Men Fighting AIDS; Healthy Gay Manchester; The National Network of Self-Help HIV & AIDS Groups; SLAP fM; The Naz Project, London; Terrence Higgins Trust London; Gay Men's Health Matters at Terrence Higgins Trust South (then The Sussex AIDS Centre); and Yorkshire MESMAC.

Fieldwork: This survey was only possible because of the efforts of the people who organise and attend Lesbian, Gay and Bisexual Pride-type events in the UK. We would like to warmly thank everyone involved. Many individuals from organisations engaged in HIV health promotion assisted with recruitment by inviting men to take part or facilitating others to do so. In addition to the above agencies, we would like to thank Hertfordshire Gay Men's Team, North West Lancashire Health Promotion Unit and MESMAC North East. The following individuals attended more Pride'98 events than was good for them, recruiting men to this survey:

Will Anderson	Andy Hackett	Peter Keogh	Justin Schofield
Paul Broderick	Laurie Henderson	Vijay Kumari	Debbie Smith
Kath Dane	Ford Hickson	Helen Potts	Michael Stephens
Robert Goodwin	Paul Holland	David Reid	Peter Weatherburn

Fieldwork management: Michael Stephens, David Reid and Laurie Henderson

Data suppliers: Many thanks to the thousands of men who participated in the survey.

Data base design: Paul Broderick

Data handling & management: David Reid and Michael Stephens

Analysis & text: Ford Hickson, Peter Weatherburn and David Reid

Recently published research boxes: Ford Hickson

Draft readers: This document has benefited from the attention and comments of Tom Doyle (Yorkshire MESMAC), Richard Scholey & Jack Summerside (Terrence Higgins Trust London), Richard Harding & David Reeves (Gay Men Fighting AIDS), Mike Hartley & Peter Keogh (Sigma Research) and in particular Will Nutland (Terrence Higgins Trust London).

Funding: The survey and its reporting were funded by the Terrence Higgins Trust London as part of the Community HIV and AIDS Prevention Strategy (CHAPS), a National HIV prevention initiative financed by the Department of Health.

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November 1999

Published on behalf of the CHAPS Partnership
The Terrence Higgins Trust, London

52-54 Grays Inn Road
London WC1X 8JU
020-7-831 0330
www.tht.org.uk

ISBN: 0 872956 45 9

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ABBREVIATIONS AND JARGON

Letters	What they stand for	Further explanation of their use in this report
HIV	human immune deficiency virus	an infectious agent most commonly acquired in England during sex between men
STI	sexually transmitted infection	infectious agents acquired during sex (including HIV)
AI	anal intercourse	fucking between men
IAI	insertive anal intercourse	active AI; doing the fucking
RAI	receptive anal intercourse	passive AI; getting fucked
PAI	protected anal intercourse	AI with a condom
UAI	unprotected anal intercourse	AI without a condom
s/dUAI	sero-discordant unprotected anal intercourse	UAI between HIV infected and uninfected men
HEQ	highest education qualification	
<	less than	
>	more than	
NS	(statistically) non significant	if we had done the survey multiple times, this difference would probably be observed in more than one in twenty of the surveys, purely by chance
p<.05	probability less than 5%	if we had done the survey multiple times, this difference would probably be observed in fewer than one in twenty of the surveys, purely by chance
p<.01	probability less than 1%	if we had done the survey multiple times, this difference would probably be observed in fewer than one in a hundred of the surveys, purely by chance

1 Introduction

1.1 CONTENT OF THE REPORT

This document reports the main findings of the second annual National Gay Men's Sex Survey, carried out over the summer of 1998. The information contained in the report is about HIV infection, sex between men and HIV prevention needs. The audience for the report is people involved in planning HIV prevention programmes to address the HIV prevention needs of homosexually active men. This report is intended to complement the report from the first National Gay Men's Sex Survey (Hickson, Reid *et al*., 1998).

Besides our own data, we have included other pertinent research in 'recent publication boxes'. These are boxes with dotted borders (see box). Generally, publications have been placed in the section they are most pertinent to, although some papers contain data of relevance to several sections. A full listing of these papers and reports is in the References section.

Layout of 'recent publications boxes'

Authors surname and initial (date)
Title of paper or report.
Journal name, volume (issue), page reference OR
City of publication; publisher (telephone number).

A short description of the paper or report and usually some data pertinent to the section the box appears in.

1.2 BACKGROUND TO THE SURVEY

The National Gay Men's Sex Survey (GMSS) uses a short self-complete questionnaire to collect a small amount of information from many men who are all in the same place at once. Its chief characteristic is the method of recruitment, which is by community members making personal invitations to men to participate. Sigma Research carried out GMSS at the London Lesbian & Gay Pride festivals in 1993, '94 and '95, and at similar events across England in 1997 and '98. The impetus behind the first survey was to look at sexual behaviour across different age groups. The surveys have always had a high degree of collaboration, and the first was carried out with Gay Men Fighting AIDS. The 1994 survey was commissioned by the statutory health promotion service in Camden & Islington, North London. That survey both monitored change and gathered data on men's use of health promotion settings. We carried out the third survey in 1995 to look at three years of sexual behaviour change at a population level (or as it turned out, no change, see Hickson *et al*., 1996). For the first three years, then, the survey was carried out at London Pride only and was used mainly to monitor population changes in sexual behaviour.

In 1996, '97 and '98, this method of aggregate sexual behaviour monitoring was successfully replicated in London by Tony Nardonne, Danielle Mercey and colleagues, recruiting men from multiple gay settings (eg. bars, GUM clinics, social groups). The findings from these surveys suggest this method of recruitment samples from the same population as the Pride surveys, and confirm many findings from the earlier Pride surveys (Dodds, Nardonne, & Mercey 1998).

In 1997, Sigma Research undertook GMSS at Pride-type events in six cities: Birmingham, Brighton, Bristol, Leeds, London and Manchester. These were funded by the Terrence Higgins Trust London and carried out in collaboration with voluntary sector HIV health promotion agencies in those towns and cities. Half the questions were identical in the six surveys, and together this data formed the first National Gay Men's Sex Survey, reported in Making Data Count (Hickson, Reid *et al*., 1998).

Evidence for Change concerns the second National survey, which took place over the summer of 1998. This survey used a single questionnaire, and was designed to generate evidence of health promotion need for use within the collaborative planning framework Making it Count (CHAPS SDG, 1998). As in 1997, the content of the survey was designed by Sigma Research in collaboration with a number of HIV prevention agencies working within the *Making It Count* framework.

1.3 RECRUITMENT DATES, EVENTS AND RETURNS

As in 1997, the target population for GMSS was homosexually active men resident in England and Wales. Recruitment occurred at nine community-based events over the summer of 1998. The anonymous survey was printed on two sides of A4 for self-completion and immediate return to sealed boxes.

The table below gives the number of men returning forms at each event over the two years. In 1998 we recruited 41% more men than in 1997. This increase was not simply because of more sites, nor was it even across sites (some of which recruited fewer than in 1997). Most of the increases are due to the larger number of recruiters used at all events. However, three new events were added in 1998: Nottingham, Blackpool and Newcastle. All were free, community-based festivals. In London, the Summer Rights festival was used after the cancellation of the planned Pride event. Summer Rights was the only event in 1998 that required a fee [£5] to be paid for entry. There was no Pride West '98 in Bristol.

City	Event	Date in 1998	Returns	
			GMSS'97	GMSS'98
Birmingham	Birmingham Pride	24th May	367	661
Blackpool	Fiesta! Fiesta!	21st June	—	285
Newcastle	Pride on the Tyne	25th July	—	176
Leeds	HydeOut!	26th July	452	376
London	Summer Rites	1st August	1921	1582
Brighton	Brighton Pride	8th August	762	1309
Manchester	Mardi Gras	30th & 31st August	1253	2202
Nottingham	Pink Lace	12th September	—	275
St. Albans	Pride of Herts.	12th September	—	56
Bristol	Pride West	No event	167	—
		Total number of forms returned	4,922	6,922

1.4 EXCLUSIONS

The table below gives the number of forms returned during recruitment, and a summary of those excluded from the following analysis.

	GMSS'97	GMSS'98
Forms returned to sealed boxes.	4,922	6,922
Less than 25% of questions completed	16 (0.3%)	100 (1.4%)
Area of residence missing	79 (1.6%)	103 (1.5%)
Visiting Britain from outside the UK	126 (2.6%)	133 (1.9%)
Visiting England from Scotland or Northern Ireland	69 (1.4%)	52 (0.8%)
Second forms from the same men	58 (1.2%)	0
No sex with men in the last year	204 (4.1%)	219 (3.2%)
Homosexually active men resident in England or Wales.	**4,370 (88.8%)**	**6,315 (91.2%)**

In 1997 we used six different questionnaires, and men were not dissuaded from filling in more than one of them. A labourious process of crosschecking yielded 58 men who had filled in more than one. In 1998 we used one form, and requested men not to complete it twice. We assume no one did.

Many homosexually inactive men removed from the sample may be within the population of concern of *Making It Count*. However, we assume the sub-sample here (n=219) is very diverse within itself and wholly unrepresentative of men who intend to be homosexually active in the future.

2 Sample description

This chapter describes the sample of 6,315 homosexually active men using eight key characteristics. Each section introduces a variable, describes its variation in the sample, and then looks at its association with the preceding variables. The order in which the variables are described is retained throughout the rest of the report.

2.1 SEXUALITY

One of the inclusion criteria for the sample was sex with a man in the last year (see section 1.4). Men were asked two further questions about their sexuality. The first was 'How would you describe your sexuality?' They were asked to indicate one of gay; bisexual; or any other word. Figure 2.1.1 shows that the majority identified as gay.

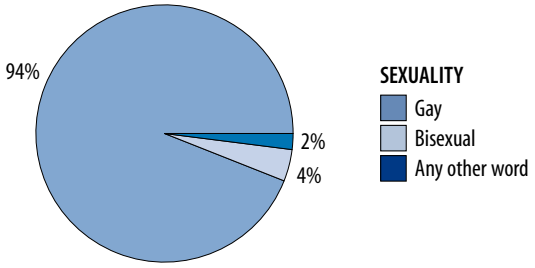

Figure 2.1a: Self-nominated term for sexuality (N=6277)

In the 1997 survey, men were also offered the options of homosexual and queer, and 85.4% indicated gay. With fewer terms prompted for in 1998, a larger proportion indicated gay (94.3%). That is, most of men who might have indicated homosexual or queer had they been offered, indicated gay, instead of any other word. The proportion indicating bisexual similarly rose from 3.6% in 1997 to 4.1% in 1998.

Men were also asked whether they had sex with women in the last year. Overall, 4.4% had sex with women and men in the last year (ie. they were behaviourally bisexual). Men who identified as bisexual were much more likely to have had sex with women (Figure 2.1.2). Only 1.7% of gay men had female partners, compared with 58.7% of bisexual men and 28.9% of men who used any other term.

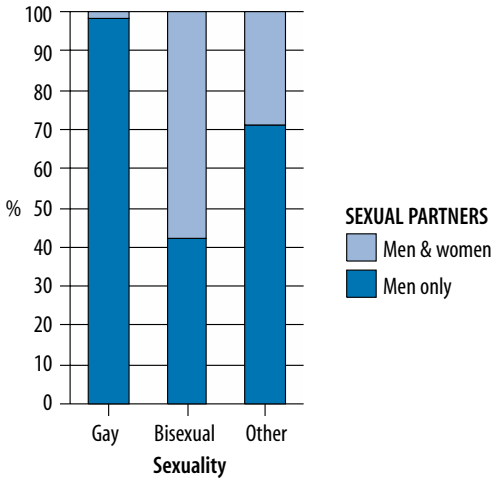

Figure 2.1b: Proportions of sexuality groups who had sex with women as well as men in the last year (N=6225)

In the rest of the report, we make comparisons between gay men and the bisexual men. Men using 'Other' are excluded from comparisons due to the small size of this sub-sample (n=98) and the immense diversity within it.

Data on the gender of sexual partners is not used for comparative purposes since the sample of men who have sex with men and women represents a particular sub-sample of all behaviourally bisexual men (ie. those attending a gay and bisexual Pride event; see Weatherburn, Reid, *et al.,* 1996).

2.2 AGE

The average (mean) age of the sample was 33.1 years (sd=8.89) with a median of 32 (ranging from 14 years to 74 years). While a very wide age range was recruited, half are aged between 27 and 38. The largest group were in their early thirties. Figure 2.2.1 shows the age distribution. The profile is similar to the 1997 sample, and other community and clinic recruited samples of gay men.

When we examine variation in the age of groups of respondents, we use either average ages or age group bands. In the rest of this Chapter and Chapter 3 we use ten age groups in five year bands for comparative purposes. In Chapters 4 and 5, we make more comparisons across the age range, and have used five age groups in ten year bands. While relatively small proportions of the sample are under 20 years of age (3.4%, n=214) or over 50 (5.5%, n=341), the absolute number of men in these categories is usually sufficient to allow comparisons.

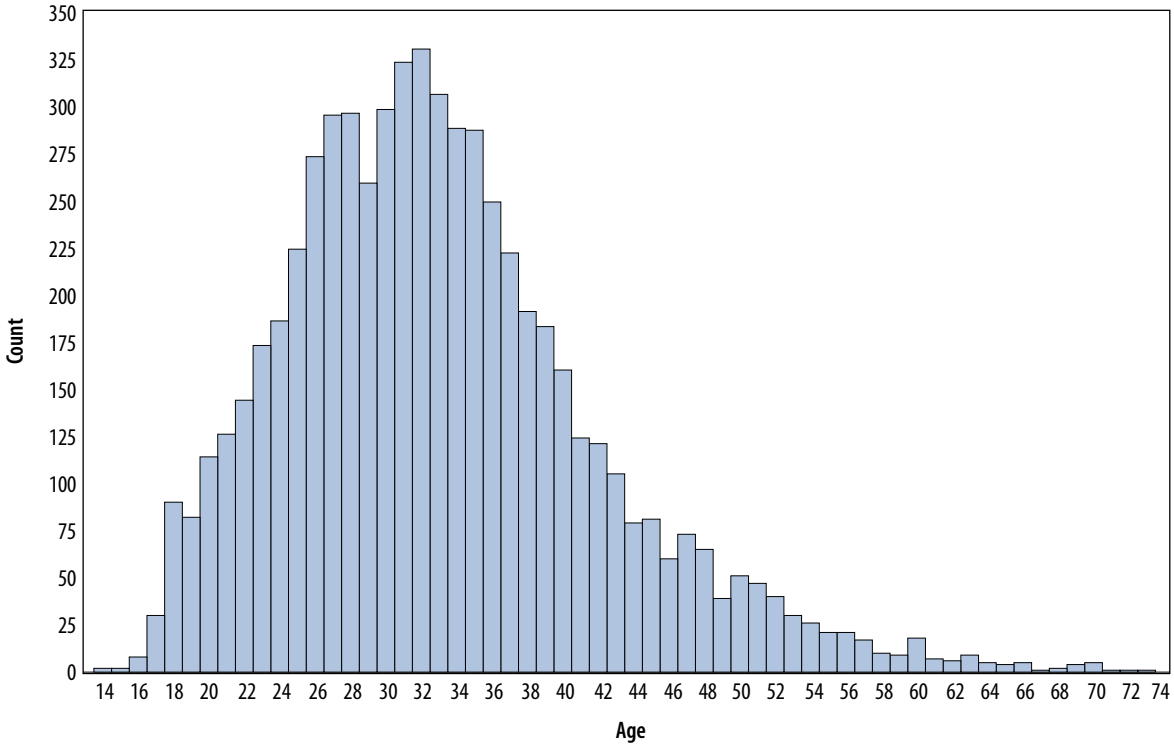

Figure 2.2: Age distribution (N=6229)

2.2.1 Sexuality & age

The 4% of men who indicated the term bisexual (mean age 30.6, median 29) were, as a group, younger than the gay men (mean 33.3, median 32; p<.01). Eleven per cent of men under 20 and 7% of men in their early 20s identified as bisexual compared with 4% or fewer in the older age groups. We believe this to be because some bisexual men come to identify as gay (although we would observe the same pattern if bisexual men stop attending Pride type events at a younger age than do gay men).

2.3 HIGHEST EDUCATION QUALIFICATION (HEQ)

Men were asked 'Which of the following educational qualifications do you have' and instructed to tick each of: I have no educational qualifications; O- levels / CSE / GCSE; A-levels or equivalent; Diploma or equivalent; Degree or higher. Men were then allocated to one of five groups based on the highest educational qualification they indicated. Many men specified many other educational and vocational qualifications, and these were grouped with men who indicated 'Diploma'. Although this is a large group (a fifth of the sample) for comparative purposes, it is problematic as there is substantial variation within the category. To treat this group as educated somewhere between O-levels and A-levels, or A-levels and Degree, would be to pretend it had a homogeneity it does not possess.

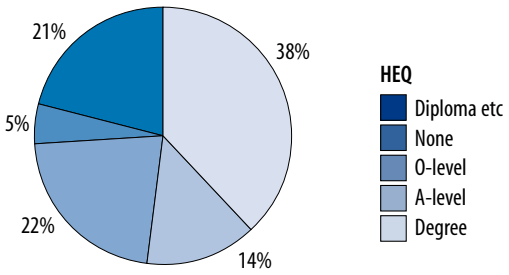

Figure 2.3: Highest educational qualification (N=6287)

In the rest of this chapter, we keep these men in the sample when looking at education differences across the other demographic groups. However, in the figures we have separated the mixed Diploma/Other group. In the rest of the report, these men are excluded from the analysis, and we make comparisons across three education groups: men educated to O-level qualifications or less (usually leaving school at 16 years); those with A-levels (usually leaving at 18); and those with a degree or higher qualifications.

The educational profile of the sample is very similar to that in the 1997 survey. More than one quarter (27.0%) had 'O' levels or less (school leaving age 16) and more than a third (38.0%) had a degree. The sample is more highly educated than the adult male population as a whole, as are all samples of homosexually active men recruited via gay community settings (eg. Dodds *et al*., 1998).

2.3.1 Sexuality & HEQ

Men in each of the education groups identified as gay or bisexual in similar proportions.

2.3.2 Age & HEQ

Clearly the youngest men are more likely still to be in full time education and this is reflected in the profile of education level across the age range (Figure 2.3.2). However, we can also observe that higher education becomes less common among older men. This is a characteristic of the entire population (as the 20th Century progressed, more people stayed in full time education, for longer). The main difference in this sample is that, while the proportion of men in each age group who attended university is similar, fewer of the younger men left school with 'O' levels or equivalent or no formal educational qualifications.

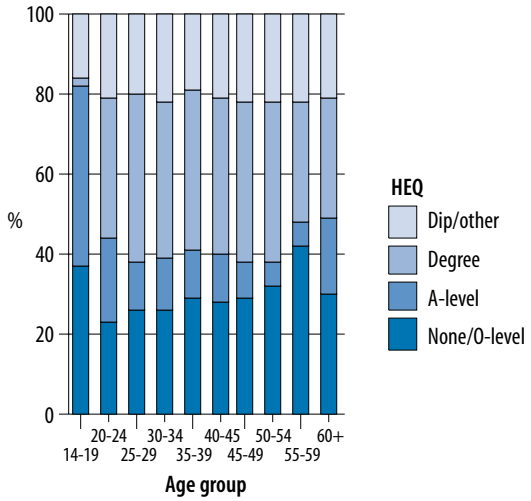

Figure 2.3.2: HEQ across the age groups (N=6201)

2.4 ETHNICITY

The ethnic group question was derived from the Census (Coleman & Salt, 1996). Men were asked 'Which ethnic group would you say you belong to?' and asked to indicate one following (the number in brackets is the number of men in that group): White (5,912); Black African (28); Black Caribbean (49); Other Black group (42); Indian (36); Pakistani (16); Chinese (24); or Any other group (186). Men who indicated 'Other' groups were asked to specify their ethnic group. From these responses, an additional group of Other South Asian group (20) was formed.

The pie in Figure 2.4 shows the proportion of men from minority ethnic groups (6.1% of the entire sample, n=381). The column on the right illustrates the ethnic diversity within men from ethnic minorities: 31% were Black (African, Caribbean & other Black groups); 19% were from South Asian communities (Indian, Pakistani and other South Asian groups); and the remaining 44% covered a very large and diverse range of ethnicities (6% of whom were Chinese). This group included many who specified parents from different countries and ethnic groups. The survey sample included a larger proportion of men from minority ethnic groups in 1998 than 1997 (6.1% compared with 5.4%).

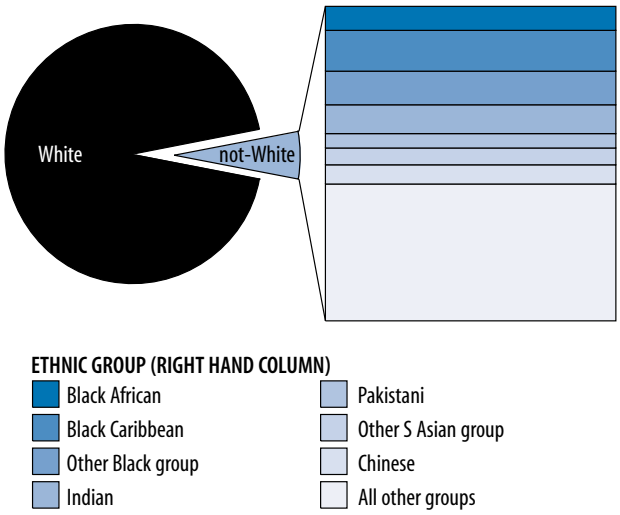

Figure 2.4: Ethnic group (N=6293)

The wide diversity within the sample (and the absolute small numbers of men in some groups, even when merged) makes ethnic group comparisons hazardous. Due to the relatively small numbers in many categories, in the remainder of this report we make ethnic group comparisons between White (n=5,912), Black (n=119), South Asian (72), and All other groups (190).

2.4.1 Sexuality & ethnicity

Sexual identity differed in the ethnic groups (Figure 2.4.1; $p<.01$). The majority of all ethnic groups identified as gay. However, more Black men (12%) and South Asian men (14%) identified as bisexual, than White men (4%). More South Asian men indicated another term (7%) than the other groups, resulting in this group having the largest proportion of men identifying other then gay.

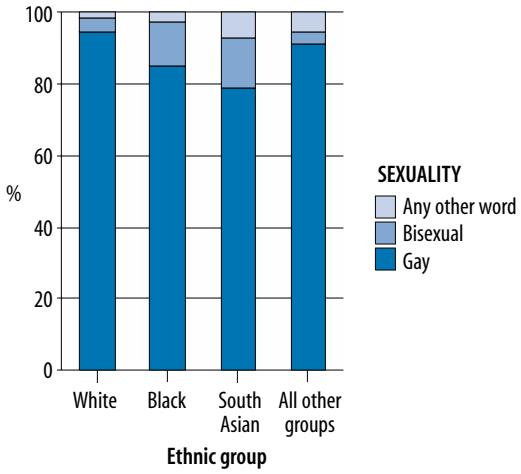

Figure 2.4.1: Term for sexuality by ethnic group (N=6256)

2.4.2 Age & ethnicity

Men from minority ethnic groups were, as groups, younger than men from the majority ethnic group (p<.01). The median age of White men was 33 years, of Black men 31 years, and of South Asian men 29 years. The mixed Others groups had an average age of 31 years. For each ethnic group, Figure 2.4.2 shows the proportions of men in each age group.

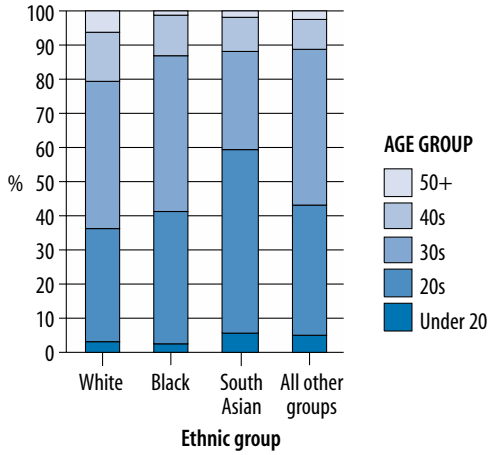

Figure 2.4.2: Age composition of the ethnic groups (N=6209)

2.4.3 HEQ & ethnicity

White men and Black men were similarly educated, and both less so than South Asian men (p<.01). The respective proportions educated to O-levels or less were 28%, 27% and 14%), and South Asian men were more likely to have a degree (37%, 34%, 50%). The mixed 'other' group had a profile more similar to the South Asian men than the White or Black men.

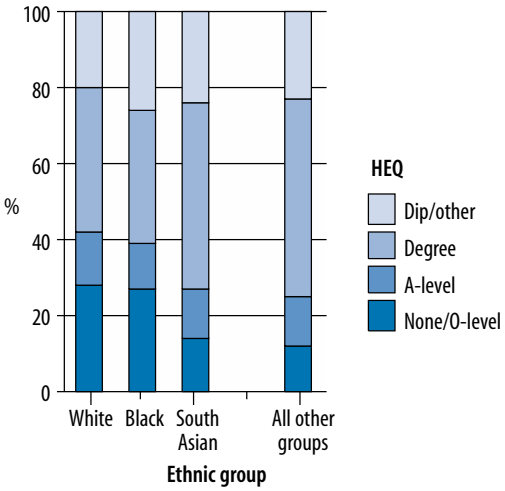

Figure 2.4.3: HEQ among the ethnic groups (N=6265)

2.5 SEXUAL ASSAULT HISTORY

Sexual abuse in childhood and sexual assault in later life undoubtedly affect many areas of a man's self-perception and socio-sexual abilities (see for example, Mendel, 1995). This leads to the hypothesis that men who have been sexually abused or assaulted may have less control over their involvement in sexual HIV exposure in adulthood.

Men were asked 'Have you ever been sexually assaulted or forced to have any kind of sex against your will?' and were asked to indicate: No never; Yes, before I was 16 years old; Yes, since 16 years old. Men were instructed to tick as many as applied. Although the question is frank, it was used both for a description of the population and to 'introduce' a question about rape (see Chapter 5) which we felt too jarring in the flow of the questionnaire if it appeared in isolation.

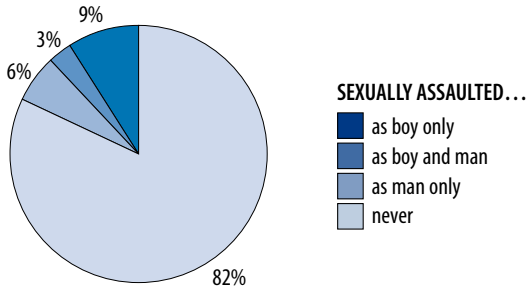

Figure 2.5: Experience of sexual assault (N=5896)

Overall, 17.7% (1,063 men) indicated they had been sexually assaulted or forced to have sex against their will. Of these, the largest proportion had been assaulted in childhood only (520 men), followed by men who had been assaulted in adulthood only (380 men). A smaller group of men indicated they had been assaulted both before and since the age of 16 (163 men).

2.5.1 Sexuality & sexual assault history

We found no evidence for an association between sexuality and assault history. That is, gay men and bisexual men indicated sexual assault in similar proportions.

2.5.2 Age & sexual assault history

Men who indicated having been assaulted were younger than those who indicated having never been ($p<.01$) and indicating assault became less likely with increasing age (Figure 2.5.2).

The proportion who indicated assault in childhood (irrespective of assault in adulthood) decreased, stepwise with age; 14% of men under 20; 13% of men in their 20s; 11% of those in their 30s; and 9% in each of men in their 40s or over 50 years.

This data would support a hypothesis that sexual abuse in childhood is becoming more common. An alternative hypothesis is that younger men are more likely to acknowledge abuse both to themselves and in surveys such as this.

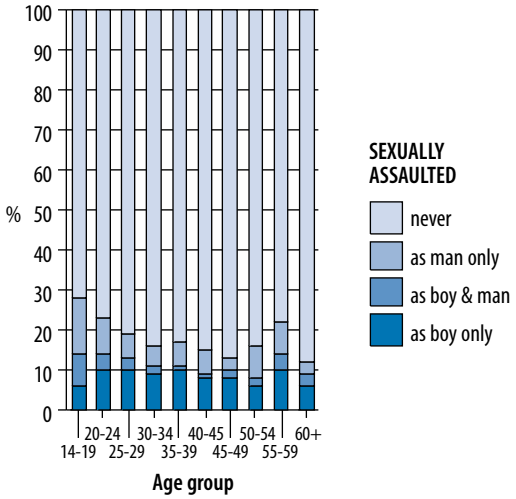

Figure 2.5.2: Experience of sexual assault across the age range (N=5944)

2.5.3 HEQ & sexual assault history

Indicating having been assaulted decreased with increasing education: 20% of men with O-levels or less; 18% of men with A-levels or diploma and 15% of men with a degree ($p<.01$).

While the proportion who indicated assault in childhood was similar (11%, 12%, 11%), more men with lower education indicated having been assaulted as an adult (12%, 9%, 6%). This difference in the prevalence of having experienced sexual assault as an adult is congruent with differences in the incidence of rape reported in Chapter 5.

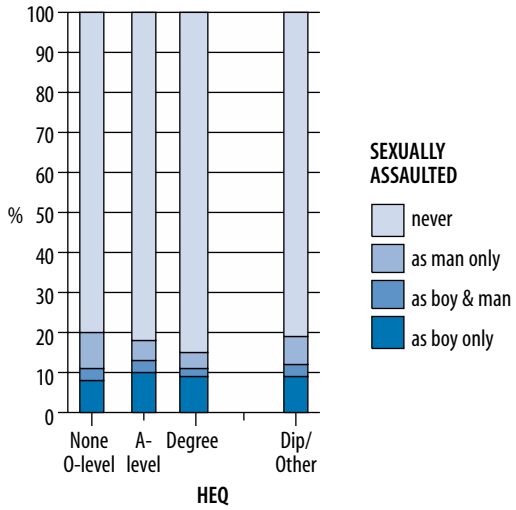

Figure 2.5.3: Experience of sexual assault across the education groups (N=5898)

2.5.4 Ethnicity & sexual assault history

We found no evidence for an association between ethnicity and sexual assault history. That is, men in each of the ethnic groups indicated sexual assault in similar proportions.

2.6 (MALE) RELATIONSHIP STATUS

All respondents were asked 'Do you have a regular male sexual partner at the moment?': 60.5% said they had. These men were asked 'How long have you and your primary partner been together?'. Figure 2.6.1 shows the distribution of the length of current relationships. The average (median) length of these primary relationships was two and a half years, with a range from one month to forty years. (As these lengths are current, this should not be confused with the average length of relationships by the time they cease).

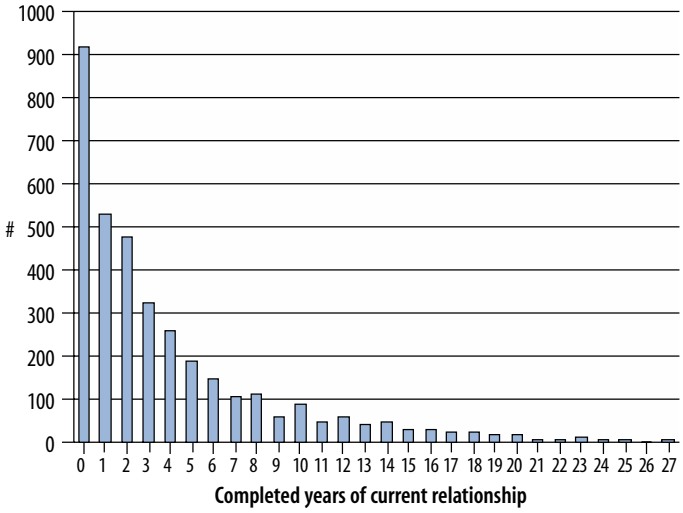

Figure 2.6a: Number of men in regular (male) sexual relationships of increasing duration (N-3600)

Men were allocated to one of three groups based on whether they had a regular male partner or not, and if so whether they had been partnered for more or less than one year (Figure 2.6.2). Similar proportions were single or partnered over a year. A smaller group (17%) had recently started a regular relationship (ie. within the last 12 months). In the rest of the report we use these three groups for comparisons across 'relationship type'.

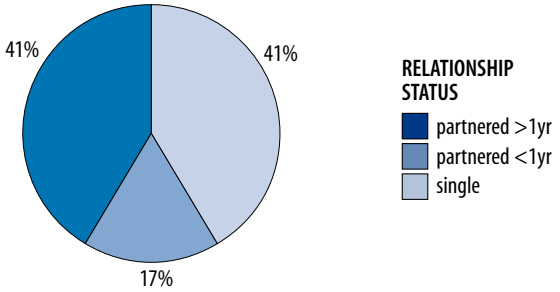

Figure 2.6b: Current relationship status (N=6074)

2.6.1 Sexuality & relationships

Relationships significantly varied between gay men and bisexual men ($p<.01$). Although similar proportions were recently partnered, more gay men (43%) than bisexual men (23%) had been partnered over a year. Conversely, more bisexual men (59%) were single at the time of the survey than gay men (40%).

2.6.2 Age & relationships

All age groups included single, recently partnered and longer term partnered men. However, men who were recently partnered were, as a group, younger than those who were single, who were younger than those who had been partnered over a year (p<.01). Figure 2.6.2 illustrates that, overall, men in the middle of the age range were more likely to have a partner than either younger or older men, but that being recently partnered is most common among younger men.

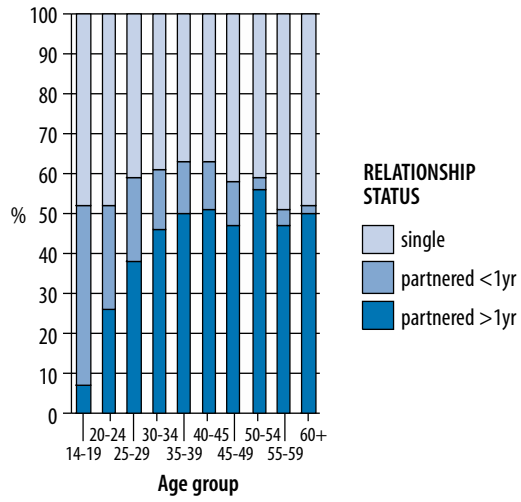

Figure 2.6.2: Relationship status across the age range (N=5997)

2.6.3 HEQ & relationships

Current regular relationships became less common with increasing education, particularly recent relationships. This observed difference was small but unlikely to be by chance (Figure 2.6.3; p<.01).

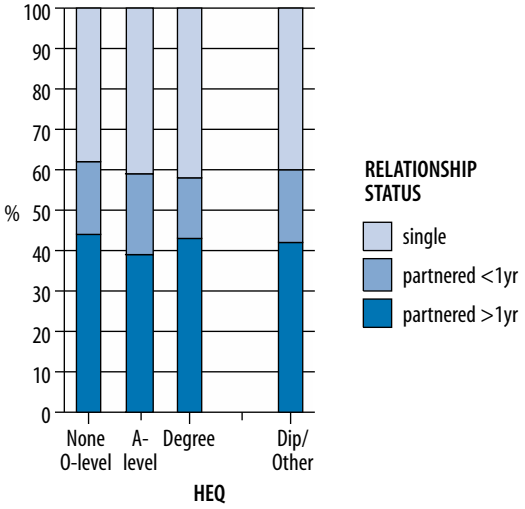

Figure 2.6.3: Relationship status across the education groups (N-6047)

2.6.4 Ethnicity & relationships

We found no evidence for an association between ethnicity and current regular male partnerships in this sample. That is similar proportions of each ethnic group were single, recently partnered and in longer term relationships.

2.6.5 Sexual assault history & relationships

There was a significant association between sexual assault history and current relationship status (Figure 2.6.5). Men who indicated having been sexually assaulted in both childhood and adulthood were less likely be in a regular sexual relationship with a man for over a year, and were conversely more likely to be single.

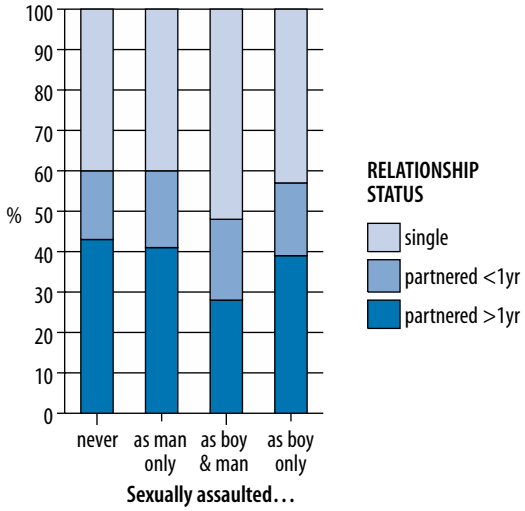

Figure 2.6.5: Relationship status across the sexual assault history groups (N-5797)

2.7 NUMBER OF (MALE) SEXUAL PARTNERS

All respondents were asked 'How many different men have you had sex with in the last year' and were instructed to write a number in a box: 28.0% wrote one, 23.0% wrote two, three or four, 24.2% wrote from five to twelve and the remaining 24.8% wrote thirteen or more. Therefore, the average (median) was four. Remember that no definition of 'a sexual partner' was provided. This means the criteria of who 'counts' as a sexual partner are men's own, and will vary.

Some men specified what might be considered 'high' number of partners: 10% specified forty or more, 5% specified sixty or more (or about one per week). The mean number of partners (once far outliers had been removed) is much higher than the median, at 17.6 partners (sd=59.4).

When we consider differences across groups in their number of sexual partners, we look at both the proportions in each of four groups (one partner; two to four; five to twelve; and thirteen or more), and average (median) numbers of partners.

2.7.1 Sexuality & number of partners

Gay men had both fewer and more sexual partners than bisexual men (Figure 2.7.1). While 21% of bisexual men had only one partner, 28% of gay men did. On the other hand, 25% of gay men had 13 or more sexual partners in the last year compared with only 20% of bisexual men. Consequently, the overall average number of partners gay and bisexual men had, did not significantly vary.

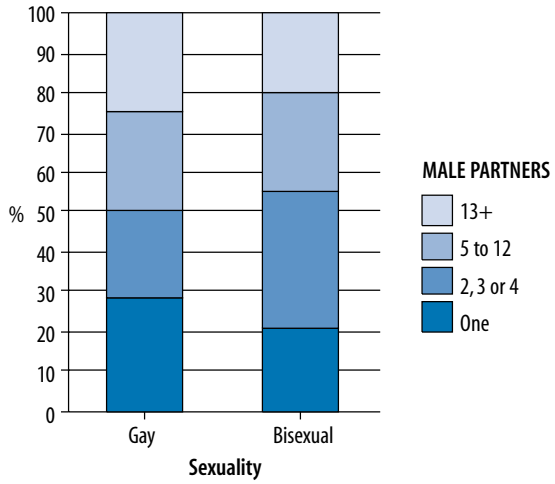

Figure 2.7.1: Numbers of male sexual partners by sexual identity (N=5746)

2.7.2 Age & number of partners

Figure 2.7.2 shows the number of sexual partners men had in each five-year age band. Younger men (those under 25) were least likely to have only one partner, and there is a notable decline in the proportion having 13 or more partners among men in the higher age groups.

The average number of sexual partners in each age group fluctuated (medians of 5, 4, 4, 5, 4, 4, 5, 4, 2, 4 in ascending five-year bands) across the age range, but did not significantly differ.

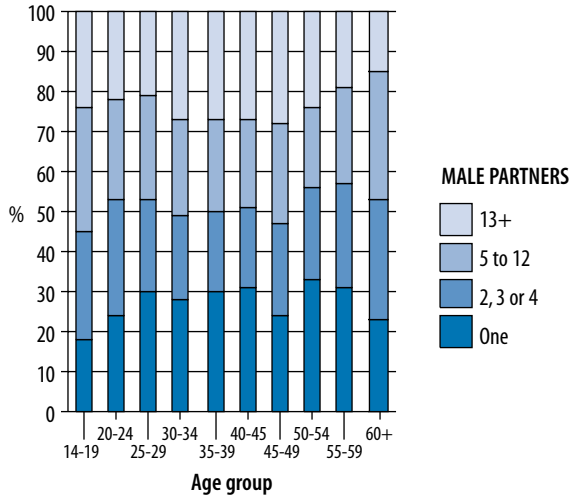

Figure 2.7.2: Numbers of male sexual partners across the age groups (N=5799)

2.7.3 HEQ & number of partners

More men with higher education had more sexual partners (Figure 2.7.3: p<.01). Those with O-levels were most likely to have had one partner and least likely to have had 13 or more; those with degrees were most likely to have had 13 or more partners. Men with a degree had a median of five partners, where the other four groups had a median of four.

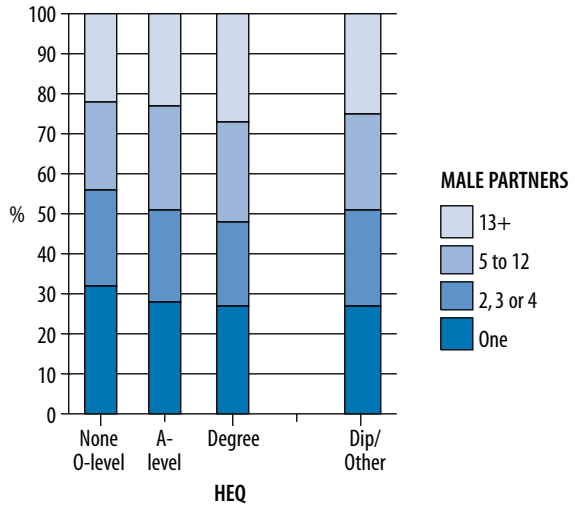

Figure 2.7.3: Numbers of male sexual partners across the education groups (N=5849)

2.7.4 Ethnicity & number of partners

We found no evidence for an association between ethnicity and the number of male sexual partners in the last year. All four ethnic groups had a median of four partners.

2.7.5 Sexual assault history & number of partners

The average number of partners among men in each of the sexual assault history groups significantly varied (p<.01). Men who had never been assaulted had a median of four partners. Men who had been assaulted as adults only had fewer partners (median 3). Men who had been abused before 16 years but not since, had a median of six partners. And men who had experienced assault both as children and adults had a median of ten partners in the lat year. This is reflected in Figure 2.7.5.

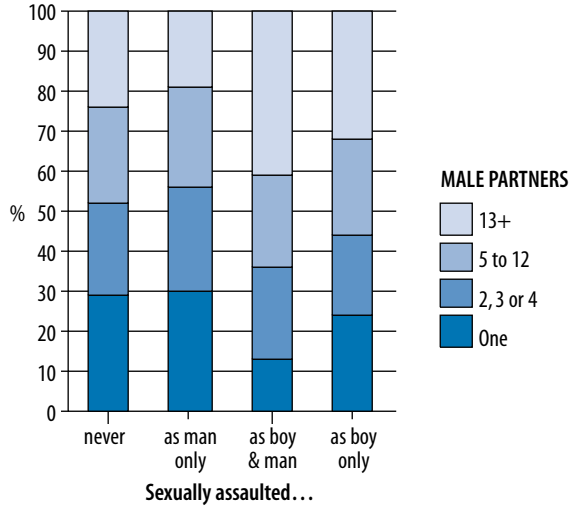

Figure 2.7.5: Numbers of male sexual partners by sexual assault history groups (N=5610)

2.7.6 Relationship status & number of partners

Perhaps unsurprisingly, numbers of partners varied by current relationship status (p<.01): single men had the most partners (mean 25, median 8), followed by recently partnered men (mean 16, median 4) and men partnered over a year had fewest (mean 11, median 2). Only 9% of single men had one sexual partner in the last year, compared with 50% of those partnered over a year (Figure 2.7.6: p<.01). When men are regularly having sex with one other man, their overall numbers of sexual partners decline.

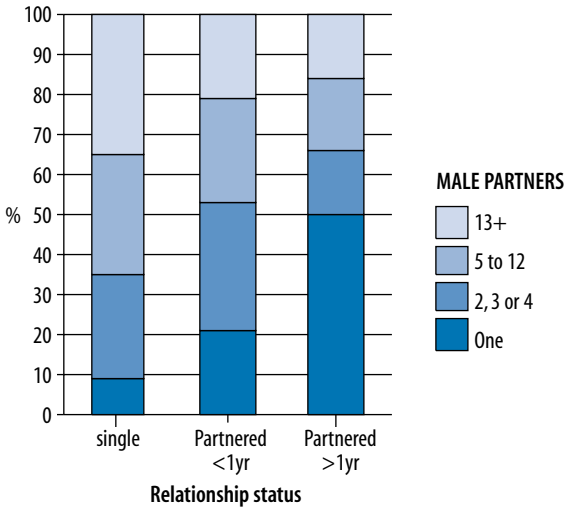

Figure 2.7.6: Numbers of male sexual partners across the relationship status groups (N=5610)

2.8 AREA OF RESIDENCE

The 1997 and 1998 surveys asked men the first half of their home postcode, and used this to group men living in different areas. This allows us to consider geographic variation in HIV testing history, sexual behaviour and HIV prevention need. Using this method, we have shown geographic variation in some indicators. Through discussion with HIV health promoters and health authorities, the 1999 survey is using health authority of residence to group men geographically. However, the 1998 survey was designed before this decision, and since it was planned using postcodes, we use this method for reporting here.

Post code areas were grouped into regions using the same method as the 1997 survey (for details of the groupings see Hickson, Reid *et al*. 1998). These regions approximate some NHS Regional Office boundaries (those similar to standard regions) but not others. However, the 1997 survey anticipated the formation of a regional office for London and reported the eight postcode areas in London as a group. Since London remains the epicentre of HIV infection among gay men in England, the group of postcode areas bordering these eight were also reported as a separate group, called 'Around London'. Figure 2.8 gives the proportions of the entire sample living in each area.

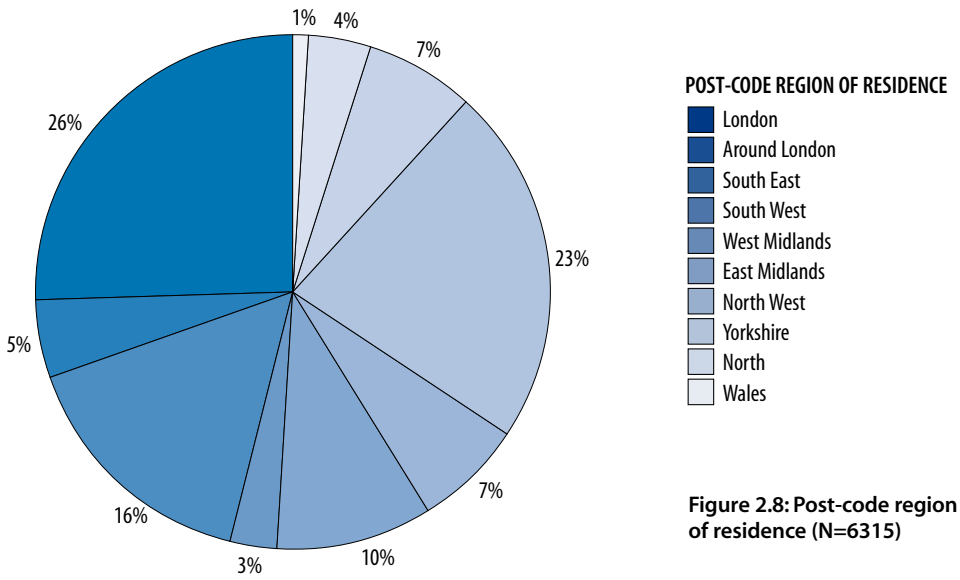

Figure 2.8: Post-code region of residence (N=6315)

Clearly, the regions are geographically diverse in themselves. For comparative purposes we chose to use those postcode areas in which we recruited one hundred men or more. Excluding London (n=1643) there were nine such areas. The eight post code areas of London (WC, EC, E, SE, SW, W, NW and N) were treated as a single area giving ten area sub-samples for comparisons. The group of men living in the eight London postcode areas appear in the figures as 'Lon(8)'. The other nine areas, and the number of men recruited, were:

BN: Brighton (n=464)
B: Birmingham (n=299)
NG: Nottingham (n=260)
M: Manchester (n=650)
SK: Stockport (n=113)
L: Liverpool (n=114)
FY: Blackpool (n=105)
LS: Leeds (n=229)
NE: Newcastle (n=167)

Men living in one of these ten areas made up 64% of the sample, and it is this two thirds of men we use in area of residence comparisons.

2.8.1 Sexuality & residence

We found no evidence for an association between area of residence and sexual identity. That is, men identified as gay and bisexual in similar proportions in each of the area sub-samples.

2.8.2 Age & residence

The age of the area sub-samples varied (p<.01). The oldest group were men living in Nottingham (mean age 35.1) and Stockport (mean age 34.3), the youngest groups were men living in Liverpool (mean age 32.0) and Newcastle (31.0). While the average age of men living in London was not higher or lower than men living elsewhere, fewer of the Londoners were under 20 years old (1.0%) compared with men living elsewhere (2.4% to 8.1%).

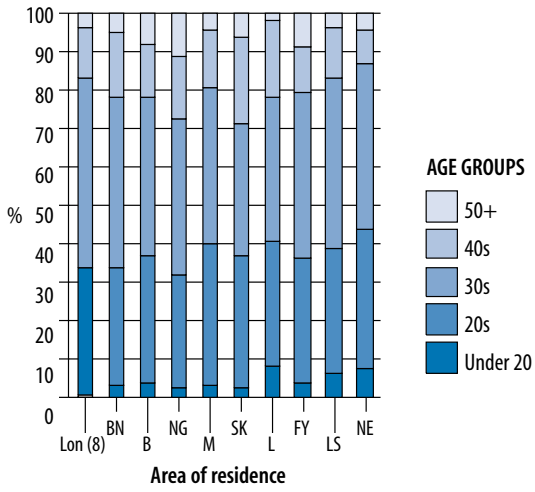

Figure 2.8.2: Age composition of the area of residence groups (N=3990)

2.8.3 HEQ & residence

Men living in different areas varied in their highest education qualifications (Figure 2.8.3). Most notable is the higher level of education among the London sample, and the lower levels of education among men resident in Liverpool and Blackpool.

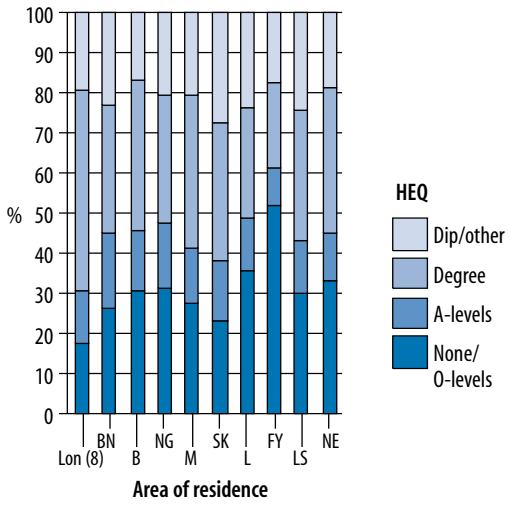

Figure 2.8.3: HEQ of the area of residence groups (N=3786)

2.8.4 Ethnicity & residence

The ethnic composition of the area sub-samples varied significantly (Figure 2.8.4: p<.01). Among the London residents, 10.5% were from minority ethnic groups compared to less than 1% of men in Stockport.

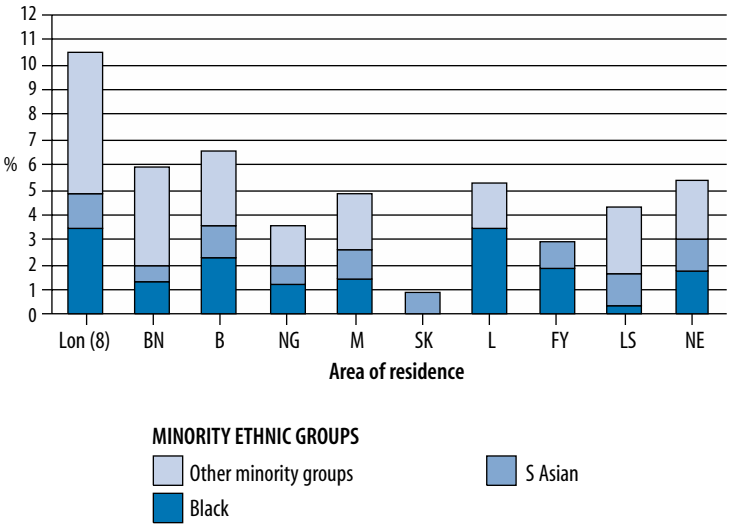

Figure 2.8.4: Proportion in each of the area of residence who were members of minority ethnic groups (N=4027)

2.8.5 Sexual assault history & residence

We found no evidence of an association between current area of residence and history of sexual assault.

2.8.6 Relationship status & residence

We found no evidence of an association between area of residence and relationship status.

2.8.7 Number of partners & residence

There was a significant relationship between where men lived and the number of sexual partners they had in the last year (p<.01). Men who lived in London had most partners (median of six), followed by men who lived in Brighton (median of 5). Those in Nottingham, Manchester, Leeds and Newcastle had the national average of four partners in the last year. While men in Birmingham, Stockport, Liverpool and Blackpool had fewer (median three).

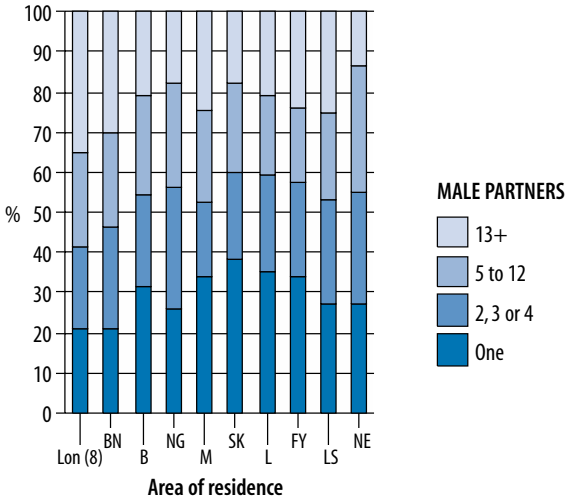

Figure 2.8.7: Numbers of male sexual partners by area of residence (N=3770)

2.9 SUMMARY

	Variation	Association with...						
		Sexuality	Age	HEQ	Ethnicity	Sexual assault history	Relationship status	No. of Partners
Sexuality	94% are gay.							
Age	mean age 33, range 14 to 74	Bisexuals were younger than gay men						
HEQ	38% had a degree, 27% were educated to O-level	No association found	Older men left school earlier					
Ethnicity	6% were members of minority ethnic groups	Black men & S.Asian men more likely to identify as bisexual	Minority ethnic groups were younger	S.Asian men were better educated				
Sexual assault history	18% had been sexually assaulted: 9% as a boy, 6% as a man, 3% as both	No association found	Younger men were more likely to have been assaulted as a man	Men with lower HEQ were more likely to have been assaulted	No association found			
Current relationship status	59% were currently partnered; 42% for over 12 months	Gay men were more likely to be in long term partnerships	Younger men were more likely to be recently partnered	Men with lower HEQ more likely to be partnered	No association found	Men who had been assaulted as a boy were less likely to be partnered		
Numbers of male sexual partners	Men averaged 4 male partners in the last year (median)	Gay men averaged more male partners than bisexual men	Younger men were least likely to have 1 partner, those 50 or older were least likely to have 13 partners or more	More men with higher education had more sexual partners	No association found	Those assaulted as a boy and a man had most partners, those assaulted as a man only had least.	Single men had most partners, followed by the recently partnered men	
Residence	64% live in one of ten areas compared	No association found	Oldest groups of men were living in Nottingham & Stockport. Youngest were in Liverpool & Newcastle	Education was highest in London, and lowest in Liverpool & Blackpool	London had the largest % of men from minority ethnic groups.	No association found	No association found	Men in London & Brighton had most partners; men in Blackpool & Liverpool had fewest

3 HIV testing and diagnosed HIV infection

The survey adds to the picture of HIV prevalence and incidence through questions about HIV testing history. This chapter introduces HIV testing history, and then looks at how testing history varied across the characteristics described in Chapter 2. We then look at test results in the last 12 months, and how they vary across the population groups.

Using the groups described in the previous Chapter, from this chapter the reader should be able to answer the following questions:

- How common is HIV testing, and testing positive, in different groups?
- What are the characteristics of men with different testing histories?
- Which groups are most likely to be testing currently?
- Which groups are most likely to be testing positive currently?

3.1 PREVALENCE OF HIV TESTING

Men were asked a series of nested questions about HIV testing. First, 'Have you ever received an HIV test result?'. Men who ticked yes were asked 'What was your most recent test result' (Negative or Positive).Overall, 43.3% had never tested for HIV: 50.5% had tested and their last test was negative; and 6.2% had tested positive (Figure 3.1). Of those that had ever tested 10.9% had tested positive.

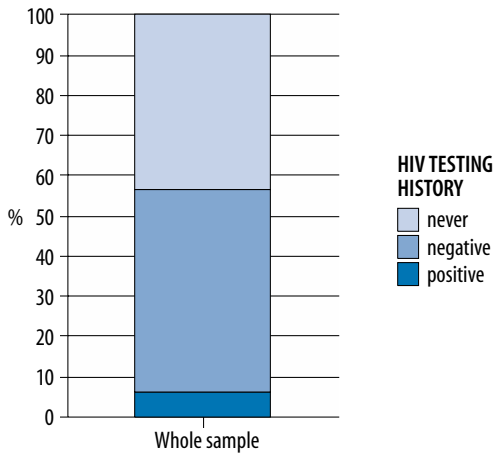

Figure 3.1: HIV testing history (N=6101)

These figures represent the 'HIV testing histories' of the men in the sample, and are used to make comparisons with other demographics, targets and needs data. However, before we examine the associations between testing history and other data we should consider undiagnosed HIV infection and the differences between HIV testing and HIV infection.

The Public Health Laboratory Service (PHLS) estimate that, at any given time, about one third of HIV infection in homosexually active men is undiagnosed (Department of Health, 1998). The men that are infected but not diagnosed are distributed between the never tested and the last tested negative categories. The assumption is that while some men with undiagnosed infection may suspect they are infected, most will not. Data from gay men testing for HIV in London suggests about a third of men who receive a positive result have previously received a negative result (Norton *et al*., 1997). To illustrate the possible extent of undiagnosed infection, the table below applies these assumptions to the testing history findings from the survey.

% of sample by testing history and assumed infection status		Testing history as indicated in the survey			
		Never Tested	Last test negative	Tested Positive	
Assumed HIV infection status	HIV negative	41.2%	49.5%	—	90.7%
	HIV positive	2.1%	1.0%	6.2%	9.3%
		43.3%	50.5%	6.2%	100.0%

We assume there are no false positives (men who have tested positive but are not), and that all the men who had tested positive are infected (6.2% of the sample). If the extent of diagnosis of infection is two thirds, half as many again (3.1%) have undiagnosed infection, giving an overall prevalence of 9.3%. If two thirds of men with undiagnosed infection have never tested for HIV (and a third have become infected since a previous negative test), then the 3.1% with undiagnosed infection split into 2.1% who have never tested and 1.0% who have tested negative. This would mean that 4.8% of men who had never tested have HIV infection (2.1% of 43.3%), and 2.0% of men whose last test was negative (1.0% of 50.5%), as well as the 100.0% of men who had tested positive. It is likely that these proportions vary among different groups of men.

Molesworth A (1998)
Results of a survey of diagnosed HIV infections prevalent in 1996 in England and Wales.
Communicable Disease and Public Health, 1(4), 271-275.

The HIV and STD Division at the Communicable Disease Surveillance Centre carry out a number of on-going surveys that describe the HIV epidemic in England and Wales (other agencies are responsible for this in Scotland and Northern Ireland). SOPHID (an approximation of Survey of prevalent diagnosed HIV infection) is designed to provide public health specialists with information relevant to their localities without compromising patient confidentiality. Data for SOPHID is supplied by designated facilitators in Health Authorities. Each Health Authority collects its data from the statutory service providers in its District, who are asked to collect the data from the people with diagnosed HIV infection they provide medical care to. This paper reports the number of people with HIV seen for medical care in 1996, grouping them by which (old) Regional Health Authority (RHA) they live in and by their: ethnic group; probable route of HIV acquisition; age; clinical stage of infection; and the RHA they receive medical care in.

Number of men with presumed homosexually acquired HIV infection seen for medical care in 1996 who had an entry submitted to SOPHID

	Region of residence
225	Northern & Yorkshire
638	North West
241	Trent
292	West Midlands
453	South & West
2230	South Thames
3533	North Thames
272	Anglia & Oxford
7890	**England**
127	**Wales**

These numbers can be taken as minimums for the number of homosexually active men living with diagnosed HIV infection. As the survey uses rigorous methods for identifying duplicates, each entry is probably a different person. However, while data was submitted by all Health Authorities, the survey will not include men not seen for care, men seen for care but not reported by providers taking part in the survey, and men seen for care by providers not in the survey.

3.1.1 Sexuality & HIV testing history

Gay men were more likely to have ever tested than were bisexual men (58% compared to 46%; Figure 3.1.1).

- Gay men were more likely to have ever tested for HIV than bisexual men.

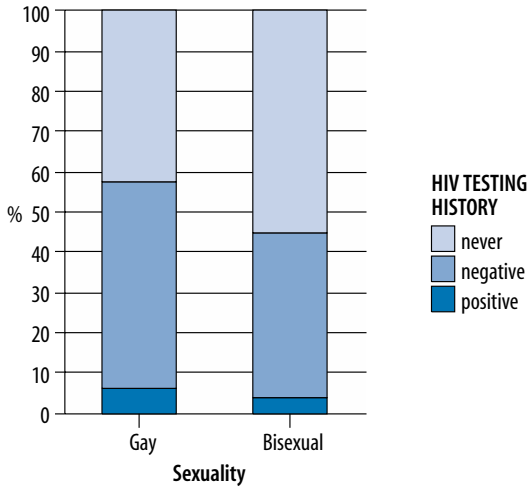

Figure 3.1.1: HIV testing history by sexual identity (N=5971)

3.1.2 Age & HIV testing history

As we should expect, testing history varied across the age range (Figure 3.1.2). Although the average ages of testers and non-testers was similar, having ever tested was least common among the youngest group (32%) and increased to a peak of 63% among men in their thirties. It then became less common again among older men.

There were men who had tested positive in all age groups. Among those who had tested, the proportion who had tested positive was again lowest among those under 20 (5%). It was highest in men aged 35 to 44 years (15%). The proportion again declines among older men. The average age of those with a positive result (mean 35, median 34) was significantly higher than those whose last test was negative (mean 33, median 32: $p<.01$).

- Men in their 30s were most likely to have ever tested, and men aged 35 to 45 were most likely to have tested positive.

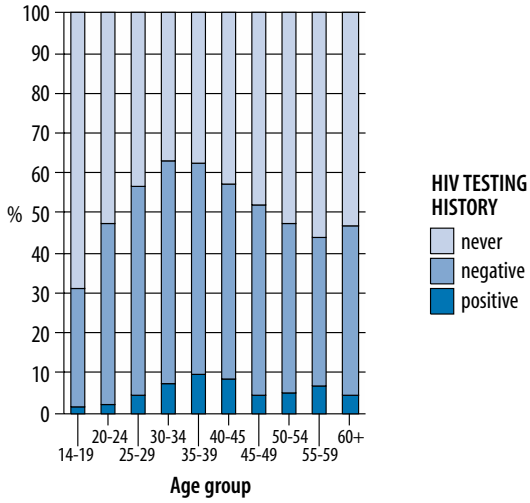

Figure 3.1.2: HIV testing history across age groups (N=6023)

3.1.3 HEQ & HIV testing history

The 1997 survey showed a clear association between lower education and having tested HIV positive. The 1998 survey shows a similar pattern (Figure 3.1.3). Although there was no significant difference in the proportion who had ever tested, among those who had tested, 13% of men with no educational qualifications or O-levels had tested positive, compared with 11% of men with A-levels and 8% of those with a degree (see Weatherburn *et al.*, 1999, for further detail and discussion of this difference). The mixed Diploma/Other group had a prevalence of diagnosed infection similar to men in the lower education groups.

- Ever having tested was equally common across the education range, but men with lower levels of education were more likely to have tested positive, than were men with higher education.

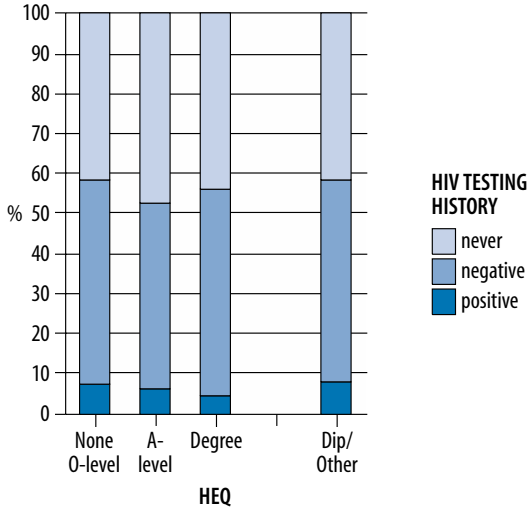

Figure 3.1.3: HIV testing history across the HEQ groups (N=6080)

3.1.4 Ethnicity & HIV testing history

Figure 3.1.4 shows the testing history of the four ethnic groups used for comparisons. Ever having tested was significantly more common among Black men (73%) than it was among men from other ethnic groups (White 57%, South Asian 49%, all other groups 62%: p<.01).

Among those who had ever tested, a higher proportion (p<.01) of Black men had tested positive (19%, n=15) than had White men (11%, n=347) or South Asian men (15%, n=5). Of the men in all other ethnic groups who had ever tested, 9% (n=10) had tested positive. This ethnic group difference was significant only among those men who lived in London. The numbers of men involved should make us cautious with our conclusions from these findings, but the data suggest that:

- Black men were more likely to have ever tested, and to have tested positive, compared to other ethnic groups.

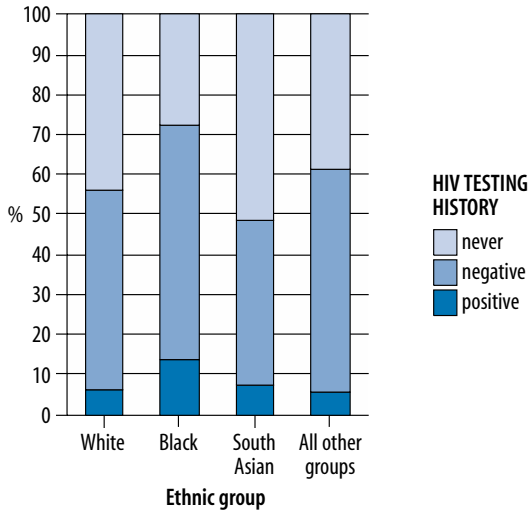

Figure 3.1.4: HIV testing history across the ethnic groups (N=6079)

3.1.5 Sexual assault & HIV testing history

Men who had been sexually assaulted at any point in their lives were more likely to have tested for HIV (70-71%) than men who had never been assaulted (53%: p<.01). There was not, however, any significant difference in the proportion of testers who had tested positive.

Taken together (Figure 3.1.5), this meant that whilst the prevalence of diagnosed infection among men who had never been assaulted was 5%, it was 8% among those assaulted as a boy, and 9% among those assaulted as a man, and among those assaulted both as a boy and a man.

Conversely, 25.1% of men who had tested positive said they had been assaulted at some point, compared with 21.5% of men who had tested negative and 11.9% of men who had never tested.

- Men who had experienced sexual abuse or assault were more likely to have tested positive for HIV, than men who had not experienced it.

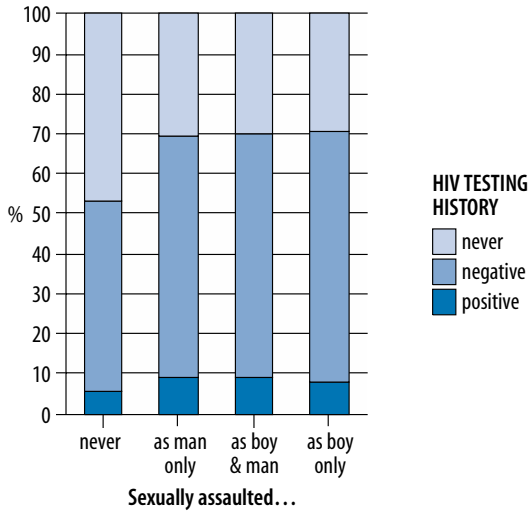

Figure 3.1.5: HIV testing history among the sexual assault history groups (N=5854)

3.1.6 Relationship status & HIV testing history

We found no evidence of an association between either testing or testing positive, and whether men were single, or had a regular partner. Conversely, men who had tested positive were as likely to be single as men who had not tested positive. However, among men who did have a regular partner, there was a difference in the average length of relationships men were in ($p<.01$). Men who had never tested, were, on average, in longer term relationships (mean length 57 months, median 33), than men who had tested positive (mean length 51 months, median 32.5), who were in longer relationships than men who had tested negative (mean 48 months, median 27).

3.1.7 Number of partners & HIV testing history

As the majority of men who had tested for HIV had done so before they had sex in the last year, Figure 3.1.7 shows men's numbers of sexual partners by their HIV testing history. Men who had never tested had, on average, fewer sexual partners in the last year (mean 11.8, median 3) than did men who had tested negative (mean 20.4, median 5), who had fewer than men who had tested positive (mean 31.7, median 10). This pattern was apparent across the age range.

- Men who had tested positive had more sexual partners in the last year than men who had tested negative, who had more than men who had never tested.

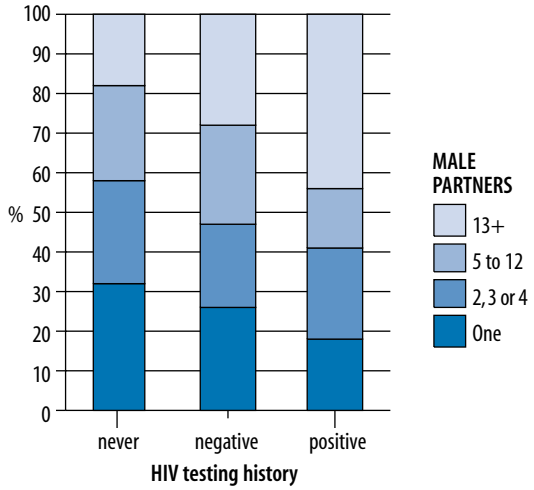

Figure 3.1.7: Number of male sexual partners by HIV testing history (N=5683)

3.1.8 Area of residence & HIV testing history

Figure 3.1.8 shows how HIV testing history varied by the area of residence. Ever having tested was most common among men in London (65%), and least common among men in Stockport (47%)

Among men who had tested, having tested positive was again most common among men in London (17%), but was least common among men in Leeds (3%).

Taken together, these meant that the area with the largest proportion of 'positive men' (ie. those with diagnosed infection) was London (11%), and that with the smallest proportion was Leeds (2%).

- HIV testing history varies across England, with both testing and testing positive being most common in London.

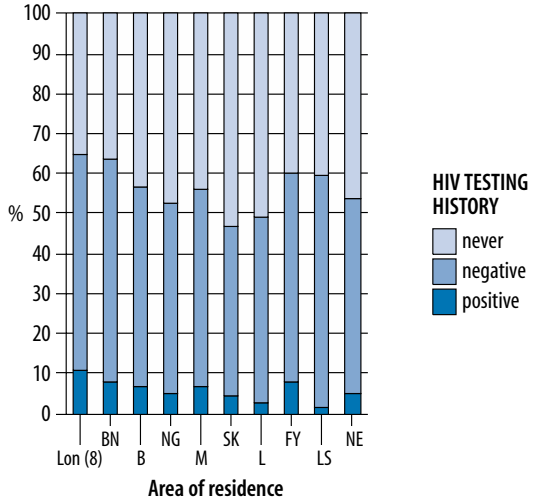

Figure 3.1.8: HIV testing history by area of residence (N=3898)

3.2 INCIDENCE OF HIV DIAGNOSES

Men who had tested negative for HIV were asked 'Was your most recent negative test within the last year'. Men who had tested positive were asked 'Was you first positive test result within the last year?'. Overall, 14.7% of those who indicated they had tested, did not answer this question. Men whose last test was negative were slightly more likely to miss the question than men who had tested positive. In the rest of this section, these men are left out of the analysis. The patterns of HIV diagnoses across the population groups are similar if these men are assumed to have tested in the last year, or are assumed to have not. The proportions receiving diagnoses in the last year obviously differ under each assumption. The following findings on the incidence of HIV diagnoses should be taken as lower estimates.

Of the entire sample (including those who had never tested), 28.1% indicated they had tested for HIV in the last year, and 1.3% (n=93) indicated they had tested positive in the last year. (That is 4.6% of men who tested for HIV last year received a positive result.) This is represented in Figure 3.2

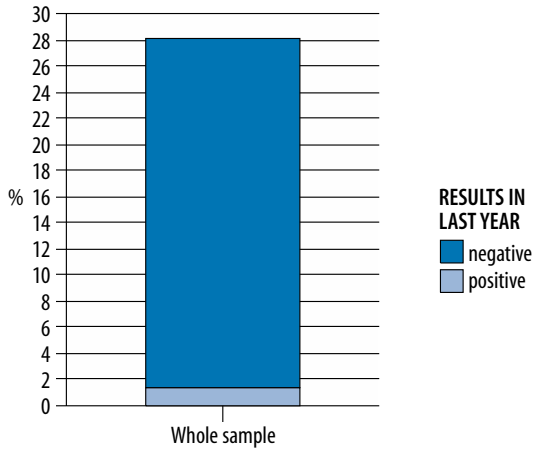

Figure 3.2: Incidence of HIV diagnoses in the entire sample (N=5606)

3.2.1 Sexuality & recent testing

We found no evidence for an association between the recency of HIV testing and sexuality, and make no conclusions about differences in HIV incidence among these gay men and bisexual men.

3.2.2 Age & recent testing

Men who had tested in the last year (mean age 31.9, median 31) were as a group, younger than those who did not test (mean age 34.8, median 34).

As the number of men involved is small, Figure 3.2.2 shows testing incidence in age bands of 10. One quarter of men under twenty had tested for HIV in the last year (n=49), but only one had tested positive. Having a test in the last year was most common among men in their 20s ($p<.01$), with a steady decline in recent testing with increasing age. Among those who had tested in the last year, men in their 30s were most likely to have received a positive result ($p<.02$), but the average age of men receiving positive and negative results did not differ. So, although testing was less common in the 30s, testing positive became more common: 1.5% (n=28) of all men in their 20s tested positive, and 2.4% (n=57) of those in their 30s. The incidence of both testing and testing positive was less in men in their 40s, and lower agin among the 50 and overs. This suggests:

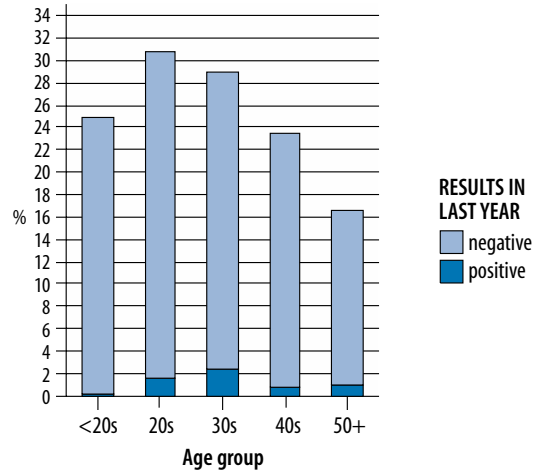

Figure 3.2.2: Incidence of HIV diagnoses across the age range (N=5525)

- The incidence of HIV infection is highest among men in their 20s and 30s.

3.2.3 HEQ & recent testing

There was no significant difference in the proportion of each education group who had tested in the last year. However, among those who had tested, men in the lower education groups were more likely to have received a positive result (p<.01).

- The incidence of HIV infection is higher among men with lower education than among those with higher education.

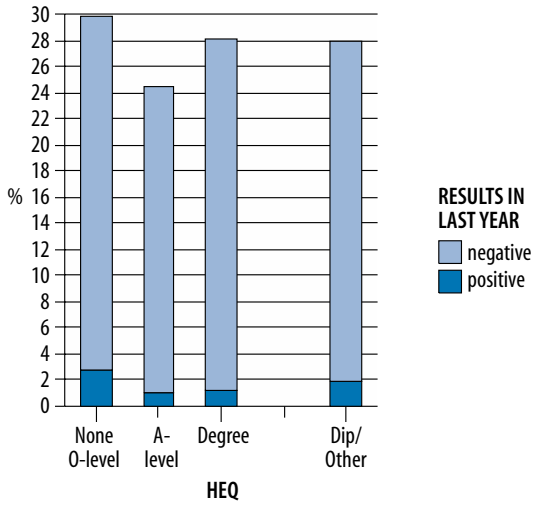

Figure 3.2.3: Incidence of HIV diagnoses among the HEQ groups (N=5578)

3.2.4 Ethnicity & recent testing

Testing in the last year was more common among Black men (46%) than among other ethnic groups (27% to 31%), and a higher proportion had tested positive. Given the small numbers involved and the differences in HIV testing history described in section 3.1.4, our tentative conclusion would be that:

- The incidence of HIV infection is higher among Black men than among men from other ethnic groups.

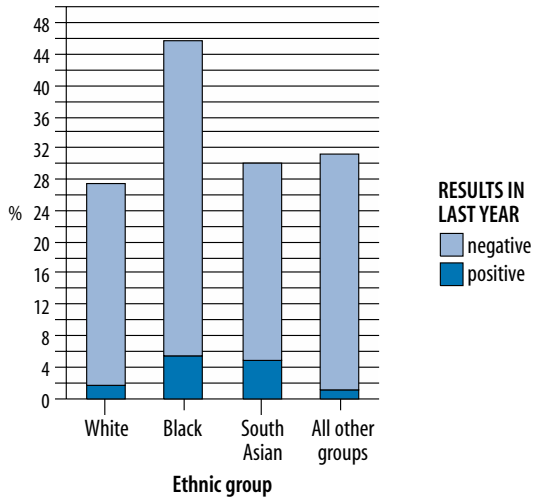

Figure 3.2.4: Incidence of HIV diagnoses among the ethnic groups (N=5573)

3.2.5 Sexual assault history & recent testing

All men who had been sexually assaulted at some point in the past were more likely to have tested in the last year than men who had never been assaulted (p<.01). Men who had been assaulted as both a man and a boy were most likely to have tested. Among those who did test, there was no significant difference among the assault history groups in the proportion who received a positive test result. Hence, these data suggest an association between experience of assault and testing HIV positive, but cannot tell us whether abuse/assault is associated with HIV infection itself, with going for an HIV test, or with both. However, we would tentatively conclude that:

- The incidence of HIV infection is higher among men who have been sexually assaulted than among those who have not.

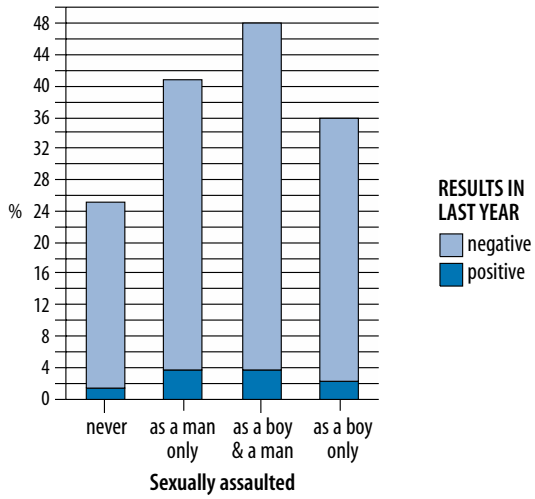

Figure 3.2.5: Incidence of HIV diagnoses by sexual assault history (N=5397)

3.2.6 Relationship status & recent testing

Recent testing was most common among men who were in recently formed sexual relationships (Figure 3.2.6a). It was then more common among single men than among those in longer term relationships ($p<.01$).

However, there was no significant difference in the proportion receiving a positive result.

Figure 3.2.6b increases the detail on the preceding figure, in order to look at the incidence of testing in relationships of different lengths (it unpacks the men in the right hand column into 9 columns) .

Testing appears to be most common in the first 24 months of relationships, particularly in the second 12. After a decline, the incidence of testing starts to rise again in relationships of five years duration and to peak among those who had been together 6 years, before falling off again. Among gay men in the UK, those partnerships which start sexually exclusive (ie. monogamous), are increasingly likely to become non-exclusive over time (Hickson *et al*., 1992). Other research has suggested that five years is a critical point for couples to start having sex with other people, in both male-male (McWhirter & Mattison, 1984) and male-female couples (Ramey, 1975). If this is the case, and HIV testing is used as part of this sexual transition, we would expect to see the pattern observed here.

What is notable is that men are being diagnosed positive whilst in relationships of all lengths, and in similar proportions to men who were single. This allows us to make no conclusions about differences in HIV incidence on the basis of men's current relationship status.

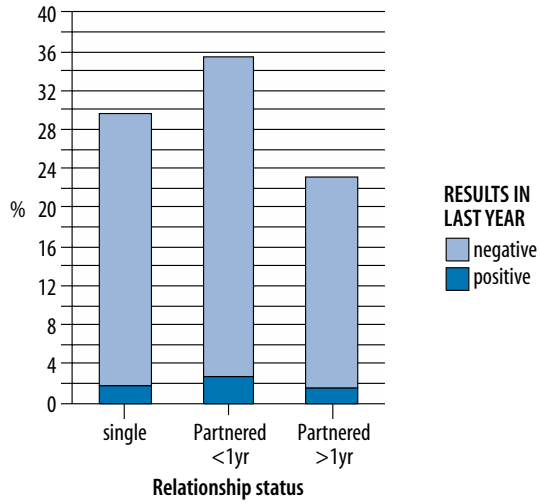

Figure 3.2.6a: Incidence of HIV diagnoses by relationship status (N=5403)

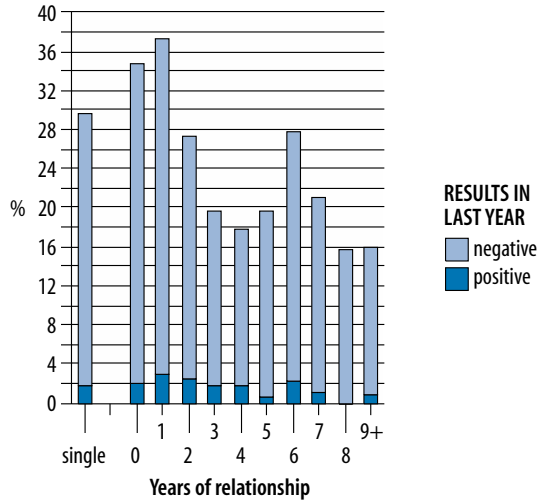

Figure 3.2.6b: Incidence of HIV diagnoses among single men and men in relationships of increasing length (N=5403)

3.2.7 Number of partners & recent testing

Men who had larger number of partners were also more likely to have had an HIV test in the last year, and men who had fewer partners were less likely to have tested (p<.01). Men with one partner in the last year were least likely to have tested (Figure 3.2.7).

Among men who did test, those who tested positive averaged a higher number of partners (mean 39.5, median 10) than those who tested negative (mean 20.5, median 6).

- The incidence of HIV infection is higher among men with larger numbers of sexual partners.

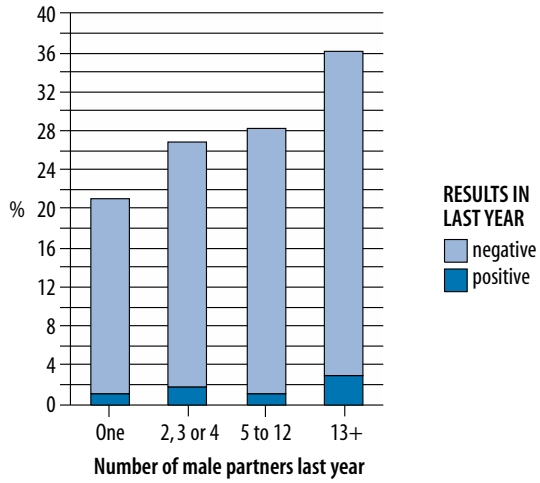

Figure 3.2.7: Incidence of HIV diagnoses by numbers of partners (N=5237)

3.2.8 Area of residence & recent testing

Figure 3.2.8 illustrates geographic differences in recent HIV testing history. The proportion in each area group who had tested in the last year did not significantly vary. Nor, among those who did test, did the proportion who tested positive. Although London historically has a higher proportion of men who have tested, a similar proportion had tested in the last year.

The numbers of men who had tested positive in the last year in each area is small (38 in Lon(8) and 1 to 12 in the other areas). However, we would tentatively suggests that:

- HIV incidence does not vary across England as much as prevalence does.

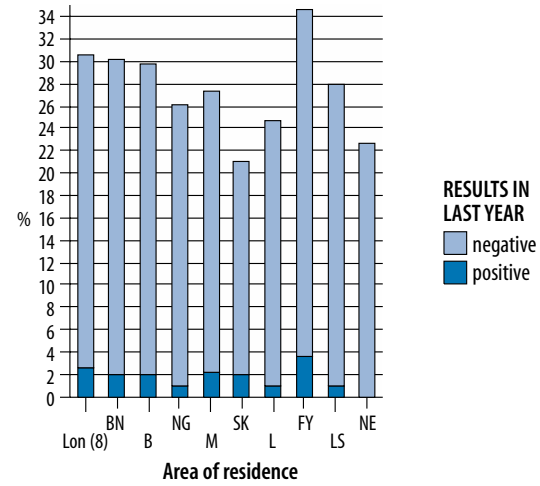

Figure 3.2.8: Incidence of HIV diagnoses by area of residence (N=3543)

3.3 CHANGE IN HIV TESTING, 1997-1998

In this chapter, we have used HIV testing history and recent testing behaviour to inform our picture of HIV incidence. This picture will allow us to plan health promotion activity to have maximum impact on the HIV prevention needs of both men with diagnosed HIV infection, and those most likely to become infected with HIV. It is increasingly clear that, demographically speaking, men who will become positive are similar to men who are positive. The overall goal of *Making It Count* is to minimise the number of men becoming HIV positive, and it suggests addressing the HIV prevention needs of all men to achieve this. There is currently no population target for the proportion of men who have tested for HIV, nor a target for the incidence of testing. That is, *Making It Count* is not aspiring to change whether or not men test for HIV (although it does state that men should have a choice in, knowledge about and access to, HIV testing). This final section about HIV testing behaviours considers what the data would suggest if testing behaviours are seen as behavioural targets.

3.3.1 Prevalence & incidence of HIV testing

Figure 3.3.1 shows the prevalence of HIV testing (and the proportion of negative results which were within the last year), in GMSS 1997 and 1998.

The proportion of men who had ever tested has not significantly changed. If there had been an increase in first time testing, we would expect this proportion to rise. However, the proportion of negative tests which were received in the last year, increased from 43.9% to 56.0%. This suggests that the main change over the year was that men who had tested negative before did so again (ie. men who test are doing so more frequently).

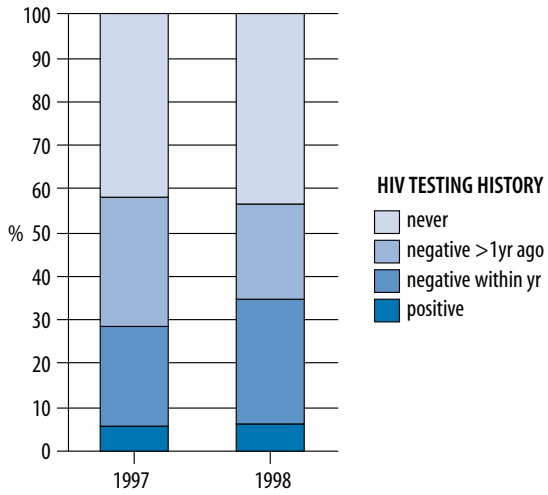

Figure 3.3.1: Change in prevalence of HIV testing, 1997-1998 (N=4263 and 6101)

- In 1997/1998, a larger proportion of men repeat tested than in 1996/1997.

3.3.2 Prevalence of diagnosed infection

Between 1997 and 1998 there has been an increase in the proportion of respondents with diagnosed HIV infection. Although small, this increase was observed in all of the area of residence groups, and the majority of other population groups. Given falling mortality (due to advances in the clinical management of HIV infection), with no fall in incidence, we should expect this proportion to rise. An increase in the proportion of gay men who are tested positive would be contributed to both by a reduction in mortality among men with diagnosed infection, and by an increase in the extent of diagnosis of infection. We are unable to separate the contribution of both these changes to the overall increase in prevalence, although given the absence of change in the proportion ever tested, we suspect it is primarily the former (decreased mortality) rather than the latter (increase in diagnoses).

- The proportion of men with HIV infection is increasing.

3.3.3 Are the prevalence or incidence of HIV testing appropriate health promotion targets?

HIV testing behaviour continues to be the topic of many research papers and much HIV health promotion activity. Between the summers of 1997 and 1998, the gay press in the UK frequently displayed 'advertisements' taken out by health promoters, whose theme was HIV testing. Some sought to reduce undiagnosed HIV infection because diagnosis is the gate-way to clinical management of HIV. This is an important reason why we might want diagnosis of infection to be as high as possible.

A reduction in undiagnosed HIV infection could be judged an indicator of success of this activity at the level of the population. This target is currently thought to be about 66%. (Note that negative tests make no difference to this target.) However, this is a target for health promotion concerned with the health of people with HIV, and not a target for activities intended to reduce incidence of new infections. The clinical management of people with HIV infection is not the way by which we are attempting to reduce HIV incidence, although clearly that management has an impact on incidence.

Other 'advertisements' sought to influence the probability men are involved in HIV sero-discordant unprotected anal intercourse by 'addressing the issue' of HIV testing. The expected chain of relationships between these advertisements and sexual HIV exposure is often left unstated, and what the meaning of success is for these activities is far from clear. For both kinds of advertisement, aims often seemed to fluctuate between getting men to test and getting men to think about testing.

This survey found no evidence of a substantial increase in the overall proportion who had ever tested, although those who had tested before had done so more recently. It seems that the collective impact of HIV health promotion activity in 1997- 98 whose theme was HIV testing, has not been to prompt those who have never tested to do so, but to prompt those who have done so to do so again.

Hence, if the overall aim of this collective activity was 'to get men to test', then this is evidence of very limited, if any, collective success. Similarly, if the aim was to increase the proportion of HIV infections which are diagnosed, there is little evidence here to support this being met. We did observe an increase in the proportion who had ever tested positive, as we should have as fewer men die as a result of their infection. This increase may be masking an increase due to diagnosis of existing infection, and importantly, may also be masking a decrease in the number of new infections occurring.

If we ask 'What should the HIV testing prevalence figures look like?', it quickly becomes clear that, in terms of reducing exposure, we are not concerned simply with whether men test earlier and test often or not, but with their sexual behaviour before and after those tests. Not having tested for HIV, irrespective of past sexual behaviour, is not an indicator of need, and men taking an HIV test cannot be taken as a measure of success for HIV health promotion.

3.4 SUMMARY AND IMPLICATIONS FOR PROGRAMME PLANNING

These implications for programme planning should be read in conjunction with those at the end of Chapter 4. The implications are intended to suggest where HIV prevention programmes may have the greatest impact on HIV incidence, and not that there is more extensive unmet need in a particular group (which there may be), or that one group has a greater right to having their HIV prevention needs met than any other (which we do not believe they do).

Men in their 30s were most likely to have tested, men aged 35 to 45 were most likely to have tested positive. The incidence of HIV diagnoses suggest the incidence of HIV infection is highest among gay men in their 20s and 30s. Hence, in order to increase their impact on incidence:

- Programmes should concentrate on the HIV prevention needs of men under 40.

Men with lower education were not more likely to test for HIV but were more likely to have tested positive, compared to men with higher education. This is probably because the incidence of HIV infection is higher among gay men with lower education. Hence, in order to increase their impact on incidence:

- Programmes should concentrate on the HIV prevention needs of men who do not have a degree.

Black men seem more likely to have tested, and to have tested positive, than men from other ethnic groups. It seems possible that this is due to the incidence of HIV infection being higher among black men than among men in other ethnic groups. Black men will form a relatively small and variable proportion of gay men and other homosexually active men in many areas of England, and local circumstance will dictate precise programme configurations. Without pre-empting what these men's unmet HIV prevention needs are, it is possible to state that in order to increase their impact on incidence:

- Programmes should pay particular attention to the HIV prevention needs of Black men.

Men who had experienced sexual assault were more likely to have tested positive than men who had not experienced assault. It seems possible that the incidence of HIV infection is higher among gay men who have been sexually assaulted than among those who have not been assaulted, and particularly high among men who have been assaulted both in childhood and as an adult. Almost a fifth of men indicated having been abused or assaulted, although a much smaller proportion had experienced both. Without pre-empting what these men's unmet HIV prevention needs are, in order to increase their impact on incidence:

- Programmes should pay particular attention to the HIV prevention needs of men who have been sexually assaulted.

Men who had tested positive had more sexual partners in the last year than men who had tested negative, who had more than men who had never tested. Among men who tested in the last year, those who tested positive averaged a higher number of partners than those who tested negative. It seems likely that higher numbers of partners precede a positive diagnosis, as well as follow it. This leads us to conclude that the incidence of HIV infection is higher among men with larger numbers of sexual partners, and that in order to increase their impact on incidence:

- Programmes should concentrate on the HIV prevention needs of men with larger numbers of sexual partners.

The data presented here can only point to an association between certain groups and HIV incidence. For each association, there may be variety of relationships between membership of a group and incidence. In other words, these data do not tell us why HIV incidence varies across groups. One obvious answer would be that men in groups with a higher HIV incidence are more likely to be sexually exposed to HIV than men in other groups. However, we must then ask whether that is because they are more likely to engage in unprotected anal intercourse with a positive partner, or they are more likely to experience condom failure, or both. If the former, is that because their sexual partners are more likely to be HIV positive, or that they are more likely to have sex, more likely to have anal intercourse, or less likely to use a condom when they do. Or is it a combination of all of these variables? In addition, incidence would also be higher if men were equally likely to be exposed to HIV during sex, but were more likely to become infected when they were. Actual incidence is the result of both exposures and the factors influencing transmission. Hence while we can use the above data to make recommendations for prioritising population groups, they cannot tell us what those men's needs might be about, even less what those needs are. The next chapter explores what their needs might be about.

4 Health promotion targets

Making It Count (CHAPS SDG, 1998) identifies a number of behavioural and biological factors that may influence HIV incidence in the population. Not all these factors are amenable to influence by health promotion (for example we cannot change people's genetic make-up or the subtypes of HIV with which people are infected). Those factors health promoters are attempting to change to reduce incidence are termed health promotion targets. The three strategic targets identified in *Making It Count* are:

- The number of occasions unprotected anal intercourse occurs between HIV infected and uninfected men.
- The rate of condom failure.
- The prevalence of other sexually transmitted infections.

These strategic targets are parameters of the population of homosexually active men, not characteristics of individuals. They are not the outcome of the activity of any single individual, agency or authority, but the result of collective efforts within a prevailing cultural and political context. This chapter reports data about the level of these targets among the sample.

4.1 INDICATORS OF HIV SERO-DISCORDANT UAI

Two HIV uninfected men engaging in UAI clearly involves neither of them in HIV exposure. We are using the definition of sexual HIV exposure in *Making It Count*: unprotected anal intercourse between a man with HIV infection and a man who is not infected. While we recognise that two HIV infected men engaging in UAI involves both men being further sexually exposed to (probably phenotypically different) HIV, it is not exposure that contributes to HIV incidence. In this section, we are trying to answer the questions 'Which groups of men are most likely to be involved in sero-discordant unprotected anal intercourse (s/dUAI)?'. Answers to this question help health promotion programmes to prioritise the s/dUAI needs of population groups, thus having a greater impact on HIV incidence.

Involvement in s/dUAI is different from 'engagement in unsafe sex'. The HIV sero-concordancy (or not) of UAI partners is not influenced by their knowledge of that concordance. This poses a major obstacle to determining whether or not men were involved in exposure in the last year. In order to approach answering the question, we asked a series of nested questions.

Men were asked 'In the LAST YEAR, have you FUCKED a man (been the active partner in anal intercourse) OR BEEN FUCKED by a man (been the passive partner)?'. The majority (84%) indicated they had. Those who did have anal intercourse were asked 'In the last year, have you fucked OR been fucked WITHOUT a condom?'. Of those who said they had AI, almost half (47%) said they had UAI. This is 38% of the entire sample.

Men who indicated they did have UAI were asked 'How many different men have you fucked with (either way) WITHOUT a condom?'. Three quarters (78%) said one man. The remaining quarter was evenly split between those who said two men (11%) and those said three or more men (11%). This means 22% of the 38% who had UAI did so with more than one man: about 8% of the entire sample or one in twelve of these homosexually active respondents.

To take account of the possibility that men used HIV testing and information exchange with sexual partners to reduce the probability of exposure, men who indicated they had engaged in UAI were asked for a 'yes' or 'no' answer to all of the following three questions:

(a) *In the last year, have you fucked without a condom with a man you knew at the time was HIV positive?*

(b) *In the last year, have you fucked without a condom with a man you knew at the time was HIV negative?*

(c) *In the last year, have you fucked without a condom with a man whose HIV status you did not know at the time?*

Responses were used, along with men's HIV testing history, to allocate them to one of four groups as follows.

Categorisation of respondents who had UAI	
HIV testing history and responses to (a), (b) and (c) above	**HIV concordance of UAI partners (of those who had UAI)**
Last test negative, 'yes' to (b) & 'no' to (a) and (c). Tested positive, 'yes' to (a) & 'no' to (b) and (c)	**Thought concordant only:** UAI only with partners thought to be HIV sero-concordant.
Last test negative, 'yes' to (c) and 'no' to (a). Never tested, 'yes' to (a), (b) or (c). Tested positive, 'yes' to (c) and 'no' to (b).	**Unknown:** Any UAI between partners of unknown HIV status, but not with any partners thought to be sero-discordant.
Last test negative, 'yes' to (a). Tested positive, 'yes' to (b).	**Thought discordant:** Any UAI with partners thought to be sero-discordant.

Men who indicated they had engaged in UAI in the last year, also indicated 'no' to all three of these questions were allocated to the unknown category. In the 1997 survey, questions (a), (b) and (c) were asked, but there was no initial question about having any UAI in the last year. Thus, the 1997 report underestimates UAI among that sample. As the proportion of men who did this varied across different population groups, we are also less confident of the validity of some of the population comparisons of potential HIV exposure in the 1997 report (Hickson *et al*., 1998). The following table summarises the above measures for the entire 1998 sample.

Entire sample (N=6059)		%
% had any AI		83.6
% had any UAI (of those who had AI)		46.6
Number of UAI partners (of those who had UAI)	One Two Three +	77.9 11.1 11.0
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant only Any Unknown (no discordant) Any Discordant	21.1 73.0 5.9

Figure 4.1 shows the overall proportion of men who had UAI (the left-hand column), and how these men break down into those who had thought discordant UAI, unknown UAI and thought concordant UAI. Note that the three columns to the right add up to the one on the left. Of the entire sample, 38% of men had UAI. Most of these (28%) had unknown UAI, while fewer had thought concordant only (8%) and fewer still had any thought discordant UAI (2%).

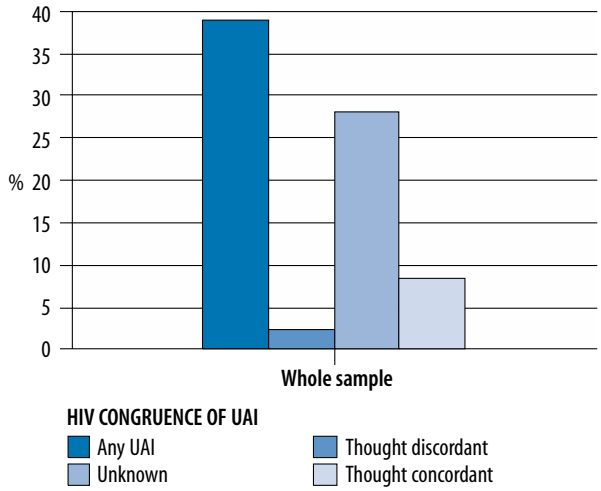

Figure 4.1: Proportion who had engaged in UAI in the last year and the knowledge of their UAI partners' HIV status (N=5907)

We take it as likely that men who indicated they engaged in HIV sero-discordant UAI were most likely to have done so (ie. they were involved in sexual HIV exposure in the last year). It is less likely that men who engaged in 'unknown UAI' did so. Partners not knowing whether they are HIV concordant or not does not automatically make them discordant. What we are attempting to estimate is the likelihood that different groups of men had been involved in sexual HIV exposure, and this is different from having 'unsafe sex'. However, there is clearly considerable potential for exposure among men who had 'unknown UAI'.

We take it as less likely again that men who indicated they had concordant UAI only were involved in sexual HIV exposure. The phenomenon of men engaging in UAI with a (regular) partner they believe to be of the same HIV status as themselves, whilst avoiding UAI with other partners, was first described by researchers studying gay men's sexual lives in UK (Hickson *et al*., 1992). The term 'negotiated safety' was coined by Australian researchers who observed the same phenomena in Sydney (Kippax *et al*., 1993). These descriptions of men's decision making and behaviour were quickly mistaken for proscriptions, or instructions, on how to avoid HIV infection. A sterile debate followed about whether men 'should' engage in negotiated safety or not (eg. Ekstrand, 1992; Davies, 1993), and a 'new approach' to HIV prevention (and HIV research) emerged which 'tests' whether or not men follow a predefined list of rules (defined by either HIV preventers or researchers). In this approach to influencing the probability men are involved in sexual HIV exposure, the 'rules' have changed, but they are still rules.

Since 'negotiated safety' has come to mean men following a set of rules prescribed by someone else, we feel it is an inappropriate term to apply to those men who indicated they engaged in 'thought concordant UAI' only. We recognise that there exists potential for exposure among these men, not least because the basis on which they 'know' their partners HIV status varies substantially (Henderson *et al*., 1999; Keogh *et al*., 1999). However, it seems less likely they were involved in exposure than men who had 'unknown UAI', who in turn were probably less likely to be involved in exposure than men who had 'thought discordant' UAI. As all UAI had the potential to be sero-discordant, only men who had no UAI are treated as having definitely not engaged in sero-discordant UAI (although condom failure means they may still have been involved in HIV exposure).

In the rest of Section 4.1 we consider how each of these measures (of anal intercourse, unprotected anal intercourse and knowledge of HIV sero-concordancy) vary across the sample, by grouping men together according to the characteristics described in Chapter 2. However, we can now group men for comparisons according to their HIV testing history, described in Chapter 3. We make this comparison first (this next section is numbered 4.1.0 to keep the same numbering for the eight characteristics).

4.1.0 HIV TESTING HISTORY & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across the three testing histories.

Entire sample		Never tested	Last test negative	Tested positive	p value
% had any AI		78.2	87.6	89.9	<.01
% who had not always used a condom (of those who had AI)		40.3	51.0	50.0	<.01
Number of UAI partners (of those who had UAI)	One	82.4	78.7	44.3	<.01
	Two	10.7	11.2	16.4	
	Three +	7.0	10.1	39.3	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	0.0	34.6	25.8	<.01
	Unknown	100.0	58.8	40.9	
	Discordant	0.0	6.6	33.3	

All the measures significantly varied by testing history, but not always in the same direction:

- men who had never tested were less likely to have AI than those who had tested;
- men who had never tested were less likely to have UAI than those who had tested;
- men who had tested positive had more UAI partners than those who had not tested positive; and
- men who had tested positive were most likely to have UAI they thought was discordant.

Figure 4.1.0 shows, for each of the three HIV testing histories, the overall proportion who had UAI by their sero-concordancy with UAI partners. Concerning having any UAI, the distinction is between having tested for HIV or not. Men who had ever tested were more likely to have had UAI (45%), than were men who had never tested (32%). The proportion who had UAI was the same among men whose last test was negative and those who had tested positive.

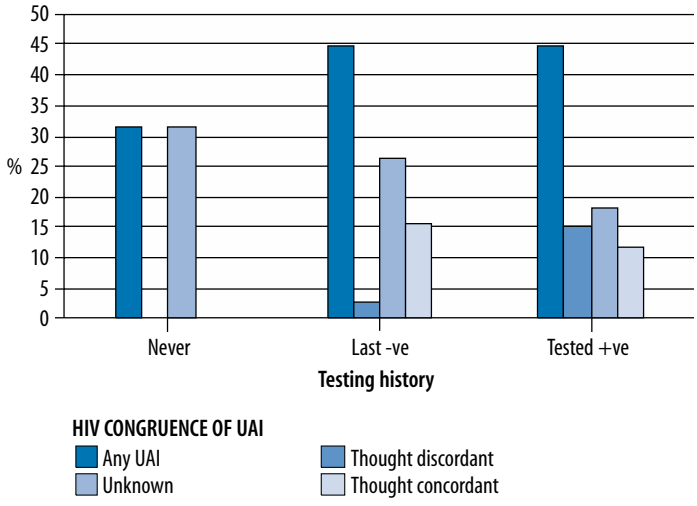

Figure 4.1.0: Proportion in each HIV testing history group who had engaged in UAI in the last year and the knowledge of their UAI partners' HIV status (N=5907)

All men who had never tested for HIV but who had engaged in UAI were categorised as having had 'unknown UAI', so the 'any UAI' column for never tested men is not broken down any further. If undiagnosed infection is more common in this group than among men who have tested negative, then these men are more likely to be engaging in sero-discordant UAI.

Both 45% of men whose last test was negative, and 45% of men who had tested positive had UAI in the last year. Of the former, 3% indicated they had UAI with a man they knew at the time was HIV positive (thought discordant), while 15% of the positive men indicated they had UAI with a man they thought was HIV negative. The proportion of positive men indicating thought discordant UAI was much higher than the proportion of negative men doing so. However, the absolute number of negative men was larger because there were far more tested negative men than tested positive men in the sample.

Similar proportions of tested positive (12%) and negative men (15%) had 'thought concordant' UAI only. The remainder, men who had unknown UAI, was larger among negative men than positive men: men who had tested positive were more likely to know whether their UAI partners were sero-concordant or discordant. Overall, given the prevalence of HIV infection and the sexual behaviour data presented here, it seems safe to assume that:

- Men who have tested positive are more likely to be involved in s/dUAI, than are men who have not tested positive.

4.1.1 Sexuality & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied among men using the terms gay or bisexual to describe themselves sexually.

Entire sample		Gay	Bisexual	p value
% had any AI		83.8	79.9	NS
% who had not always used a condom (of those who had AI)		46.9	40.3	NS
Number of UAI partners (of those who had UAI)	One	78.6	64.7	<.01
	Two	11.0	11.8	
	Three +	10.4	23.6	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	21.2	20.3	NS
	Unknown	73.0	75.9	
	Discordant	5.8	3.8	

Whether a respondent used the term gay or bisexual to describe themselves sexually, was not significantly related to whether they had engaged in AI (although slightly more gay men had done so). Neither was it associated with always using a condom (although gay men were slightly less likely to do so). Only one measure significantly varied by sexual identity: bisexual men who had UAI did so with more partners than gay men. This difference was apparent in all age groups and was not simply because the bisexual men, as a group, were younger than the gay men. However, this difference was small, and taken with the two (non significant) differences noted above, means there is no clear evidence that either gay or bisexual men are more likely to be involved in s/dUAI than the other group.

4.1.2 Age & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across the five age groups.

Entire sample		<20	20s	30s	40s	50+	p value
% had any AI		89.4	85.9	85.4	77.4	70.3	<.01
% who had not always used a condom (of those who had AI)		48.1	48.9	45.7	43.7	44.8	NS
Number of UAI partners (of those who had UAI)	One	67.1	78.8	76.2	83.3	78.9	<.01
	Two	17.8	13.0	11.1	6.2	5.6	
	Three +	15.1	8.3	12.7	10.5	15.6	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	12.4	21.2	22.9	20.3	12.5	<.03
	Unknown	80.9	74.0	70.0	75.6	81.7	
	Discordant	6.7	4.8	7.2	4.1	5.8	

Two of the measures significantly varied among the age groups: anal intercourse becomes less common with increasing age; and men under 20 were most likely to have more than one UAI partner.

Figure 4.1.2 shows the variation in UAI across the age range. The overall proportion of men who engaged in UAI decreased moving up the age groups: 43% of men under 20 had UAI, compared with 32% of men over 50. We can see from the above table that this is because anal intercourse becomes less common with increasing age, not because condom use becomes more common. Younger men were as likely as older men to always use a condom if they had AI, but because far more of them had AI, a higher proportion also had UAI.

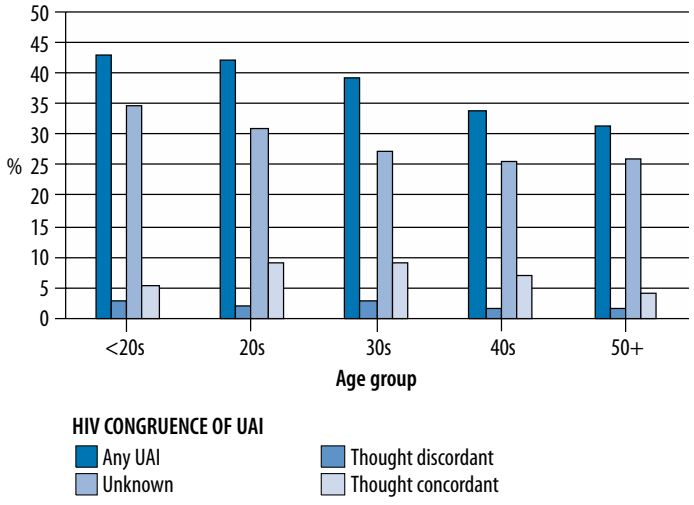

Figure 4.1.2: Proportion in each age group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=6001)

The decrease in UAI consisted of a decrease in unknown UAI. The proportion who had thought discordant UAI was small and similar across the range, while the proportion having thought concordant UAI was highest among men in their 20s and 30s.

- The probability of involvement in s/dUAI decreases with increasing age.

4.1.3 Highest education qualification & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across the four education groups. The significance level is for the difference between the three groups on the left, the mixed Diploma/Other qualification group being shown for completeness.

Entire sample		O-level / none	A-level	Degree	p value	Diploma / other
% had any AI		83.0	82.8	82.8	NS	86.7
% who had not always used a condom (of those who had AI)		53.9	46.1	42.1	<.01	46.2
Number of UAI partners (of those who had UAI)	One	76.9	79.3	79.2	NS	76.7
	Two	11.1	11.8	9.8		12.9
	Three +	11.9	9.9	11.0		10.4
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	17.7	19.8	23.8	<.04	22.8
	Unknown	76.0	75.9	70.4		70.9
	Discordant	6.3	4.3	5.8		6.4

Only one measure significantly varied by education: men with lower education were less likely to always use a condom when they had AI. This education difference in not always using a condom was similar and significant among men who had not tested HIV positive (p<.01), but not among men who had tested positive.

Although men with higher education were no less likely to have AI, when they did they were more likely to always use a condom. This meant that they were overall less likely to have UAI (Figure 4.1.3). This is in contrast to age differences where the decrease in UAI is due to a decrease in AI, and not an increase in condom use. The decrease in UAI with increasing education is due to fewer men having unknown UAI.

- Men with lower education are more likely to be involved in s/dUAI than men with higher education.

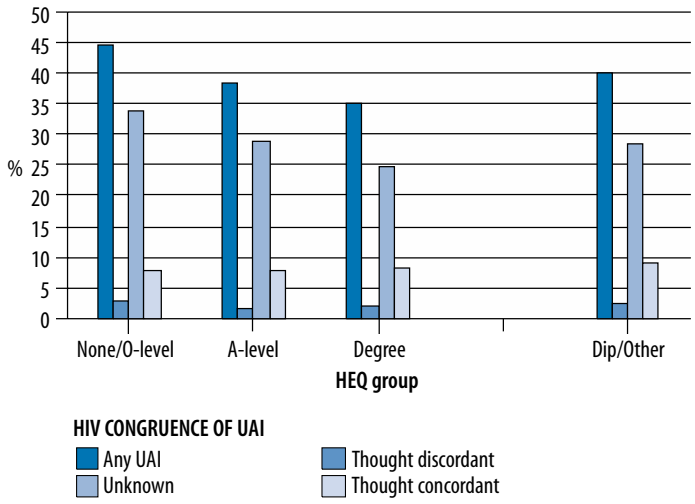

Figure 4.1.3: Proportion in each education group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=6052)

4.1.4 Ethnicity & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across the four ethnic groups.

Entire sample		White	Black	South Asian	All other groups	p value
% had any AI		83.7	86.2	71.6	87.0	<.03
% who had not always used a condom (of those who had AI)		46.4	45.3	48.0	52.9	NS
Number of UAI partners	One	78.5	76.3	63.2	67.6	NS
(% of those who had UAI)	Two	10.6	13.2	21.1	21.6	
	Three +	11.0	10.5	15.8	10.8	
Thought sero-concordancy	Concordant	21.3	25.6	8.3	20.7	<.04
of UAI partners	Unknown	73.2	62.8	79.2	67.1	
(% of those who had UAI)	Discordant	5.5	11.6	12.5	12.2	

There was a trend for South Asian men to be less likely to have engaged in anal intercourse. It may also be that men from ethnic minorities are more likely to have discordant UAI than the ethnic majority.

Figure 4.1.4 shows the overall pattern resulting from the small differences noted above taken together.

Slightly fewer South Asian men had UAI, while more Black men having UAI appear to know whether they are HIV concordant with their partners or not. Overall, there is no clear group that is more or less likely to be engaging in s/dUAI than any other.

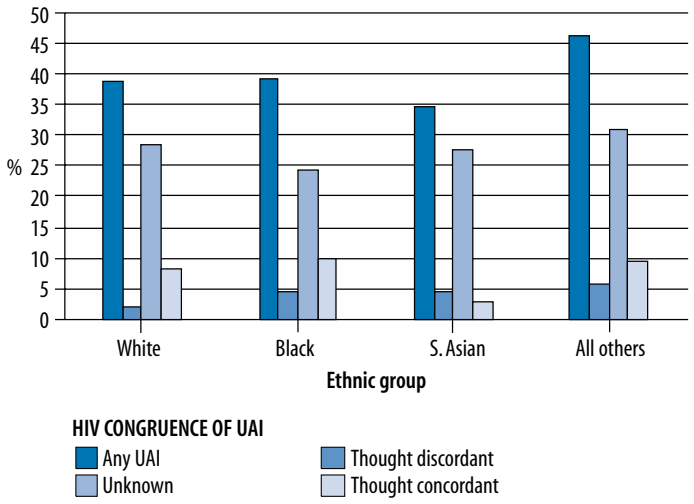

Figure 4.1.4: Proportion in each ethnic group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=6057)

4.1.5 Sexual assault history & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across the four sexual assault history groups.

Entire sample		Never	before 16	since 16	before & since 16	p value
% had any AI		82.9	86.3	85.6	91.9	<.01
% who had not always used a condom (of those who had AI)		45.1	46.7	55.1	60.4	<.01
Number of UAI partners (of those who had UAI)	One	79.7	72.3	78.1	48.6	<.01
	Two	10.2	14.1	13.9	21.6	
	Three +	10.1	13.6	7.9	29.7	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	21.2	22.6	24.6	14.4	<.01
	Unknown	74.2	70.2	64.2	71.1	
	Discordant	4.6	7.2	11.2	14.4	

All four measures varied by assault history:

- those assaulted at any time were more likely to engage in AI than men who had not been assaulted (particularly men who had been assaulted both as a boy and a man);
- those assaulted since 16 were less likely to always use a condom than those who had not been (particularly those who had also been assaulted before 16);
- those assaulted both as a man and as a boy were most likely to have multiple UAI partners; and
- those assaulted both as a man and as a boy were least likely to have concordant UAI only and most likely to have any discordant UAI.

Figure 4.1.5 shows the overall pattern resulting from these differences. Sexual HIV exposure appears to be more common among men who have been sexually assaulted, either as boy or as a man, but particularly as both. The same patterns were also evident and significant when men who had tested HIV positive were excluded.

- Men who have been sexually assaulted (particularly those who were also abused as children) are more likely to be involved in s/dUAI, than are men who have not been assaulted.

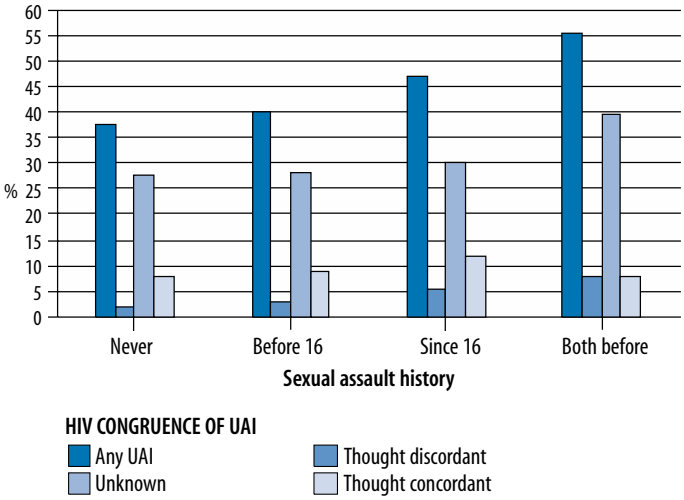

Figure 4.1.5: Proportion in each sexual assault history group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=6057)

4.1.6 Relationship status & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across the three relationship status groups.

Entire sample		No regular partner	Partnered <1 year	Partnered > 1 year	p value
% had any AI		79.8	90.7	84.1	<.01
% who had not always used a condom (of those who had AI)		34.8	51.9	55.2	<.01
Number of UAI partners (of those who had UAI)	One	59.1	76.5	88.8	<.01
	Two	17.6	15.8	5.6	
	Three +	23.3	7.8	5.6	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	13.2	19.8	26.3	<.01
	Unknown	80.6	72.3	68.9	
	Discordant	6.2	7.9	4.8	

All four measures of sexual behaviour in the last year varied by current relationship status:

- anal intercourse was most common among men recently partnered and least common among men not partnered;
- not always using condoms for AI was most common among men partnered over a year, and least likely among men who were not partnered;
- men who were not partnered were more likely to have done UAI with three or more men than those currently partnered; and
- men partnered over a year were most likely to have had only concordant UAI, while men who were not partnered were least likely to have only concordant UAI.

Figure 4.1.6 shows the overall proportions having UAI and its HIV congruence. Men with partners, irrespective of their recency, were more likely to have UAI than men not in relationships. However, men in relationships having UAI were not predominantly having 'thought concordant' UAI only (ie. they were not practising 'negotiated safety'). On the other hand, single men who had UAI were more likely to have done so with multiple partners. From these differences there is no obvious prioritisation by men's current relationship status.

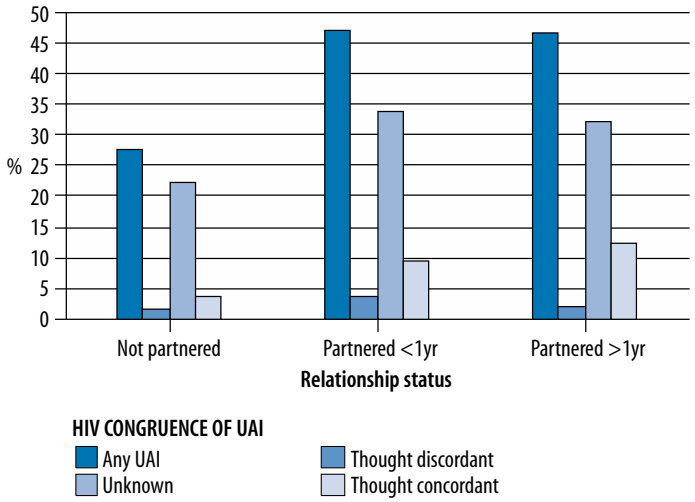

Figure 4.1.6: Proportion in each relationship group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=5858)

Partnerships are likely to be a feature, at some point, in nearly all mens lives, as will the experience of being single. Rather than prioritise population groups by current relationships, it may be more appropriate that health promotion aims for all gay men to be aware and adept about HIV and sex in a variety of relationships. An exception to this are men who are currently in relationships they know to be HIV sero-discordant. Here, the opportunity for exposure is clear (see Keogh *et al*. 1999), and unmet need (in either partner) may be particularly likely to result in exposure.

4.1.7 Numbers of partners & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied by the volume of sexual partners men had in the previous 12 months.

Entire sample		one partner	two to four partners	five to twelve partners	thirteen or more partners	p value
% had any AI		76.6	78.1	87.6	92.7	<.02
% who had not always used a condom (of those who had AI)		61.5	42.7	40.5	44.6	<.01
Number of UAI partners (of those who had UAI)	One	100.0	83.9	73.0	51.1	<.01
	Two	0.0	12.0	17.2	18.8	
	Three +	0.0	4.1	9.8	30.1	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant	26.5	24.7	19.2	14.3	<.01
	Unknown	70.5	69.3	77.1	76.3	
	Discordant	2.9	5.9	3.7	9.5	

All four of the measures significantly varied by number of male sexual partners, but not in any simple pattern:

- having any AI became more common with increasing numbers of sexual partners;
- men who had one partner were less likely to always use a condom for AI than men who had more than one partner;
- men with more partners had more UAI partners; and
- men with more partners were less likely to have only thought concordant UAI, and more likely to have thought discordant UAI, than men with fewer partners.

Figure 4.1.7 shows the overall pattern in the sample. Men with one partner were most likely to have UAI, with a sharp drop among those who had two. However, the proportion having UAI rises again with increasing volume of sexual partners. Most of the men in all partner number groups who had UAI had engaged in unknown UAI. Although men who had one partner were most likely to have unknown UAI, they were (by definition) only able to do that with one man, unlike men who had many partners. This would suggest that:

- The probability of engagement in s/dUAI increases with increasing volume of sexual partners.

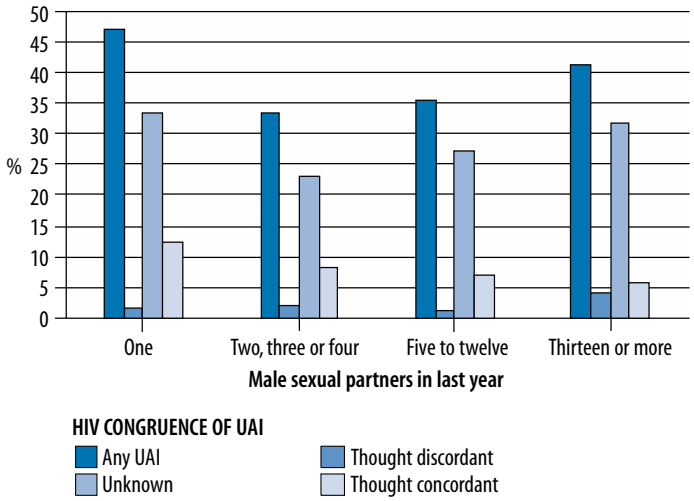

Figure 4.1.7: Proportion in each partner numbers group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=5668)

4.1.8 Area of Residence & UAI

The following table shows how the sexual behaviour and HIV concordance measures varied across groups of men living in different areas. Areas have been ordered by the proportion of men who had tested HIV positive, highest to lowest from left to right (this proportion is given in the first line).

Entire sample		Lon (8)	BN	FY	B	M	NE	NG	SK	L	LS	p value
% tested HIV positive		**10.7**	**8.0**	**7.9**	**6.7**	**6.5**	**4.9**	**4.8**	**4.5**	**2.8**	**1.8**	**<.01**
% had any AI		87.6	83.7	80.4	83.7	84.3	79.6	76.4	78.7	82.9	82.6	<.01
% who had not always used a condom (of those who had AI)		43.0	43.3	55.0	42.1	48.7	45.0	46.4	50.6	50.6	54.1	<.04
Number of UAI partners (of those who had UAI)	One	68.9	75.2	78.9	83.3	74.0	88.0	89.2	90.0	83.8	75.3	<.01
	Two	15.4	13.9	13.2	5.6	10.1	4.0	4.8	2.5	13.5	10.1	
	Three +	15.6	10.9	7.9	11.1	15.9	8.0	6.0	7.5	2.7	14.6	
Thought sero-concordancy of UAI partners (of those who had UAI)	Concordant only	24.3	21.5	18.2	20.6	15.9	29.3	16.7	13.6	17.8	20.2	NS
	Unknown	66.4	74.1	72.7	73.5	75.6	67.2	78.9	81.8	75.6	74.7	
	Any Discordant	9.3	4.4	9.1	5.9	8.5	3.4	4.4	4.5	6.7	5.1	

Two of the sexual behaviour measures varied across the ten areas of residence groups:

- AI was most common in London and Manchester, and least common in Nottingham and Stockport; and
- having UAI with more than one partner was most common in London and Manchester, and least common in Stockport and Newcastle.

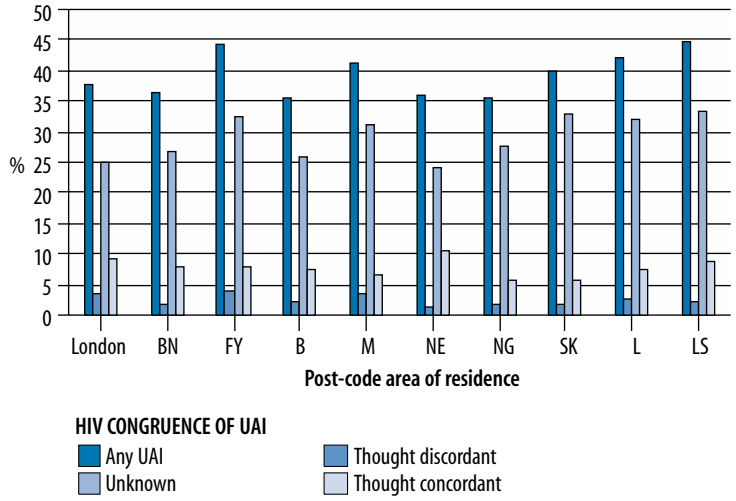

Figure 4.1.8: Proportion in each post-code area group who had engaged in UAI in the last year, and the knowledge of their UAI partners' HIV status (N=6077)

Figure 4.1.8 shows the overall proportion of men in each area who had engaged in UAI in the previous year, and the type of UAI they engaged in. In all areas, most men who engaged in UAI did so with men whose HIV status they did not know at the time. It was not the case that those areas

with the highest diagnosed HIV prevalence had the highest proportion of men having 'unsafe sex'. This suggests that the prevalence of HIV in an area is not simply (or solely) a function of the sexual behaviour of the local population. While there are regional variations in sexual behaviour, these are not substantial and there is probably more variation within areas than between them.

4.1.9 Prioritising population groups likely to be involved in s/dUAI

The preceding sections have examined the possible extent of s/dUAI across the population groups. It is important to recognise that the categories used (no UAI; thought concordant only; unknown; and thought discordant) are approximations. The major qualification to make is the status of men's knowledge about sero-concordancy. Men were simply asked about UAI with men they 'knew at the time' were HIV negative, positive or whose HIV status they did not know. A major question mark must remain about how men knew what they indicated, and to what degree this knowledge was accurate. Men whose last test was negative who thought they had only engaged in sero-concordant UAI, may have been doing so sero-discordantly because of their own undiagnosed HIV infection or their partners. Whatever the validity of this knowledge, most of men who had UAI, in all groups, had done so with men whose HIV status they did not know ('unknown UAI'), and about which we can make few assumptions.

The data suggests that, in order to increase their impact on HIV incidence, both National and local HIV health promotion programmes should concentrate on the s/dUAI related needs of:

- men who have tested HIV positive;
- younger men;
- men with lower levels of formal education;
- men who have been sexually abused or assaulted; and
- men with larger numbers of sexual partners.

It is important to recognise that these are behavioural data, although they are qualified to some extent by men's knowledge of infection in themselves and their partners. They do not tell us why s/dUAI may be more common in one group than another, although they show that there are different reasons for variation in s/dUAI across different groups. For example, s/dUAI probably becomes less with increasing age. This is because AI becomes less common. Compare this with s/dUAI becoming less common with increasing education. Here it is because condom use becomes more common.

4.2 INDICATORS OF CONDOM FAILURE

Sexual HIV exposure can occur when condoms fail during protected sero-discordant anal intercourse. *Making It Count* proposes reducing the overall rate of condom failure in order to reduce failure when partners are sero-discordant. In order for health promotion to reduce condom failure to increase its efficiency, prioritising the needs of men who experience failure is necessary.

Almost three quarters (72.2%) of men had engaged in insertive anal intercourse (IAI) in the preceding 12 months. Those who had done IAI were asked if they had done so with a condom (77% of those who had IAI had done so with a condom at least once). Those who had used a condom for IAI were asked 'Have any of the condoms you've worn in the last year split or come off while you were fucking?': 16% of men who had used a condom for IAI had experienced condom failure in the last year. Men who had experienced condom failure were asked how many times this had happened: 56% indicated it had happened more than once. The following table summarises these measures for the entire sample.

Entire sample (N=6059)	%
% had any insertive anal intercourse (IAI)	72.2
% used condom for IAI (of those who had IAI)	76.5
% experienced failure (of IAI condom users)	15.7
% experienced >1 failure (or those experiencing failure)	55.7

Figure 4.2 shows how these proportions look in the entire sample. Overall, 8.4% of men indicated they had experienced condom failure in the last year (the bottom two bars). Almost half the men had either not engaged in insertive anal intercourse (no IAI, the top band), or had only done so without a condom (unprotected IAI only). The remaining central band are men who used condoms and did not experience failure.

The rest of this section looks at how these measures of IAI and condom failure vary across the sample, first by men's HIV testing history, and then by the characteristics described in Chapter 2.

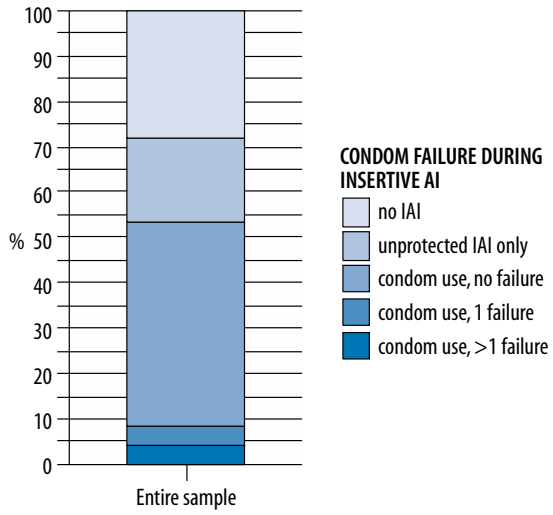

Figure 4.2: Experience of condom failure during insertive anal intercourse (N=5482)

4.2.0 HIV testing history & condom failure

The following table shows how the condom failure measures varied across the three HIV testing history groups.

Entire sample	Never tested	Last test negative	Tested positive	p value
% had any IAI	65.1	78.0	76.6	<.01
% used condom for IAI (of those who had IAI)	75.6	76.8	81.9	NS
% experienced failure (of IAI condom users)	11.3	18.0	20.0	<.01
% experienced >1 failure (of those experiencing failure)	50.8	55.1	71.4	NS

As with any AI, men who had tested (irrespective of the result) were more likely to have had IAI than men who had not tested. However, there was no difference across testing history in the proportion who had used a condom for IAI. Among those who had used a condom for IAI, men who had never tested were less likely to have experienced any failure than men who had tested.

Figure 4.2.0 shows the extent of condom failure experience in the entire sample. Men who had never tested were overall less likely to have experienced failure (5.4% had compared with 10.4% of last test negative men and 12.3% of tested positive men), both because they were less likely to have IAI and they were less likely to have any condom failure if they did use condoms.

- Condom failure is more common among men who have tested for HIV, than among those who have not.

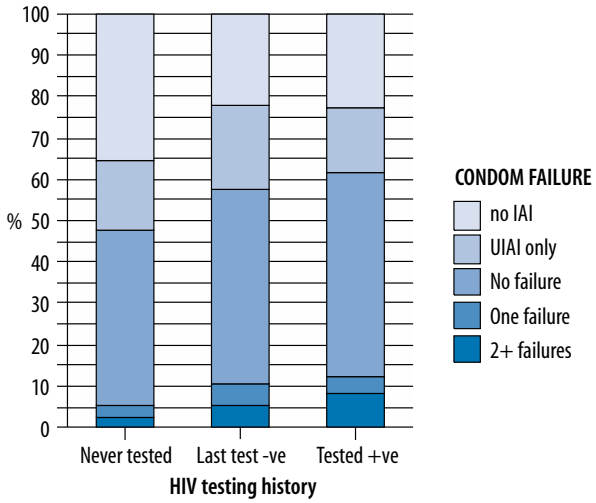

Figure 4.2.0: Condom failure across the HIV testing history groups (N=5345)

4.2.1 Sexuality & condom failure

None of the condom failure measures significantly varied by sexual identity.

4.2.2 Age & condom failure

Only one measure related to condom failure significantly varied across the age range: insertive anal intercourse became less common with increasing age ($p<.01$). Overall, similar proportions of condom users in each age group experienced failure and multiple failure. Men under 20 were most likely to experience failure (10.4%, $p<.05$). Fewer men in the other four groups had (8.0%, 8.4%, 8.5%, and 8.1% of men in their 20s, 30s, 40s and 50 or older).

4.2.3 HEQ & condom failure

The following table shows how the condom failure measures varied across the three HIV testing history groups.

Entire sample	O-levels / none	A-levels	Degree	p value	Diploma/other
% had any IAI	70.5	71.6	72.3	NS	74.9
% used condom for IAI (of those who had IAI)	71.0	75.9	80.4	<.01	76.7
% experienced failure (of IAI condom users)	18.6	15.7	14.0	<.04	15.6
% experienced >1 failure (of those experiencing failure)	55.8	59.3	52.8	NS	57.4

Only one measure significantly varied by education: men with lower education were less likely to have used a condom for IAI than men with higher education (p<.01). Of those who had IAI, 80% of men with a degree had used a condom, compared with 70% of men with O-levels or less. There was a trend among condom users for men with lower education to be more likely to experience failure (p<.04).

Together, this meant the overall proportion of men experiencing condom failure was very similar across the three education groups (9%, 8% and 8%). However, this similarity masks the difference that, although men with lower education were less likely to have used a condom, they were slightly more likely to experience failure if they did.

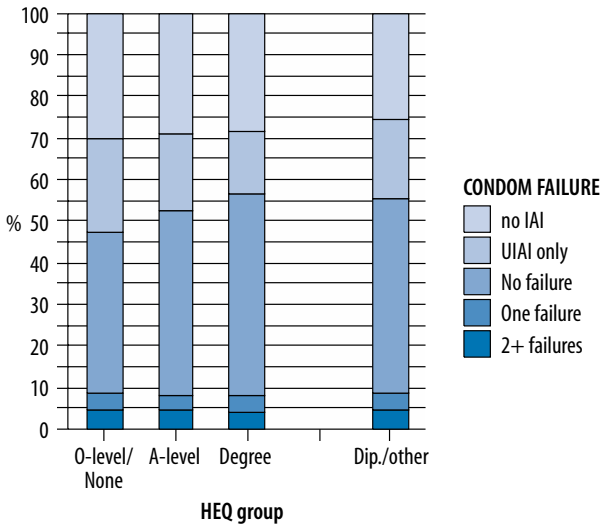

Figure 4.2.3: Condom failure across the education groups (N=5459)

4.2.4 Ethnicity & condom failure

We found no evidence for an association between condom failure and ethnic group membership.

4.2.5 Sexual assault history & condom failure

The following table shows how the condom failure measures varied across the four sexual assault history groups.

Entire sample	Never	before 16	since 16	before & since 16	p value
% had any IAI	71.2	77.8	76.1	77.0	<.01
% used condom for IAI (of those who had IAI)	76.4	79.4	73.5	81.2	NS
% experienced failure (of IAI condom users)	14.9	15.7	24.3	21.3	<.01
% experienced >1 failure (of those experiencing failure)	54.8	55.8	57.5	68.4	NS

Two of the measures significantly varied by sexual assault history. Men who had been assaulted (at any age) were more likely to engage in IAI than men who had never been assaulted. Also, men who had been assaulted since the age of 16 were more likely to have experienced condom failure during IAI than those who had not been assaulted as an adult.

Figure 4.2.5 shows these proportions for the entire sample, across the assault history groups. Any experience of condom failure was more common among men who had been assaulted since 16 (13.0% of men assaulted since 16 only and 13.5% of those assaulted both before and since 16). Men who had been assaulted as both a boy and a man were most likely to have experienced multiple failure (9.2% had compared with 4.1%–6.8% of other groups).

- Men who have been sexually assaulted as adults experience condom failure more often than those who have not.

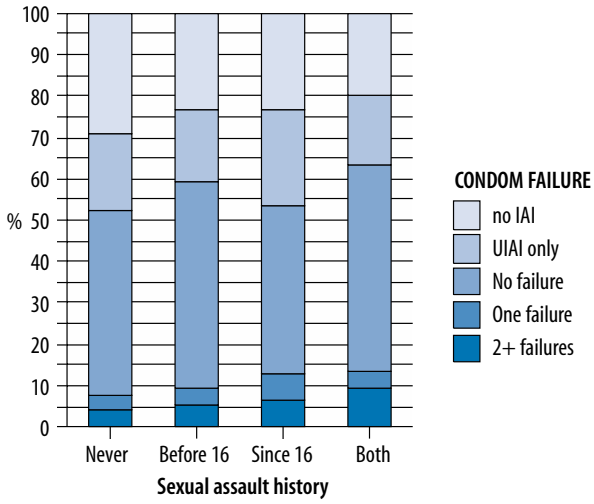

Figure 4.2.5: Experience of condom failure across the assault history groups (N=5443)

4.2.6 Relationship status & condom failure

The following table shows how the condom failure measures varied across the three male sexual relationship groups.

Entire sample	Not partnered	Partnered <1 year	Partnered >1 year	p value
% had any IAI	67.9	80.6	72.3	<.01
% used condom for IAI (of those who had IAI)	84.0	80.2	68.5	<.01
% experienced failure (of IAI condom users)	15.2	17.7	15.3	NS
% experienced >1 failure (of those experiencing failure)	61.4	51.0	51.3	NS

Two of the measures varied by men's current relationship status. First, men who were recently partnered were most likely to have IAI and men who were not partnered were least likely to have IAI. However, men who were not partnered were most likely to have used a condom during IAI, whilst men partnered over a year were least likely to.

Figure 4.2.6 shows these proportions for the entire sample. Men who were recently partnered were slightly more likely to have experienced failure (11.1%) than men who were single (8.5%) or partnered over a year (7.2%). This small difference is wholly due to differences in anal intercourse and condom use/non-use rather than through differences in condom failure rate. Men who are recently partnered are as likely to have IAI as men in long term relationships, and are as likely to have used a condom as men who are single. Consequently:

- Condom failure was more commonly experienced among men who are recently partnered, than among single men or those in longer term relationships.

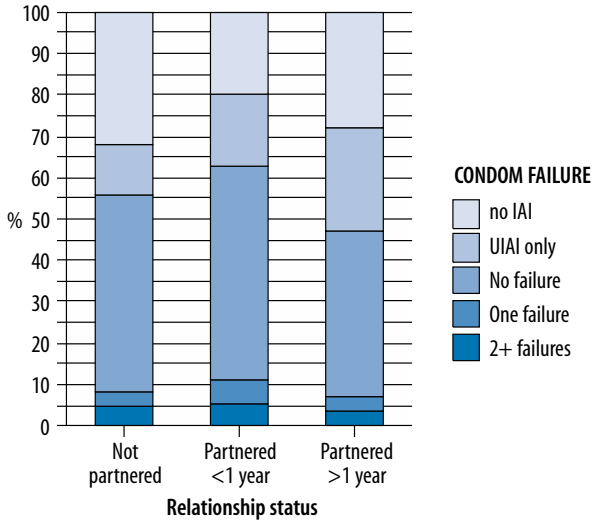

Figure 4.2.6: Experience of condom failure across the current relationship groups (N=5302)

4.2.7 Number of partners & condom failure

The following table shows how the condom failure measures varied by how many male sexual partners men had in the last year.

Entire sample	one partner	two to four partners	five to twelve partners	thirteen or more partners	p value
% had any IAI	63.1	65.3	76.0	84.8	<.01
% used condom for IAI (of those who had IAI)	54.5	78.5	82.9	86.8	<.01
% experienced failure (of IAI condom users)	16.1	14.0	15.6	16.9	NS
% experienced >1 failure (of those experiencing failure)	42.6	48.8	57.0	67.6	<.01

Three of the measures significantly varied by the number of men's sexual partners. Having more sexual partners was associated with being more likely to have IAI, to use condoms for IAI and to experience multiple condom failure.

Figure 4.2.7 shows how these proportions 'stack-up' to result in an increasing proportion of men experiencing condom failure with increasing numbers of sexual partners. Whilst 5.1% of those with one male sexual partner had experienced failure, this rose to 13.2% of those with 13 partners or more.

- Experience of condom failure becomes increasingly likely with increasing numbers of sexual partners.

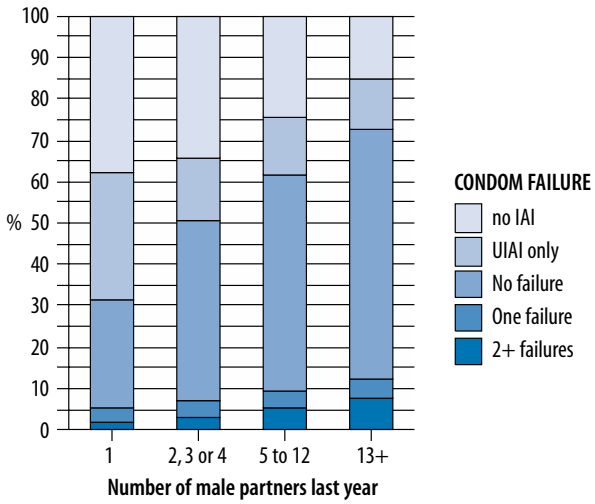

Figure 4.2.7: Experience of condom failure across the sexual partner numbers groups (N=5147)

4.2.8 Area of Residence & condom failure

The following table shows how the condom failure measures varied across the area of residence groups. The areas have been ordered by the proportion of men who had tested HIV positive, highest to lowest from left to right (this proportion is given in the first line).

Entire sample	Lon (8)	BN	FY	B	M	NE	NG	SK	L	LS	p value
% tested HIV positive	10.7	8.0	7.9	6.7	6.5	4.9	4.8	4.5	2.8	1.8	<.01
% had any IAI	78.7	72.9	64.9	70.1	71.6	67.3	62.4	67.6	73.3	73.5	<.01
% used condom for IAI (of those who had IAI)	82.1	76.2	69.1	75.1	77.0	82.1	73.2	68.9	65.4	71.8	<.01
% experienced failure (of IAI condom users)	16.0	15.0	18.2	16.8	17.3	13.1	19.2	17.4	28.6	11.2	NS
% experienced >1 failure (of those experiencing failure)	60.2	50.0	40.0	40.9	66.7	60.0	55.0	50.0	27.3	40.0	NS

The proportion of men who engaged in IAI, and of those, the proportion using a condom for IAI, varied by area of residence. However, the proportion experiencing condom failure, and the proportion of those who experienced it more than once, did not significantly vary by residence. Hence, condom failure was neither more nor less common in any particular area.

4.2.9 Prioritising population groups likely to experience condom failure

Given the amount of unknown and thought discordant UAI occurring in the population, it seems likely that most HIV exposures during sex between men are a result of not using condoms, rather than condom failure. The preceding sections have examined the extent of condom failure during insertive AI, across different population groups. The data suggests that, in order to increase their impact on condom failure, programmes should prioritise the condom failure needs of:

- men have tested for HIV;
- men who have been sexually assaulted; and
- men with larger numbers of sexual partners.

4.3 OTHER SEXUALLY TRANSMITTED INFECTIONS

The prevalence of other sexually transmitted infections may contribute to HIV incidence by increasing the probability of HIV transmission when exposure occurs. A recent research briefing paper looks at the evidence for this complex relationship in more detail (see box).

Weatherburn P, Bonnell C, Hickson F, Stewart W (1999)
The facilitation of HIV transmission by other sexually transmitted infections during sex between men: Evidence regarding epidemiological synergy among gay men in the UK.
London; Terrence Higgins Trust (020-7-831 0330).

This briefing paper reviews data from a number of epidemiological studies. The paper suggests that STIs in HIV uninfected men are likely to increase the risk of HIV transmission during insertive anal intercourse far more than they increase the risk of receptive anal intercourse, possibly because receptive intercourse isœalready so much more likely to result in HIV infection. That is, herpes and syphilis increase the probability ofœa relatively unlikely event, but not an already likely event. In addition, the evidence considered suggests:

- The incidence of herpes, gonorrhoea and NSU among gay men is considerable, although syphilis is rare.
- STIs are most prevalent among homosexually active men in the same geographic areas as is found high HIV prevalence (large, urban centres especially London)
- The evidence for HIV acting as a cofactor in the transmission of STIs is variable, but there is evidence for HIV acting to promote STI symptoms, recurrence and persistence.

These conclusions suggest the following three implications for health promotion programmes designed to reduce the incidence of HIV infection.

- It is likely that HIV prevention resources allocated to reducing STIs among gay men will have a greater impact on HIV incidence in the UK, than they will allocated to reducing HIV exposure in populations very unlikely to be involved in HIV exposure.
- The presumed relatively fewer HIV infections that occur whilst the HIV uninfected partner is insertive in AI, may be reduced by better management of genital herpes among those HIV uninfected men.
- A reduction in the prevalence of gonorrhoea and NSU among HIV infected men (through a reduction in the duration of the infections) is likely to have some impact on HIV infection during sex between men, especially in London. The extent of this impact cannot be estimated from current evidence.

The conclusions also suggest the following implication for health promotion programmes designed to maintain or increase the health of people living with HIV infection:

- Considerable health gain is likely to be found in preventing, diagnosing and treating STIs among gay men with HIV infection.

The three most common infections implicated in HIV transmission during sex between men in England are NSU (nonspecific urethritis), gonorrhoea and herpes (HSV). The 1998 National Gay Men's Sex Survey collected no data about whether or not men had these or other STIs in the preceding year. Here we draw attention to two infections men are acquiring during sex with other men.

4.3.1 Gonorrhoea

Gonorrhoea, especially urethral infection in men with (both diagnosed and undiagnosed) HIV, could be significantly contributing to HIV incidence. The prevalence of gonorrhoea may go down if men who get gonorrhoea are cured quicker and so pass the infection onto fewer people. A recent paper suggests which men with diagnosed HIV infection are most likely to acquire gonorrhoea (see box).

Sadiq ST, Copas AJ & Johnstone AM (1998) Factors associated with gonorrhoea in men aware of being positive for HIV infection: case control study. *British Medical Journal, 317,* 1052-3.

Between April 1992 and March 1996, a large London GUM clinic diagnosed urethral or rectal gonorrhoea in 74 'homosexuals' who had previously tested HIV positive (the paper does not report sexual behaviour, sexual identity or other diagnoses of gonorrhoea). The study compares these men with 148 men (145 'homosexuals' and 3 other men) attending the same clinic at the same time and also diagnosed with HIV, but who did not have gonorrhoea.

The study identified that gonorrhoea became less likely with (1) increasing age and (2) reducing CD4 count and later stages of HIV infection. As the first factor is associated with a decrease in the proportion of gay men who have anal intercourse and the second with a decrease in sex generally, these findings support the observation that the probability of acquiring anal or rectal gonorrhoea is higher among those who have more sex or more anal intercourse. They also suggest that in order to increase their impact on the prevalence of gonorrhoea, health promotion should:

- prioritise the gonorrhoea related needs of younger men before those of older men; and
- prioritise the gonorrhoea related needs of men with larger numbers of sexual partners before those of men with fewer sexual partners.

4.3.2 'Warts virus' (HPV)

The human papilloma virus (HPV) is commonly known as the 'warts virus' and is one of the three most common sexually transmitted viruses among gay men, along with herpes simplex virus (HSV) and HIV (Simms, 1998). It has been thought for some time that HPV can also cause cervical cancer in women (although it may not be the only cause). A number of papers last year added to our knowledge of the epidemiology of HPV among gay men and its relationship to anal cancer (see box).

Sayers SJ, McMillan A, McGoogan E (1998) Anal cytological abnormalities in HIV-infected homosexual men. *International Journal of STD and AIDS, 9(1),* 37-40.
Palefsky JM, Holly EA, Ralston ML, Arthur SP, Jay N, Berry JM, DaCosta MM, Botts R & Darragh TM (1998a) Anal squamous intraepithelial lesions in HIV-positive and HIV-negative homosexual and bisexual men: prevalence and risk factors. *Journal of Acquired Immune Deficiency Syndrome,* 17(4), 320-6.
Palefsky JM, Holly EA, Ralston ML & Jay N (1998b) Prevalence and risk factors for human papillomavirus infection of the anal cancer in HIV-positive and HIV-negative homosexual men. *Journal of Infectious Diseases,* 177(2), 361-7.
Freidman HB, Saah AJ, Sherman ME, Busseniers AE, Blackwelder WC, Kaslow RA, Ghaffari AM, Daniel RW & Shah KV (1998) Human papillomavirus. Anal squamous intraepithelial lesions and human immunodeficiency virus in a cohort of gay men. *Journal of infectious Diseases,* 178(1), 45-52.
Cuziak J (1998) HPV testing in cervical screening. *Journal of Infectious Diseases,* 74, 300-301.

Sayers *et al.* (1998) report anal cytological abnormalities in HIV positive gay men, HIV negative gay men, and HIV negative straight men among patients in Edinburgh. Abnormalities were found in 30% of 80 smears from HIV positive men but only 5% of 149 smears from HIV negative men and none of the 34 smears from HIV-negative straight men. The authors suggest a trend towards more severe abnormalities with increasing immuno-deficiency.

This finding is supported by Palefsky *et al.* (1998a) in San Francisco, USA. Anal abnormalities were found in 36% of 346 HIV positive men but only 7% of 262 HIV negative men. Among men with HIV, abnormalities were associated with lower CD4 counts, but even among those men with high CD4 counts, abnormalities were more common than among HIV-negative men. Abnormalities were also found to be associated with high levels of anal HPV infection.

This latter finding is taken up in another paper concerning the same groups of men (Palefsky *et al.,* 1998b). Anal HPV infection was found in 93% of HIV-positive men and 61% of HIV-negative men. Although the same range of HPV types was found in both groups, HIV-positive men were more likely to be infected with multiple types (73% compared with 23%). The authors suggest that the cancer forming types of HPV replicate more when the immune system is depressed.

These cross-sectional associations were also reported from Maryland, USA. Freidman *et al.* (1998) found that HPV was more common among HIV-positive than HIV-negative men, that HIV-positive men were more likely to be infected with multiple HPV types and that HPV load was higher among men who also had HIV. HPV load was associated with low CD4 cell counts. Anal abnormalities were more common in men with HIV (particularly those with low CD4 counts) and were positively associated with HPV.

Palfesky *et al.* state that, in the USA, anal cancer is more common among gay men than cervical cancer is among women. Cervical screening programmes for women have occurred in the UK since the 1960s. These screens look for abnormal cells on smears. Cuziak (1998) suggests these programmes could be improved by the introduction of HPV testing also.

HPV is a common STI among gay men. It can cause anal cancer as well as warts and its presence facilitates the transmission of HIV when sexual exposure occurs. The ability of HPV to cause cancer is greatly enhanced by co-infection with HIV.

- Reducing the incidence of HPV will contribute to a reduction in HIV incidence, as well as protecting the health of men with HIV infection.

5 Indicators of need

Making It Count (CHAPS SDG, 1998) describes what the collaborating agencies are attempting to influence to reduce the number of sexual HIV exposures occurring between men, and to reduce the probability of transmission when exposure does occur. The eleven general health promotion aims are grouped according to the three targets they are intended to reduce (seven concern involvement in s/dUAI, one concerns condom failure and three concern other STIs). The needs were generated by considering 'What do men need to have control over their involvement in s/dUAI, to minimise their rate of condom failure, and to have other STIs quickly diagnosed and treated?'

The *1998 National Gay Men's Sex Survey* generated evidence about the extent to which these aims are not met. Surveys are very good for this kind of data collection. This is evidence for change. It is evidence of things not being as we are striving to make them: of things that we want to change and think we can change. The 1998 survey collected data using eight indicators of need:

Needs for control over involvement in s/dUAI

- Physical autonomy
- Sexual assertiveness
- Access to condoms
- Knowledge about HIV
- HIV testing service quality

Needs for the diagnosis and treatment of other STIs

- Knowledge about hepatitis
- Knowledge about gonorrhoea
- GUM service quality

The indicators of need are simple, and the following is clearly not a comprehensive needs assessment. Remember that these data are additional to existing data, and that both surveying and needs assessment are cumulative activities.

5.1 THE INDICATORS

In this section we introduce each indicator of need, and look at how the indicator varied with the health promotion targets reported in Chapter 4. The figures show how common each unmet need is in the sample, and in groups of men having no AI, protected AI only and concordant, discordant and unknown UAI. This conveys both how common an unmet need is, and the potential magnitude of the unmet need's contribution to s/dUAI.

Making it Count suggests that to maximise their impact on HIV incidence, health promotion programmes should "prioritise aims which are poorly met for a large proportion of the population". Common unmet needs (ie. those shared by many men) take fewer resources per target to meet than do less common needs. For example, a course to address a need shared by one hundred men requires the same resources to develop as one that can benefit a thousand men or which can be run ten times as often. Interventions that address common unmet needs also require less targeting to achieve the same efficiency than do those addressing less common needs.

5.1.1 Rape

In order for men to make sexual decisions they must have autonomy over their own bodies. Rape removes that autonomy. No man should be raped and *Making It Count*s proposes this to be true unconditionally, as part of its first health promotion aim. What we are willing to do to prevent rape differs from what we are willing to do to prevent sexual HIV exposure between men (ie. locking people up).

Men were asked 'In the last year, have you been fucked by a man against your will'. Overall, 1.9% indicated 'yes'. A further 2.0% declined to answer the question. This suggests several thousand gay men are rape each year.

It is likely that few rapes feature condoms, and in themselves they may be HIV exposure. As important, may be the impact on a man's choices and abilities afterwards. Men who indicated they had engaged in UAI with a partner they knew at the time to be HIV discordant were also much more likely to indicate they had been raped or to leave the question blank (7.9% and 6.4%) than were men who had not had s/dUAI (Figure 5.1.1; p<.01). This evidence supports the hypothesis that:

- **Being raped increases the probability men are involved in s/dUAI.**

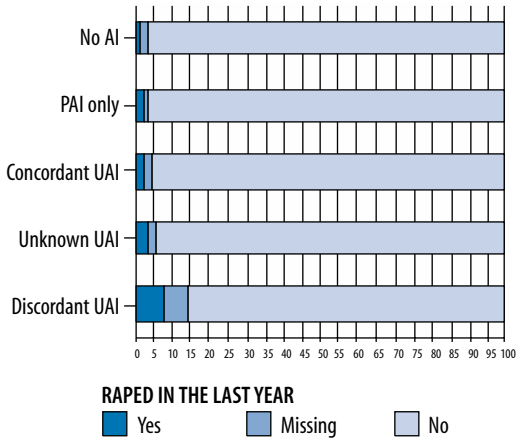

Figure 5.1.1: Association between involvement in UAI and being raped (N=6279)

These data may be reflecting a general vulnerability, where men who have little control over HIV are also more likely to be raped. Bearing this in mind, preventing rape may be a valid aim for HIV health promotion, in addition to ensuring the needs of men who have been raped are addressed.

5.1.2 Sexual Assertiveness

The second general health promotion aim in *Making It Count* is that men are equipped and competent to negotiate sex. This includes both access to the physical resources of condoms and lubricant, and the social and interpersonal skills to allow them to have the sex they choose. Sexual assertiveness, being able to state one's desires clearly without impinging on the rights of others, is hypothesised to reduce the probability men will be involved in sexual HIV exposure.

Men were asked to indicate on a five-point scale whether they agreed or disagreed with the statement: 'I find it easy to say 'no' to sex I don't want'. Overall, 69.0% of men agreed, and a further 10.9% indicated the middle of the scale (neither agree nor disagree). The remaining 20.1% disagreed, including 11.4% who disagreed strongly.

Disagreement with this statement was most common among men who had known discordant UAI, and next most common among those who had unknown UAI (Figure 5.1.2; p<.01). Similar proportions of men who no AI, PAI only or concordant UAI only disagreed. This evidence supports the hypothesis that:

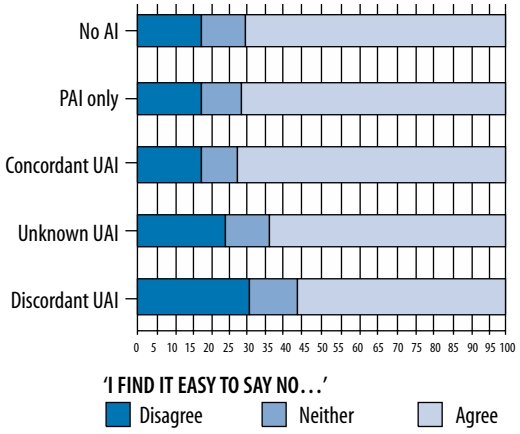

Figure 5.1.2: Association between involvement in UAI and sexual assertiveness (N=6279)

- **The absence of sexual assertiveness increases the probability men are involved in s/dUAI.**

So, increasing sexual assertiveness is a valid aim for HIV health promotion.

5.1.3 Access to condoms

Men were asked to indicate on a five-point scale whether they agreed or disagreed with the statement: 'I sometimes have a problem getting hold of condoms'. Overall, 87.0% of men disagreed with the statement, and a further 6.3% indicated the middle of the scale (neither agree nor disagree). Only 6.7% agreed with the statement, including 3.8% who strongly agreed. So, the proportion of the entire sample who did not have easy access to condoms was greater than the proportion who had experienced rape in the last year but less than the proportion who indicated a lack of sexual assertiveness.

Problems with access to condoms were associated with s/dUAI in the last year (Figure 5.1.3a; $p<.01$). Men who had engaged in discordant UAI were most likely to agree (8.4%), followed by men who had unknown UAI (7.9%). Men who had concordant UAI only had fewer problems with access to condoms than did men who had no AI, or who had PAI only.

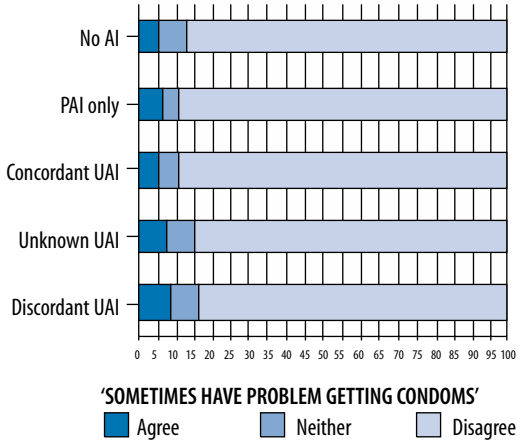

Figure 5.1.3a: Association between involvement in UAI and access to condoms (N=6279)

This evidence does not support the hypothesis that access to condoms results in higher levels of anal intercourse. It does support the hypothesis that:

- **Easy access to condoms reduces the probability men will be involved in s/d UAI.**

Problems accessing condoms were also associated with condom failure. Figure 5.1.3b shows the responses of men who had used a condom for insertive anal intercourse in the last year, grouped by their experience of condom failure. Men who experienced more failure were more likely to report problems accessing condoms. Poor access to strong condoms may result in a larger proportion of condoms being inappropriate.

- **Easy access to condoms reduces the probability of condom failure.**

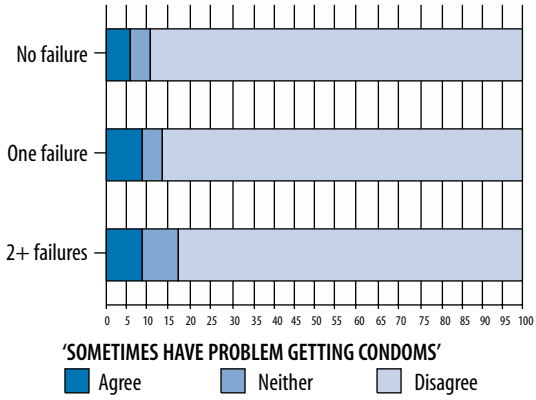

Figure 5.1.3b: Association between experience of condom failure and access to condoms (N=2881)

5.1.4 HIV Knowledge

The relationship between knowledge about HIV and sexual behaviour is the subject of ongoing debate. It is often stated that 'knowledge' about HIV among gay men is high (or very high), and that lack of knowledge accounts for very little 'unsafe sex'. However, this may simply mean men know how to recite the 'safer sex rules', and this is different from being educated about HIV infection. The 1998 survey gave men fifteen items of information, five each about HIV, gonorrhoea and hepatitis, and asked men whether they already knew this, they 'weren't sure' or they 'didn't know' this was the case. The question was designed in this way (rather than a mixture of true/false statements) so that men would not be misled. The following table gives the proportion answering for each of the five HIV items.

All of the following statements are TRUE. Did you know this already? (N=6283)	Knew this	Wasn't sure	Didn't know	Left this item blank
AIDS stands for Acquired Immune Deficiency Syndrome	96.0	2.0	1.5	0.6
AIDS is caused by a virus called HIV	97.8	1.2	0.3	0.7
Men can have HIV without knowing it	96.4	1.9	0.7	0.9
There is no vaccine against HIV	91.3	5.0	1.3	2.5
There is no test to tell whether or not someone is immune to HIV	68.7	17.2	8.4	5.7

The vast majority indicated they knew what AIDS stands for, that it is caused by HIV and that having HIV is not necessarily apparent to the person with the infection. However, almost one in ten was unaware of the absence of a vaccine, and a third were not aware of the lack of an immunity test. Note that the number of men who left each item blank (while answering one of the other items) gets larger going down the list (the items were presented in this order).

Overall, 0.4% (27 men) indicated they did not know any of the items, 0.6% knew one, 1.5% knew two, 6.6% knew three, 27.4% knew four and 63.3% indicated they already knew the five items. Respondents were given a 'score' for how many items they already knew to be the case (as opposed to 'not sure', 'didn't know' and left blank).

Figure 5.1.4 gives the proportions of men in each UAI group with each score. What men knew was associated with what they did ($p<.01$). All the men who had discordant UAI knew at least one item, but they were most likely to know only one or two. Men who had unknown UAI were most likely to know only three of the items, while men who had no AI were most likely to know only four. Generally, men who only had concordant UAI were the most well informed about HIV.

- **Men who are knowledgeable about HIV are less likely to be involved in s/dUAI.**

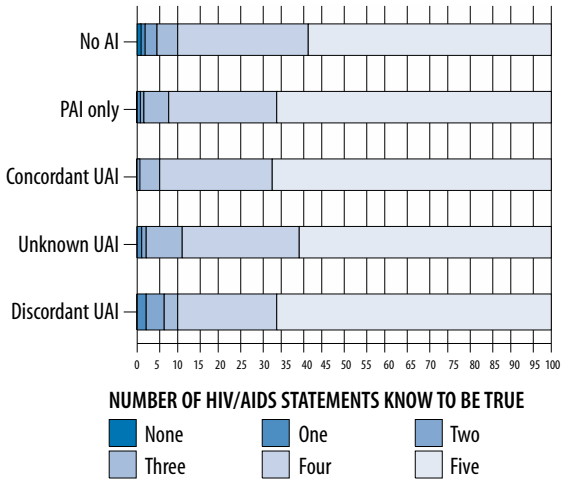

Figure 5.1.4: Proportion of men in each UAI group and knowledge about HIV (N=6279)

5.1.5 Hepatitis knowledge

The second block of five items concerned both Hepatitis A and B. Although these two viruses have different profiles, the recent development of a double-vaccination and the shared name allowed items to be constructed for both.

All of the following statements are TRUE. Did you know this already? (N=6283)	**Knew this**	**Wasn't sure**	**Didn't know**	**Left this item blank**
'Hepatitis' means 'inflammation of the liver'	59.5	21.2	17.7	1.6
Hepatitis A and B are both caused by viruses	79.4	13.4	5.3	2.0
Men can have Hepatitis A or B without knowing it	77.8	12.9	6.4	3.0
Vaccines against Hepatitis A and B exist	81.6	9.5	4.0	4.9
There is a test to tell whether or not someone is immune to Hepatitis A or B	60.1	19.6	15.6	4.8

The number of men leaving the question blank went down again when the items turned to hepatitis, but steadily rose as the items progressed. Generally, fewer men already knew the items about hepatitis than did those about HIV. One in five men were unaware of the existence of a vaccine against hepatitis A and B, but fewer were aware of casual agents, apparency, and least known, immunity testing and the meaning of hepatitis.

We cannot comment on the relationship between response to these items (need for knowledge about Hepatitis) and the proportion of men vaccinated against HIV (the population target), as the 1998 survey did not ask about the latter.

5.1.6 Gonorrhoea knowledge

The third set of five items concerned gonorrhoea, which was chosen as a common, specific, bacterial infection thought to facilitate HIV transmission (Weatherburn *et al*., 1999).

All of the following statements are TRUE. Did you know this already? (N=6283)	Knew this	Wasn't sure	Didn't know	Left this item blank
The medical name for 'The Clap' is Gonorrhoea	81.2	9.4	7.3	2.1
Gonorrhoea is caused by a bacteria	65.2	20.5	11.5	2.8
Men can have gonorrhoea without knowing it	64.1	20.1	13.0	2.7
Gonorrhoea is easily treated with antibiotics	79.9	11.5	6.1	2.5
No one is immune to Gonorrhoea	72.7	14.4	10.6	2.2

Gonorrhoea knowledge showed a different profile to the two viruses. Although antibiotic treatment was widely known, fewer men recognised the infectious agent to be different. Knowledge about these differences in STIs is probably relevant to optimum use of clinical services. The possibility that gonorrhoea can be present without a man knowing it, was not known by a third of the sample.

Men were asked whether they had ever been to a GUM clinic (67.6% had), and what services they had received on that visit (see Section 5.1.7). Overall, 55.2% of men had a checkup on their last visit to a GUM clinic. Figure 5.1.6 shows the association between having had a checkup at their last clinic visit and gonorrhoea knowledge. Men who did have a check-up were more knowledgeable than men who did not. While men who had a checkup may have leant about the infection then, it is also likely that:

- **Men are more likely to request a check-up when attending a clinic if they are knowledgeable about gonorrhoea.**

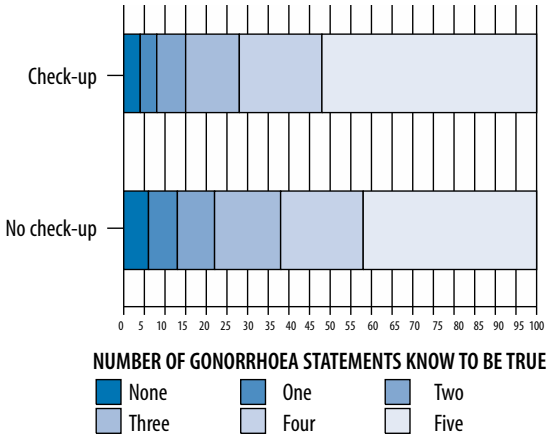

Figure 5.1.6: Proportion of men indicating a lack of knowledge about gonorrhoea, by whether or not they had a check-up on their last visit to a GUM (N=4254)

5.1.7 The quality of clinical services

Men need clinical services for access to HIV testing and to get other STIs diagnosed and treated. Clinics can also be a setting for other health promotion methods, such as face-to-face discussion, printed material and condom distribution (some clinics run more substantial interventions). *Making It Count* proposes that the quality of clinical services is related both to how frequently men use clinics, and service take-up when they do attend. It thus sets an aim that men have easy access to quality clinical sexual health services.

Men who had been to a sexual health clinic were asked whether they had received any of the following five clinical services on their most recent visit: a check-up; an HIV test; examination of symptoms / problem looked at; treatment for something other than HIV; vaccinations against Hepatitis B.

They were then asked 'Thinking about that visit, indicate whether you disagree or agree with the following four statements':

- *'The staff listened carefully to what I said'*
- *'I was treated with courtesy and respect'*
- *'The staff seemed to know their job well'*
- *'I'd recommend that clinic to other gay men'*

These four statements were designed to reflect aspects of service delivery gay men consider important in service quality (personal communication, Dale Webb, University of Southampton). Men were asked to indicate their response on a five-point scale, labelled 'disagree' and 'agree' at the endpoints. Figures 5.1.7a – d show the proportion of men who agreed and disagreed with each of the four statements. These are men who received one of the five listed services at clinics within the last year. The figures thus show the current need for improvement in the quality of GUM services to gay men and bisexual men.

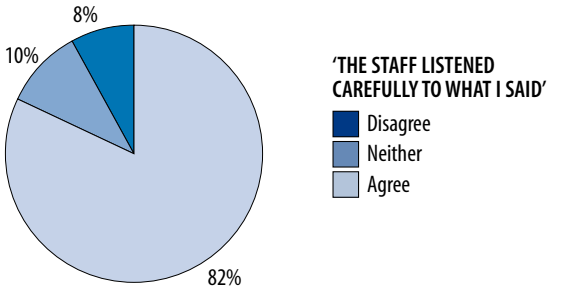

Figure 5.1.7a: Individuallised service at last use of clinical sexual health services (N=2104 men attending in 1997/8)

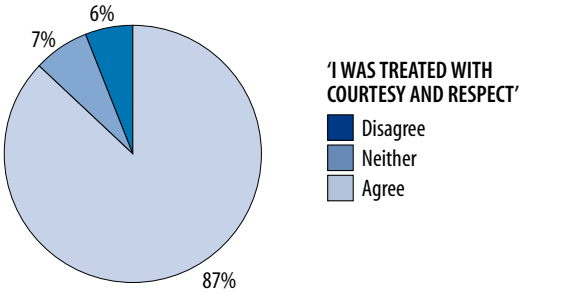

Figure 5.1.7b: Manners of staff at last use of clinical sexual health services (N=2102 men attending in 1997/8)

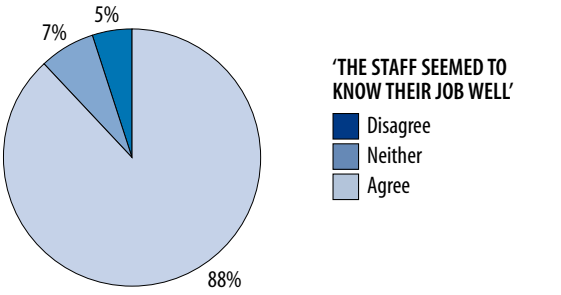

Figure 5.1.7c: Competence of staff at last use of clinical sexual health services (N=2099 attending in 1997/8)

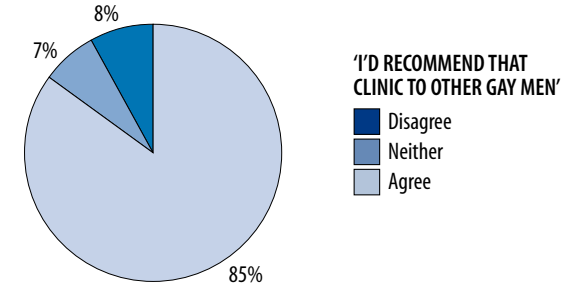

Figure 5.1.7d: Recommendation of last sexual health clinic used (N=2092 men attending in 1997/8)

More than two thirds strongly agreed that they had received an individual service, delivered in a polite manner by competent staff: 85% of men would recommend their most recent clinic to other gay men. However, 11% felt they had not been listened to; 9% felt they had not been treated with courtesy and respect; 6% felt the staff did not know their job well; and 8% would not recommend their most recent clinic to other gay men.

Seventy five per cent agreed (or agreed strongly) with all four quality statements, and 3% disagreed with all four. The remaining 22% gave mixed or neutral responses.

Figure 5.1.7e illustrates how these proportions changed depending on the recency of the clinic visit. Only 58% of men who received a service more than five years ago agreed with all four, and 5% disagreed with all four statements.

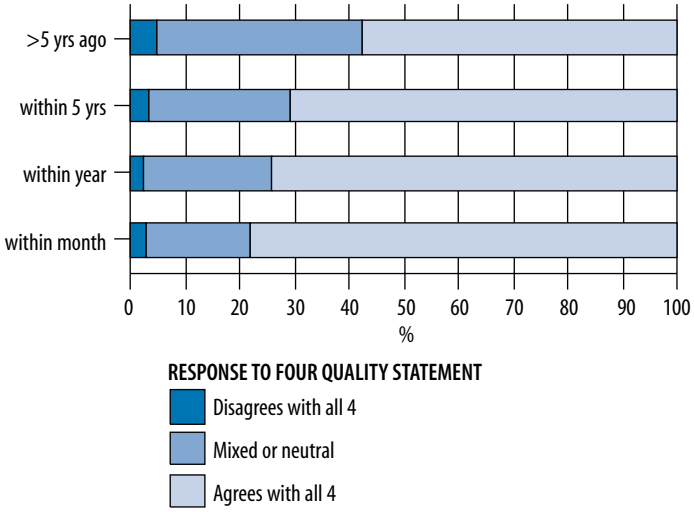

Figure 5.1.7e: Responses to clinic service quality statements by the recency of the clinic visit (N=3951 visits)

- **Recently received services were rated more highly.**

These associations can be interpreted both as: clinical services are improving; and that men who receive quality clinical services attend more frequently. If the latter is the case (see boxes in this section), then improving the quality of clinical services will result in a higher uptake of STI screening which will contribute to a reduction in the prevalence of STIs.

Turner G & Mallett L (1998)
A second survey of the health needs of gay and bisexual men in Southampton and South West Hampshire.
Southampton Gay Men's Health Project (01703 235 111)

Results from a self-completion survey of 277 men using gay community settings, of whom 46% indicated 'yes' to Are you 'out' to your doctor? and 47% had completed a course of Hepatitis B vaccination.

35% of men **not out** to their doctor had been vaccinated
62% of men **out** to their doctor had been vaccinated

This is evidence that susceptibility to Hepatitis B is related to whether men are open about their sexuality with their GPs.

Hope V & MacArthur C (1997)
Acceptability of clinics for sexually transmitted diseases among users of the gay scene in the West Midlands.
Genito-Urinary Medicine, 73, 299-302.

Further data from a cross-sectional, self-complete survey of 848 men recruited from multiple (non-clinic) sources. Overall, 33.9% had been vaccinated against Hepatitis B. Men were asked about their most recent experience of a GUM clinic visit, whether they felt the staff were friendly or homophobic, and whether they felt able to talk about sexual matters with the doctor.

Finding some or most of the staff to be homophobic (or not finding all the staff friendly) was significantly associated with finding it difficult to talk about sexual matters.

67.2% of those who **found it difficult** found some or most of the staff homophobic
17.3% of those who **did not find it difficult** found some or most of the staff homophobic

Difficulty in talking about sexual matters was significantly associated with not telling the doctor about having sex with men.

77.3% of those who **found it difficult** had told the doctor
90.1% of those who **did not find it difficult** had told the doctor

Not telling the doctor about having sex with men with significantly associated with not being vaccinated against Hepatitis B.

21.6% of those who **had not** told the doctor were vaccinated
60.1% of those who **had** told the doctor were vaccinated

This data supports the hypothesis that the extent of hepatitis susceptibility is related to whether men are open with medical staff about having sex with men; which is related to the quality of the clinical service. Poor or prejudiced staff result in inhibited clients which results in inadequate uptake of appropriate services.

5.2 VARIATION IN NEED ACROSS POPULATION GROUPS

Section 5.2 described the indicators of need, their overall prevalence and their associations with the health promotion targets. This section reports how the indicators of need varied across the population groups described in Chapter 2. In the following tables, we are particularly interested in population groups who have many aims poorly met (ie. high levels of need) compared with others. Where the probability of observing the difference by chance ('p') is less than one in a hundred, **the shaded box represents the highest level of need**. Where p is less than .05, we have given the significance level. Non significant differences are indicated by 'NS'.

Approaching differences in need this way prevents us making inappropriate comparisons. (For example, comparing men with low education with men in relationships; clearly men can have low education and be in a relationship). On the other hand, the tables do not show the interactions of demographic associations. The tables do allow the reader to ask:

- In which groups is a particular need most often unmet?

This allows interventions whose outcome is known (eg. an increase in assertiveness) to be targeted at those groups with the largest amount of that need. This does not necessarily mean excluding other groups from interventions. Intervention can be advertised, or take place, in those settings most commonly used by the groups more commonly in need. Secondly, the tables can be used to answer:

- What are common unmet needs among particular groups?

This allows health promoters who work with a particular target group to look down the tables at the levels of need indicated for the group they are concerned with. This data can be added to the health promoters picture of the needs of their target group. Thirdly, the tables add to our picture of the variation in need across different groups which allow us to approach the question of:

- Which groups have high levels of unmet need on many indicators?

For a group to have high levels of need on many indicators would suggest they have little of no control over HIV and other STIs. For HIV uninfected men, this would mean they were vulnerable to HIV and had little control over their infection with other STIs; for men with HIV infection (both diagnosed and undiagnosed) it would mean little or no control over the exposure of their infection to others, a vulnerability to further exposure to HIV, and little control over their infection with other STIs. This could be through having many health promotion aims poorly met, or through having some aims not met at all. The principle of equity of need suggests that men who are vulnerable to HIV should be a priority for HIV health promotion programmes. *Making It Count* suggests programmes should "Prioritise population groups for whom many of the aims are poorly met compared to other population groups". In the tables, these would be columns with lots of shading.

5.2.0 HIV testing history & need

Chapter Four considered men's involvement in s/dUAI and their experience of condom failure. We suggested prioritising the needs of men who had tested positive in both cases. The following table indicates the proportion of men in each of the three testing history groups who indicated unmet need in the needs indicators described in Section 5.1.

% of men in need by HIV testing history (▪ knowledge items show % who did not already know this or were not sure)	Never Tested	Tested Negative	Tested Positive	p value
Raped in the last year	1.1	2.5	3.2	<.01
Doesn't find it easy to say 'no' to unwanted sex	19.1	19.3	27.3	< .01
Problem getting hold of condoms	6.5	6.3	7.9	NS
▪ AIDS stands for	4.9	3.2	1.6	<.01
▪ AIDS is caused by a virus called HIV	1.8	2.2	1.6	NS
▪ Men can have HIV without knowing it	4.5	2.4	2.9	<.01
▪ There is no vaccine against HIV	10.0	7.2	6.1	<.01
▪ There is no test to tell whether or not someone is immune to HIV	34.7	29.1	21.3	<.01
▪ 'Hepatitis' means 'inflammation of the liver'	45.9	37.7	26.1	<.01
▪ Hepatitis A & B are both caused by viruses	24.2	17.5	17.0	<.01
▪ Men can have Hep. A or B without knowing it	24.9	19.6	17.0	<.01
▪ Vaccines against Hepatitis A & B exist	22.8	14.5	13.0	<.01
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	49.2	33.1	28.5	<.01
▪ The medical name for 'The Clap' is gonorrhoea	20.7	17.2	13.8	<.01
▪ Gonorrhoea is caused by a bacteria	38.2	32.2	27.7	<.01
▪ Men can have gonorrhoea without knowing it	40.8	32.2	28.2	<.01
▪ Gonorrhoea is easily treated with antibiotics	24.2	16.4	12.2	<.01
▪ No one is immune to Gonorrhoea	30.8	24.8	19.7	<.01

There is not clearly one HIV testing history group who are in greater need across all the items compared with other groups. Men who had tested HIV positive were more likely to indicate they had been raped in the preceding year, while men who had never tested were least likely to report this. Men who had tested positive also indicated more need for sexual assertiveness. This pattern of need probably contributed to the positive men's infections; some men become infected because they had insufficient control over the sex they have. These needs are compounded rather than dispelled by their HIV diagnosis. The proportion of men who had problems getting hold of condoms did not significantly vary across the testing history groups.

The knowledge indicators show a different pattern of need. All the items significantly varied by testing history except 'AIDS is caused by a virus called HIV', which the three HIV testing history groups were equally likely to know. In all cases, men who had never tested were in need of more knowledge, and men with diagnosed HIV were (usually) least likely to be in need. This pattern is probably a result of having HIV diagnosed; men with HIV have become more knowledgeable about STIs while managing their HIV infection.

5.2.1 Sexuality & need

Chapters Three and Four suggested no prioritisation between the unmet needs of gay men and those of bisexual men. The following table indicates the proportion of gay and bisexual men who indicated unmet need in the questions described in Section 5.1.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	**Gay**	**Bisexual**	**p value**
Raped in the last year	2.0	1.7	NS
Doesn't find it easy to say 'no' to unwanted sex	19.7	25.6	<.02
Problem getting hold of condoms	6.2	14.3	<.01
▪ AIDS stands for	3.9	7.0	<.02
▪ AIDS is caused by a virus called HIV	2.1	3.1	NS
▪ Men can have HIV without knowing it	3.3	7.4	<.01
▪ There is no vaccine against HIV	8.5	11.3	NS
▪ There is no test to tell whether or not someone is immune to HIV	31.0	34.2	NS
▪ 'Hepatitis' means 'inflammation of the liver'	40.3	45.1	NS
▪ Hepatitis A & B are both caused by viruses	20.4	24.9	NS
▪ Men can have Hep. A or B without knowing it	22.1	24.5	NS
▪ Vaccines against Hepatitis A & B exist	17.8	28.0	<.01
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	39.5	45.9	NS
▪ The medical name for 'The Clap' is gonorrhoea	18.5	23.7	<.04
▪ Gonorrhoea is caused by a bacteria	34.5	41.2	<.03
▪ Men can have gonorrhoea without knowing it	35.5	40.9	NS
▪ Gonorrhoea is easily treated with antibiotics	19.7	27.2	<.01
▪ No one is immune to Gonorrhoea	26.9	32.3	NS

Compared with gay men, bisexual men were more likely to have a problem getting hold of condoms, and there was a trend for them to be more likely to express difficulties with sexual assertiveness. Three of the knowledge items showed greater need among bisexual than among gay men: the apparency of HIV, the existence of a vaccine against hepatitis and the treatment of gonorrhoea. A further three showed a trend for greater need among bisexuals, and all the other items were in the same direction.

5.2.2 Age & need

Consideration of incidence in Chapter Three implied programmes concentrate on the HIV prevention needs of men under 40. Chapter Four suggested prioritising the s/dUAI needs of younger men in particular. The following table indicates the proportion of men in each age group who indicated unmet need.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	**< 20**	**20s**	**30s**	**40s**	**50+**	**p value**
Raped in the last year	8.1	3.2	1.2	0.8	1.2	<.01
Doesn't find it easy to say 'no' to unwanted sex	18.3	20.8	18.9	19.8	24.7	NS
Problem getting hold of condoms	10.5	7.6	5.8	5.8	6.9	<.02
▪ AIDS stands for	17.8	6.2	2.1	1.9	2.1	<.01
▪ AIDS is caused by a virus called HIV	3.8	2.4	1.9	2.2	1.8	NS
▪ Men can have HIV without knowing it	7.0	4.6	2.7	3.3	2.7	<.01
▪ There is no vaccine against HIV	12.2	9.6	7.2	8.6	11.8	<.01
▪ There is no test to tell whether or not someone is immune to HIV	44.6	35.7	28.1	27.4	29.5	<.01
▪ 'Hepatitis' means 'inflammation of the liver'	64.3	50.5	37.2	29.5	21.5	<.01
▪ Hepatitis A & B are both caused by viruses	39.4	25.9	17.4	14.7	16.5	<.01
▪ Men can have Hep. A or B without knowing it	36.2	24.1	19.5	19.3	28.0	<.01
▪ Vaccines against Hepatitis A & B exist	34.3	21.0	16.0	14.0	20.4	<.01
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	54.9	44.3	36.1	37.1	40.4	<.01
▪ The medical name for 'The Clap' is gonorrhoea	42.7	26.5	15.8	8.3	8.8	<.01
▪ Gonorrhoea is caused by a bacteria	45.1	38.8	33.8	28.7	28.0	<.01
▪ Men can have gonorrhoea without knowing it	46.0	40.4	33.8	30.0	34.2	<.01
▪ Gonorrhoea is easily treated with antibiotics	43.7	28.8	16.3	9.7	8.0	<.01
▪ No one is immune to Gonorrhoea	47.4	35.8	24.0	17.8	15.9	<.01

Generally younger men were more in need than older men. The prevalence of rape varied very sharply by age group. Men under 20 were more than twice as likely to indicate having been raped than were men in their 20s, and it became less common in each age group (with a slight upturn among men 50 or older). The dynamics of rape are very clearly about power and younger men undoubtedly have less power in many respects than older men. Access to condoms varied by age group, with men under 20 expressing more problems getting hold of them. All of the knowledge items showed more need among younger men. However, the proportion who indicated a need for more sexual assertiveness was highest among men over 50. In the 1997 survey, difficulty 'sticking to safer sex' and wanting help 'sticking to safer sex' also became more common with increasing age, particularly over 50 (Hickson *et al*., 1998).

5.2.3 HEQ & need

Chapter Three suggested programmes should prioritise the HIV prevention needs of men with lower levels of education before those of men with higher education. Chapter Four suggested programmes prioritise their s/dUAI needs in particular (and that although they are less likely to use condoms, they are more likely to experience failure). The following table shows how the indicators of need varied across the education groups.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	None / O-levels	A-levels	Degree	p value	Diploma / other
Raped in the last year	2.8	2.1	1.5	<.02	1.8
Doesn't find it easy to say 'no' to unwanted sex	24.1	20.7	16.8	<.01	20.0
Problem getting hold of condoms	8.1	6.2	5.4	<.01	7.1
▪ AIDS stands for	8.0	5.0	1.5	<.01	4.0
▪ AIDS is caused by a virus called HIV	3.4	3.0	1.2	<.01	1.5
▪ Men can have HIV without knowing it	6.5	3.9	1.6	<.01	2.9
▪ There is no vaccine against HIV	14.1	9.0	5.3	<.01	8.6
▪ There is no test to tell whether or not someone is immune to HIV	38.6	33.6	25.8	<.01	31.2
▪ 'Hepatitis' means 'inflammation of the liver'	45.8	47.4	36.1	<.01	37.2
▪ Hepatitis A & B are both caused by viruses	26.1	26.0	16.2	<.01	17.5
▪ Men can have Hep. A or B without knowing it	29.0	22.6	17.0	<.01	22.2
▪ Vaccines against Hepatitis A & B exist	24.7	20.8	13.3	<.01	18.3
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	44.2	42.2	36.7	<.01	38.7
▪ The medical name for 'The Clap' is gonorrhoea	21.1	21.9	16.9	<.01	17.0
▪ Gonorrhoea is caused by a bacteria	38.8	38.8	32.9	<.01	30.5
▪ Men can have gonorrhoea without knowing it	42.6	38.5	30.9	<.01	34.2
▪ Gonorrhoea is easily treated with antibiotics	25.8	24.3	15.8	<.01	17.2
▪ No one is immune to Gonorrhoea	30.5	32.0	25.4	<.01	23.3

Rape showed a trend to be more common in the last year for men with lower education. All other indicators of need significantly varied across the three education groups, and all decreased with increasing education. The differences in education need appear to be mainly between men with a degree and those without a degree.

5.2.4 Ethnicity & need

Chapter Three suggested programmes pay particular attention to the HIV prevention needs of Black men, although Chapter Four did not generate evidence about which health promotion targets these needs may concern. A report on the HIV prevention needs of homosexually active Black African and Black Caribbean men (Fenton, White *et al*., 1999) has recently been published. The following table gives the proportion of men in each ethnic group who indicated need on the indicators asked about in this survey.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	**White**	**Black**	**South Asian**	**All other groups**	**p value**
Raped in the last year	3.8	8.9	5.7	5.0	<.04
Doesn't find it easy to say 'no' to unwanted sex	19.9	20.5	23.9	23.0	NS
Problem getting hold of condoms	6.4	7.1	10.4	13.3	<.01
▪ AIDS stands for	4.0	4.3	6.9	4.8	NS
▪ AIDS is caused by a virus called HIV	2.1	3.5	6.9	1.6	<.04
▪ Men can have HIV without knowing it	3.5	4.3	8.3	4.8	NS
▪ There is no vaccine against HIV	8.6	12.2	12.5	9.0	NS
▪ There is no test to tell whether or not someone is immune to HIV	30.8	47.0	36.1	35.4	<.01
▪ 'Hepatitis' means 'inflammation of the liver'	40.5	47.8	40.3	37.0	NS
▪ Hepatitis A & B are both caused by viruses	20.3	27.8	29.2	21.2	NS
▪ Men can have Hep. A or B without knowing it	22.0	29.6	29.2	20.1	NS
▪ Vaccines against Hepatitis A & B exist	18.2	21.7	23.6	20.6	NS
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	39.9	40.0	34.7	41.8	NS
▪ The medical name for 'The Clap' is gonorrhoea	18.2	18.3	30.6	33.3	<.01
▪ Gonorrhoea is caused by a bacteria	34.8	30.4	36.1	34.9	NS
▪ Men can have gonorrhoea without knowing it	36.0	31.3	34.7	35.4	NS
▪ Gonorrhoea is easily treated with antibiotics	19.9	17.4	23.6	22.2	N
▪ No one is immune to Gonorrhoea	27.2	24.3	34.7	31.2	NS

Three indicators of need significantly varied across the ethnic groups, and a further two showed a trend. No one ethnic group emerged as always being more in need than the others, but the indicators that varied were always lowest among the ethnic majority. Access to condoms was more often a problem among South Asian men and the mixed other group, as was knowledge of the common name for Gonorrhoea. The non-existence of immunity testing for HIV was least often known by Black men (although was commonly unknown among all groups). There was a trend for Black men to more often indicate having been raped in the last year.

5.2.5 Sexual assault history & need

Chapters Three and Four suggested programmes pay particular attention to the needs of men who have been sexually abused and assaulted. As men who have been raped in the last year are, by definition, men who had been sexually assaulted at the time they participated in the survey, this indicator does not appear in the following table.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	**Never**	**As a boy**	**As a man**	**As boy and man**	**p value**
Doesn't find it easy to say 'no' to unwanted sex	18.7	21.3	23.9	29.2	<.01
Problem getting hold of condoms	6.0	6.8	8.7	13.8	<.01
▪ AIDS stands for	3.4	3.5	6.6	9.2	<.01
▪ AIDS is caused by a virus called HIV	1.7	2.5	2.9	4.9	<.01
▪ Men can have HIV without knowing it	3.2	2.9	5.6	3.7	NS
▪ There is no vaccine against HIV	7.8	10.3	12.2	11.7	<.01
▪ There is no test to tell whether or not someone is immune to HIV	30.4	30.6	37.4	36.2	<.02
▪ 'Hepatitis' means 'inflammation of the liver'	41.4	36.4	41.1	39.3	NS
▪ Hepatitis A & B are both caused by viruses	20.7	16.1	23.9	18.4	<.03
▪ Men can have Hep. A or B without knowing it	21.5	22.4	26.0	19.6	NS
▪ Vaccines against Hepatitis A & B exist	17.8	17.0	22.5	17.2	NS
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	29.9	38.7	22.5	30.7	NS
▪ The medical name for 'The Clap' is gonorrhoea	18.4	17.0	19.9	20.2	NS
▪ Gonorrhoea is caused by a bacteria	34.9	31.7	36.1	33.1	NS
▪ Men can have gonorrhoea without knowing it	35.9	33.7	36.9	34.4	NS
▪ Gonorrhoea is easily treated with antibiotics	19.5	20.3	22.5	20.9	NS
▪ No one is immune to Gonorrhoea	27.2	23.6	29.7	28.2	NS

Both need for sexual assertiveness and condom access were highest among men who had been both abused and assaulted, and were lowest among men who had experienced neither. Three of the HIV/AIDS items were less commonly known by men who had experienced assault.

5.2.6 Relationship status & need

Consideration of incidence, and of the probability of s/dUAI, suggested no implication for prioritising need by current relationship status. Chapter Four did suggest that since men who were recently partnered are more likely to be condom users, programmes should prioritise their condom failure needs. The following table gives the needs indicators across the three relationship status groups.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	**Not partnered**	**Partnered <1 year**	**Partnered >1 year**	**p value**
Raped in the last year	2.7	2.2	1.2	<.01
Doesn't find it easy to say 'no' to unwanted sex	21.3	19.1	18.8	NS
Problem getting hold of condoms	7.5	6.9	5.9	NS
▪ AIDS stands for	4.5	5.7	2.6	<.01
▪ AIDS is caused by a virus called HIV	2.1	2.4	2.1	NS
▪ Men can have HIV without knowing it	4.3	3.2	3.0	<.03
▪ There is no vaccine against HIV	9.4	8.1	8.2	NS
▪ There is no test to tell whether or not someone is immune to HIV	31.9	31.0	30.6	NS
▪ 'Hepatitis' means 'inflammation of the liver'	41.4	45.2	37.9	<.01
▪ Hepatitis A & B are both caused by viruses	21.0	22.9	19.4	<.05
▪ Men can have Hep. A or B without knowing it	23.1	22.5	21.0	NS
▪ Vaccines against Hepatitis A & B exist	18.8	18.3	17.7	NS
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	41.7	39.3	38.6	NS
▪ The medical name for 'The Clap' is gonorrhoea	19.9	24.1	15.4	<.01
▪ Gonorrhoea is caused by a bacteria	37.6	36.5	31.3	<.01
▪ Men can have gonorrhoea without knowing it	37.6	34.8	34.3	<.05
▪ Gonorrhoea is easily treated with antibiotics	21.6	23.4	16.8	<.01
▪ No one is immune to Gonorrhoea	28.6	30.4	24.4	<.01

Men who did not have a partner were most likely to indicate having been raped in the last year. One of the impacts of assault is to destabilise existing relationships and make forming future relationships difficult. Also men without a regular partner were more likely to have had high numbers of sexual partners in the last year, and high numbers of partners were associated with rape. Access to condoms and sexual assertiveness did not vary by current relationship status. A few of the knowledge items varied, with least need among men partnered over 12 months, and usually most need among men recently partnered.

5.2.7 Numbers of partners & need

Chapters Three and Four suggested that programmes should prioritise the needs of men with many sexual partners. The following table shows variation in the indicators of need by the number of male sexual partners men had in the last year.

% of men in need by sexual history (▪ knowledge items show % who did not already know this or were not sure)	One	Two, three or four	Five to twelve	Thirteen or more	p value
Raped in the last year	0.8	2.2	2.2	3.2	<.01
Doesn't find it easy to say 'no' to unwanted sex	19.1	18.1	18.0	22.0	<.03
Problem getting hold of condoms	5.5	7.3	7.0	7.0	NS
▪ AIDS stands for	4.0	4.2	4.0	3.5	NS
▪ AIDS is caused by a virus called HIV	2.3	2.2	1.8	1.9	NS
▪ Men can have HIV without knowing it	3.2	4.4	3.1	3.0	NS
▪ There is no vaccine against HIV	10.0	9.1	7.8	7.2	<.03
▪ There is no test to tell whether or not someone is immune to HIV	31.5	34.1	31.2	27.9	<.01
▪ 'Hepatitis' means 'inflammation of the liver'	42.1	44.6	41.4	35.5	<.01
▪ Hepatitis A & B are both caused by viruses	21.7	22.7	19.5	17.8	<.01
▪ Men can have Hep. A or B without knowing it	23.3	25.6	20.2	18.9	<.01
▪ Vaccines against Hepatitis A & B exist	21.7	20.1	16.5	13.5	<.01
▪ There is a test to tell whether or not someone is immune to Hepatitis A or B	44.7	42.8	40.4	32.2	<.01
▪ The medical name for 'The Clap' is gonorrhoea	19.1	20.6	19.5	15.5	<.01
▪ Gonorrhoea is caused by a bacteria	33.4	39.4	36.0	31.1	<.01
▪ Men can have gonorrhoea without knowing it	36.7	40.7	36.1	30.6	<.01
▪ Gonorrhoea is easily treated with antibiotics	21.3	24.6	20.2	14.4	<.01
▪ No one is immune to Gonorrhoea	27.4	31.4	28.9	23.6	<.01

Men who had many sexual partners were more likely to have been raped in the last year. As casual sex is the most common scenario in which gay men are sexually assaulted (Hickson *et al*., 1994), this finding makes perfect sense. Assertiveness showed a trend for being more common among men with more sexual partners, although access to condoms did not significantly vary, nor did most HIV knowledge. STI knowledge did vary; men with fewer sexual partners were more likely to be in need of knowledge about hepatitis and gonorrhoea. However, given that those with more partners are more likely to acquire STIs, the ignorance among men with thirteen or more partners may be more important.

5.2.8 Area of residence & need

Previous chapters suggested that HIV incidence may not vary as much as prevalence appears to, and that patterns of infection do not neatly follow measures of sexual behaviour. This section looks at how the indicators of need varied by the area in which men lived, and how the indicators of clinical quality varied by the region the clinics were located in. Note that the indicators of need are read down the columns instead of across the rows as in the previous need tables. (For each indicator, we have shaded the two areas indicating the greatest need).

% men in s/dUAI need by home postcode area	Raped in the last year	Doesn't find it easy to say 'no'	Problem getting hold of condoms	▪ AIDS stands for Acquired Immune Deficiency Syndrome	▪ AIDS is caused by a virus called HIV	▪ Men can have HIV without knowing it	▪ There is no vaccine against HIV	▪ There is no test to tell whether or not someone is immune to HIV
London	2.0	18.9	5.6	2.9	1.8	2.3	6.2	26.5
Brighton	1.2	21.2	7.9	2.2	2.4	2.8	6.1	27.4
Birmingham	2.8	16.1	9.3	6.7	5.4	5.4	14.1	35.2
Nottingham	2.3	18.9	3.2	3.5	2.3	4.3	8.2	35.0
Manchester	2.4	22.0	5.2	3.2	2.0	3.7	10.2	31.4
Stockport	0.9	19.6	2.7	1.8	1.8	1.8	8.8	32.7
Liverpool	4.7	24.1	5.4	5.3	0.9	6.2	11.5	36.3
Blackpool	4.0	20.6	6.2	16.3	6.7	12.5	19.2	45.2
Leeds	1.4	23.5	7.2	4.8	3.1	4.4	10.6	30.4
Newcastle	1.2	17.5	7.2	3.6	3.6	4.8	10.2	32.5
p value	NS	NS	<.02	<.01	<.01	<.01	<.01	<.01

While rape and sexual assertiveness did not significantly vary by which area men lived in, access to condoms did. More men in Birmingham indicated they sometimes had a problem getting hold of condoms than men in Stockport. Brighton was the area with the second greatest unmet need for access to condoms in 1997/8.

Knowledge about HIV/AIDS also varied by where men lived. Men in Blackpool were least likely to know the statements already, followed by Birmingham for three indicators and Liverpool for two.

% men who did not already know or were not sure	Hep. means 'inflammation of the liver'	Hep. A&B are both caused by viruses	Men can have Hep. A or B without knowing	Vaccines against Hep. A and B exist	There is a test to tell whether or not someone is immune to Hep. A or B	The medical name for 'The Clap' is Gonorrhoea	Gonorrhoea is caused by a bacteria	Men can have gonorrhoea without knowing it	Gonorrhoea is easily treated with antibiotics	No one is immune to Gonorrhoea
London	38.0	18.7	18.5	14.7	34.6	20.0	35.2	32.1	16.0	24.9
Brighton	35.4	15.4	19.8	17.0	37.8	14.6	31.1	35.0	19.1	27.6
Birmingham	42.3	22.8	23.5	21.8	37.9	18.8	27.9	34.9	19.8	26.8
Nottingham	37.7	19.8	26.8	19.1	41.2	17.5	38.5	38.1	21.8	27.2
Manchester	43.0	23.5	22.1	17.6	39.1	19.8	34.8	35.7	21.8	25.3
Stockport	43.4	25.7	21.2	21.2	51.3	14.2	30.1	39.8	18.6	25.7
Liverpool	44.2	23.0	28.3	22.1	48.7	23.9	33.6	40.7	27.4	27.4
Blackpool	44.2	24.0	31.7	23.1	43.3	26.9	40.4	38.5	29.8	35.6
Leeds	42.3	24.7	25.1	17.2	43.6	18.9	32.2	40.5	24.2	32.2
Newcastle	47.0	22.9	21.1	19.3	45.8	16.9	36.1	26.5	18.1	28.3
p value	NS	<.02	<.01	<.01	<.01	NS	NS	<.01	<.01	NS

Five of the STI knowledge items varied significantly by where men lived. Again, need may be particularly high in Blackpool and Liverpool. Men living in London may be in least need about all the knowledge items. These knowledge findings are congruent with the demographic profiles of the area sub-samples. It should be noted that, although we found geographic variation in knowledge, all areas had large proportions of men who do not know about the causal agents, apparency and treatment of these two STIs.

5.3 SUMMARY AND IMPLICATIONS FOR PLANNING

5.3.1 Aims poorly met for many men

Although rape has a large impact on men's lives, it was a relatively uncommon event (compared with other indicators of need in this and the 1997 survey). Interventions intended to reduce the incidence of rape may need to address the knowledge, awareness and abilities of all men. Interventions intended to meet the needs of men who have been raped may benefit from greater targeting (although all men should know about existing rape services).

Access to condoms was an unmet need of a relatively small proportion of men, compared with sexual assertiveness. This is probably a reflection of the effectiveness of ongoing interventions in many cities at providing condom access. On the other hand, the absence of major differences in access to condoms, despite major differences in the interventions operating in different cities, suggests we may over emphasise the necessity of any particular intervention to maintain a high level of condom access. The data do suggest that generally, increasing the already good condom access may be more difficult than increasing other aims which are less well met.

One fifth of all men indicated they found it hard to say no to sex they did not want. This is a large proportion (an aim unmet for many men), especially if we recognise sexual assertiveness as a personal resource which is not easy to impart to someone (and so may require large amounts of resource to address). This is a similar proportion to that of men expressing concern about the safety of their sexual behaviour in the 1997 survey.

As for knowledge, there was more unmet need about hepatitis and gonorrhoea than about HIV. There was least knowledge about immunity testing for Hepatitis and HIV, and about the causal agent and apparency of gonorrhoea (more than a third were unaware of these). This last two may be central to when men with asymptomatic gonorrhoea attend clinics, and so influence the duration of their infection and the number of other men they pass it on to.

More than one in five men did not know about the causal agent, apparency and existence of a vaccine for hepatitis, or treatment for gonorrhoea.

5.3.2 Groups for whom many aims are poorly met

Identifying groups who hare vulnerable to HIV (that is, those who have little or not control over HIV in their everyday lives) requires data from a wide range of sources. As this chapter is presenting data from this survey, and is not a intended to be a comprehensive needs assessment, we are unable to identify such groups here. It is worth noting that as small a group of indicators as presented here show different profiles across different groups. This suggests that it may be different unmet need that is contributing to s/dUAI, condom failure and acquisition of other STIs in different groups.

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