Testing targets

Findings from the United Kingdom Gay Men's Sex Survey 2007

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Original Research Report

Acknowledgments

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- ABplus
- Action for Men <www.action4men.org>
- Adur, Arun & Worthing PCT
- Albert Kennedy Trust
- Armistead Centre
- Barking & Dagenham PCT Health Promotion Services
- Black Gay Men's Advisory Group (BGMAG)
- Bloomsbury Clinic, Mortimer Market Centre (Camden PCT)
- Bolton PCT
- Brighton Body Positive (now closed)
- Bromley PCT (Health Promotion Services) <www.bromleypct.nhs.uk>
- Brunswick Centre <www.thebrunswickcentre.org.uk>
- Camden PCT - CLASH (Central London Action on Street Health)
- CARESS
- Centre For HIV & Sexual Health, Sheffield <www.sexualhealthsheffield.nhs.uk>
- Cornwall and Isles of Scilly Primary Care Trust (Gay Men's Health Programme)
- County Durham Primary Care Trust Specialist Health Promotion Service <www.countydurham.nhs.uk>
- Crickets Lane Health Centre (Ashton-under-Lyne)
- Dartford & Gravesham NHS Trust (Renton Clinic)
- Derbyshire Friend <www.gayderbyshire.co.uk>
- DHIVerse Cambridge <www.dhiverse.org.uk>
- Eastern and Coastal Kent Primary Care Trust (Health Promotion)
- The Eddie Surman Trust
- Eddystone Trust <www.eddystone.org.uk>
- ELOP (East London Out Project)
- Epsom & St. Helier University NHS Trust (Dept of GU Medicine)
- Freshwinds <www.freshwinds.org.uk>
- www.gaire.com
- GALYIC
- The Garden Clinic, Upton Hospital (Berkshire East PCT)
- www.gay.com
- Gay Advice Darlington & Durham (GADD) <www.gayadvicedarlington.co.uk>
- www.gcn.ie
- www.gayhealthnetwork.ie
- www.gayhealthproject.com
- Gay Men's Health Scotland <www.gmh.org.uk>
- Gay Oxford
- Gay Surrey <www.gaysurrey.org>
- Gay Swansea <www.gayswansea.com>

- Gaylife North Staffordshire (part of the Piccadilly Project)
- George House Trust <www.ght.org.uk>
- GMFA <www.gmfa.org.uk>
- Healthy Gay Hampshire <www.healthygayhampshire.com>
- Healthy Gay Life <www.hgl.nhs.uk>
- Healthy Gay Nottingham (formerly GAI Project @ the Health Shop)
- www.healthygayscotland.com
- Hull & ER Sexual Reproductive Healthcare Partnership (Conifer House)
- Hungerford Drug Project (part of Turning Point) <www.thehungerford.org>
- Inscape LGBT Health Promotion Service (Portsmouth City PCT)
- Lesbian, Gay & Bisexual Health Project (Devon PCT)
- Lesbian and Gay Foundation (LGF) <www.lgf.org.uk>
- London Lesbian & Gay Switchboard <www.llgs.org.uk>
- Medway & Swale Sexual Health Programme (Check-Out)
- Men4Men Shop (Luton tPCT) <www.gay-bedfordshire.co.uk>
- Mesmac Gogledd Cymru (North Wales) <www.mesmac.com>
- Mesmac North-East (Middlesborough)
- Mesmac North-East (Newcastle-upon-tyne) <www.mesmacnortheast.com>
- Metro Centre Ltd <www.metrocentreonline.org>
- Mosaic LGBT Youth Project (Brent Youth Service)
- National AIDS Trust <www.nat.org.uk>
- Naz Project London <www.naz.org.uk>
- Neath & Port Talbot Public Health Team <www.wales.nhs.uk>
- Norfolk NHS HIV/AIDS & Sexual Health Unit (formerly TEN)
- Northamptonshire Lesbian, Gay and Bisexual Alliance (NLGBA)
- North East Lincolnshire PCT (Men's Health Programme)
- North Lincolnshire PCT Specialist Health Promotion Service
- Nottingham and Nottinghamshire Lesbian & Gay Switchboard
- Outrite (Crewe)
- www.outhouse.ie
- www.outuk.co.uk
- OutWest <www.outwest.org.uk>
- Over The Rainbow (Dorset Gay Men's Health) <www.rainbowbournemouth.co.uk>
- PACE
- www.pinknews.co.uk
- www.pinkpaper.com
- www.pinkweddings.biz
- Positive East <www.positiveeast.org.uk>
- Powys Public Health Team (National Public Health Service for Wales, Brecon)
- Project Oscar (Central Lancashire PCT)
- www.puffta.co.uk
- Q:Alliance (formerly Qspace, Buckinghamshire Lesbian & Gay LINK) <www.qalliance.org.uk>
- www.queerid.com
- www.rainbow-project.org
- Shropshire Buddies
- Somerset Gay Men's Health Project
- South East Wales Lesbian Gay & Bisexual Forum <www.sewlgbforum.org.uk>
- South Staffordshire MESMEN Project <www.mesmen.co.uk>
- Southampton City PCT Health Promotion
- St. Bartholomew's Hospital, Rochester (Public Health Promotion Department)
- Staffordshire Buddies <www.staffordshirebuddies.co.uk>
- StaG Project (Gateshead PCT)

- Stockport Centre for Health Promotion (Stockport Primary Care Trust)
- Suffolk MESMAC
- www.sugarmedia.co.uk
- Summit House Support Limited (Dudley)
- Surrey Harm Reduction Outreach Team
- SW5 (now part of Terrence Higgins Trust) <www.sw5.info>
- Teesside Positive Action (Middlesbrough)
- Telford & Wrekin PCT
- Terrence Higgins Trust Counselling Services
- Terrence Higgins Trust Cymru (Cardiff)
- Terrence Higgins Trust Cymru (Swansea)
- Terrence Higgins Trust East (Colchester)
- Terrence Higgins Trust East (Southend-on-Sea)
- Terrence Higgins Trust LADS (London)
- Terrence Higgins Trust Lighthouse Kings London
- Terrence Higgins Trust Lighthouse South London
- Terrence Higgins Trust Lighthouse West London
- Terrence Higgins Trust Midlands (Birmingham)
- Terrence Higgins Trust Midlands (Coventry)
- Terrence Higgins Trust Midlands (Shropshire)
- Terrence Higgins Trust Midlands (Wolverhampton)
- Terrence Higgins Trust National Gay Men's Health Promotion Team <www.tht.org.uk>
- Terrence Higgins Trust Oxfordshire
- Terrence Higgins Trust South (Brighton)
- Terrence Higgins Trust South (Eastbourne)
- Terrence Higgins Trust Thames (Woking)
- Terrence Higgins Trust West (Bristol)
- Terrence Higgins Trust West (Swindon)
- Terrence Higgins Trust Wirral (formerly Jigsaw Centre, Birkenhead)
- TRADE Sexual Health <www.tradesexualhealth.com>
- www.ukblackout.com
- www.ukmoc.com
- Walsall Men's Health Project
- West Kent PCT Sexual Health Promotion (Maidstone)
- West London Gay Men's Project <www.westlondongmp.org.uk>
- Wightout Helpline
- Wiltshire & Swindon's Men's Sexual Health
- Yorkshire Mesmac <www.mesmac.co.uk>
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www.gmss.org.uk

CHAPS Terrence Higgins Trust

www.tht.org.uk

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www.sigmaresearch.org.uk/go.php/reports/report2009f

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Contents

1 Introduction and methods

1.1 CONTENT OF THE REPORT

This research report outlines the main findings of *Vital Statistics* 2007 – which was the eleventh national *Gay Men's Sex Survey* (GMSS). The survey was carried out from 5th June to 30th September 2007 by Sigma Research in partnership with 130 organisations across the United Kingdom and the Republic of Ireland (see *Acknowledgements* for a full list of collaborators).

The information in this report is about HIV infection, sex between men, HIV prevention needs and service uptake. The intended audience includes people involved in planning and delivering programmes to address the HIV prevention needs of homosexually active men. It complements our annual GMSS reports from 1997 to 2006 (Hickson *et al.* 1998; Hickson *et al.* 1999; Weatherburn *et al.* 2000; Hickson *et al.* 2001; Reid *et al.* 2002; Hickson *et al.* 2003a; Reid *et al.* 2004; Weatherburn *et al.* 2005, Hickson *et al.* 2007; Weatherburn *et al.* 2008).

This chapter provides the background to the survey and explains how the sample was recruited. It also shows what exclusion criteria were applied to the data collected, prior to the analysis in the rest of the report.

Chapter 2 describes the final sample of 6,205 men in terms of their: country and region of residence; age; ethnicity; sexual identity and gender of sexual partners; and relationship status including experience of civil partnerships and marriage.

Chapter 3 describes experiences and outcomes of HIV testing, and changes in rates of HIV testing from previous surveys. It also describes experiences of infections with sexually transmitted infections in the last year and describes variation in these behaviours for the population groups outlined in Chapter 2.

Chapter 4 is concerned with sexual behaviours and HIV risk, specifically having a regular HIV sero-discordant sex partner, having many male sexual partners, engagement in anal intercourse, and self-identified sex with a risk of HIV transmission. All these measures are also presented for the population groups outlined in preceding chapters.

Chapter 5 reports on HIV prevention needs assessed in the survey. These included three knowledge items (about PEP), three items about social needs, and four items concerned with self-efficacy in safer sex. These indicators are presented for the population groups outlined in preceding chapters.

Chapter 6 is concerned with some limited qualitites of intervention performance: the coverage of clinical services and education interventions, as well as the prospective acceptability of PEP. Again these indicators are presented for the population groups outlined in preceding chapters.

1.2 BACKGROUND AND DEVELOPMENT OF THE ELEVENTH NATIONAL GAY MEN'S SEX SURVEY

The *Gay Men's Sex Survey* uses a self-completion questionnaire to collect a limited amount of information from a substantial number of men. Sigma Research first carried out GMSS at the London Lesbian & Gay Pride festivals in 1993, 1994 and 1995. No survey was undertaken in 1996. Since 1997, the survey has been undertaken annually eleven times, with funding from Terrence Higgins Trust as part of CHAPS.

During this time GMSS has expanded across England and incorporated Welsh residents (since 2000), Scottish residents (since 2001) and Northern Irish residents (since 2002). Since 2003 it has occurred

across the United Kingdom and the Republic of Ireland. Data from men living in the Republic of Ireland is collected on behalf of the Ireland Gay Men's Health Network and is reported elsewhere (Divine *et al.* 2006; McCartney *et al.* 2009).

The 2007 questionnaire was designed in collaboration with the health promoters that subsequently participated in recruitment. In early March 2007 we wrote to all agencies who had recruited men to the survey in 2006 or 2005 and invited them to suggest question areas or topics for inclusion under six core headings (demographics, health promotion targets, indicators of need, indicators of discrimination, use of services / settings and any other suggestions). Representatives of seven agencies responded with suggestions. Thereafter all collaborators from the preceding two years were asked to prioritise question areas from a rough draft of the questionnaire and to suggest other questions or topics for inclusion. We had feedback from sixteen agencies including two that had responded to the first request. In late April the 21 agencies that had given any feedback in the first two rounds of consultation were sent a final draft and asked to check the questions for appropriateness for their client group and make any final comments. No further comments were received.

Piloting of the questionnaire occurred in two gay bars in South London. Fifteen bar patrons were asked to complete the survey and were then interviewed for approximately 30 minutes to gauge how they read and understood each question and the associated instructions. The final questionnaire was developed from pre-testing interviews and feedback from collaborators.

1.3 RECRUITMENT METHODS

Since 1999 the questionnaire has been produced as a small (A6) booklet which is self-sealing for Freepost return. In each of the eight years since, 20-30,000 copies of the booklet have been directly distributed to gay men and bisexual men by a range of gay and HIV health promotion agencies. In 2007 the booklet was made available to all HIV health promoters who work with gay men, bisexual men or other homosexually active men across England and Wales but not Scotland and Ireland. Almost 200 health promotion agencies were invited to distribute booklets to the men they served. This included all those agencies listed in *Nambase*® (NAM 2004) as undertaking health promotion with gay men and bisexual men, and all agencies that distributed booklets in previous years.

In total, 25,380 booklets were sent out to 98 agencies many of which had distributed booklets in previous years. Recruitment was open for a seventeen week period from 5th June to 30th September 2007. Booklets were returned to Sigma Research marked as distributed by 82 different agencies, including 15 service centres of Terrence Higgins Trust. The average (median) number of booklets returned by each collaborator was 12 (median, range 1 to 579). We received twenty or more booklets from 33 different agencies. In April 2008, these agencies received a targeted data report on the men they had recruited. Overall, 3,668 booklets were returned via Freepost, giving a return rate of 14.5% of those booklets distributed by Sigma Research to collaborating agencies.

Since 2001, we have used the internet as a setting for the questionnaire and as a method of recruitment to the survey. Previous online versions of GMSS (Reid *et al.* 2002, Hickson *et al.* 2003a; Reid *et al.* 2004) have demonstrated that the internet method recruits larger numbers of men in demographic groups to which smaller numbers were recruited using clipboards at Pride-type events or using the booklet, especially behaviourally bisexual men, men under 20 years or over 50 years of age, and men from minority ethnic groups.

In 2007 the survey was available for completion online via a specific website in English only. The questionnaire contained the same 49 questions as the booklet with another 19 added. The additional questions concerned whether respondents had seen a number of HIV prevention and 'safer sex' interventions, including adverts, leaflets and magazines and websites. These additional questions have been reported elsewhere (Hickson 2008).

The 2007 questionnaire was prepared and hosted using www.demographix.com an online internet survey instrument. The design of the online survey allowed data to be captured and viewed as soon as the respondent pressed 'submit' at the end. The online version was available for completion for seventeen weeks (5th June to 30th September 2007). Overall, we received 9,157 responses online.

Paid for promotion was undertaken with six UK commercial websites – www.gay.com, www.outuk.com, www.pinknews.co.uk, www.pinkpaper.com, www.puffta.co.uk and www.sugarmedia.co.uk. While the majority of investment was targeted at www.gay.com the UK area of its website was withdrawn during the promotional period resulting in a high number of global recruits that were not eligible for the survey (see section 1.5 below). A further 50 gay community, HIV and health promotion websites also promoted the survey at no cost (see *Acknowledgements*). We received twenty or more returns from 13 different websites. In April 2008, webhosts from these sites received a targeted data report on the men they had recruited online.

The survey included a set of questions about awareness of, use of and concern about different illicit substances. The findings from these questions have been reported in *Wasted opportunities* (Keogh *et al.* 2009), where they supplemented data from qualitative interviews with gay and bisexual men who reported problems with drug and alcohol use.

1.4 EXCLUSIONS

Initially, in total there were 4109 questionnaires returned but not included in the analysis, which represents a third (32.0%) of the original sample. The table overleaf shows the reasons for exclusions, separately for booklet and online recruits. These exclusions were made prior to those necessary to rectify the attempt to subvert the findings described in section 1.5.

The proportion of booklet returns excluded from the data analysis was 7.1% (260 returns). In the nine years we have used the booklet method this proportion has varied between 4.2% (in 2005) and 13.4% (in 1999). This proportion varies because the precise methods used by distributors, and the actual agencies distributing the booklet varies from year to year.

The proportion of online recruits excluded was 42.0% (3851 returns). In the seven years we have undertaken the survey online this proportion has varied between 15.1% (in 2003) and 30.9% (in 2001). The relatively high exclusion rate in 2007 was largely a function of the websites that undertook paid recruitment. In 2007 we concentrated our paid-for recruitment on www.gay.com/uk rather than www.gaydar.co.uk, and we experimented with paid-for recruitment via five other websites. Recruitment via www.gay.com/uk had previously resulted in a higher proportion of recruits resident outside the UK compared to www.gaydar.co.uk but this problem was exacerbated when the UK version of www.gay.com was withdrawn in the midst of the recruitment process and our adverts continued to be served on parts of the global www.gay.com website. This resulted in a far higher proportion of recruits from North American and most other areas of the world. It also resulted in a much higher than usual proportion of females completing the questionnaire in 2007.

All questionnaires returned (n=12825)	Booklet	Web	TOTAL
Total returns	**3668**	**9157**	**12825**
No evidence on where they lived	6 (0.2%)	0 (0.0%)	6 (<0.1%)
Lived in Republic of Ireland	0 (0.0%)	673 (7.3%)	673 (5.2%)
Lived outside UK or Republic of Ireland	3 (<0.1%)	2181 (23.8%)	2184 (17.0%)
No evidence of sex with men in the previous year and no gay, bisexual or other similar sexual identity	122 (3.3%)	194 (2.1%)	316 (2.5%)
Already completed the survey	108 (2.9%)	300 (3.3%)	408 (3.2%)
Respondent aged under 14	1 (<0.1%)	16 (0.2%)	17 (0.1%)
Completed by a female	6 (0.2%)	485 (5.3%)	491 (3.8%)
Gender unknown	14 (0.4%)	2 (<0.1%)	16 (0.1%)
Sample size: Men with homosexual experience in the last year or a gay, bisexual or similar identity	**3408** (92.9%)	**5306** (57.9%)	**8716** (68.0%)

Using a question on country of residence and a question on local authority of residence, 31.2% of the online sample were excluded for non-UK residence (compared to 23.4% in 2006, 16.2% in 2005, 12.8% in 2004 and 13.2% in 2003) but only <0.1% of booklet-recruited men (compared to 2.9% in 2006, 0.8% in 2005, 1.9% in 2004 and 0.5% in 2003).

However, of those that lived outside the UK more than a fifth (23.6%) lived in the Republic of Ireland and were deliberately recruited to be reported elsewhere.

1.5 AN ATTEMPT TO SUBVERT THE SURVEY AND OUR SOLUTION

During the early stages of writing this report it became clear that an attempt to subvert the findings of GMSS 2007 had taken place. A relatively small subgroup of men (who in all previous years of GMSS had shown a low prevalence of diagnosed HIV infection) showed a much higher prevalence than ever observed previously. We noted that the total number of men in this subgroup was also much higher than in previous years, even though the overall number of respondents in 2007 was smaller than recent years. The majority of HIV positive cases in this subgroup had been completed on the internet and had come through the large commercial gay web site we advertise with.

On inspection many of the cases in this subgroup appeared to be invalid. The open-ended (qualitative) questions were disproportionately either blank or filled with random key-strokes. A large number of other variables in these cases were also missing data. In previous years of GMSS, for almost all subgroups, men living with diagnosed HIV are older than men not living with HIV. In this subgroup the two groups had the same average age. Together these findings convinced us that a number of invalid cases had been entered purporting to be HIV positive men in this subgroup.

We investigated the effect of a number of additional exclusion criteria, comparing the proportion of the entire sample that were excluded with the proportion of HIV positive cases from this subgroup that were excluded. The options ranged from rejecting the entire data base (100% of all cases excluded and 100% of positive subgroup cases excluded) to keeping the entire data base (0% of both groups excluded). We sought the criteria which excluded the smallest proportion of all respondents and the highest proportion of HIV positive cases in this subgroup. Our preferred solution was to exclude all cases that had missing data to any question (a) asked of all respondents (that is, not including questions asked of only a subset of respondents), and (b) that required a mark to be made to indicate a response. This process excluded cases with incomplete data sets. Among the remaining cases after other exclusions it excluded 29% but 80% of HIV positive cases in the problematic subgroup. While this was a major price to pay, we felt it was necessary to have continuing confidence in the findings of the survey.

The final sample therefore consists of 6,205 men, 39.5% who had been recruited with the booklet and 60.5% through the internet. Because of this exclusion procedure, there are very few items still containing missing data.

All questionnaires returned (n=12825)	**Booklet**	**Web**	**TOTAL**
Total returns	3668	9157	12825
Sample size after standard exclusions (see table above)	3408	5306	8716
Removed in final exclusion procedure	**960 (26.2%)**	**1549 (16.9%)**	**2509 (19.6%)**
Final sample size: Men with homosexual experience in the last year or a gay, bisexual or similar identity	**2448 (66.7%)**	**3757 (41.0%)**	**6205 (48.4%)**

2 Demographic description

The final sample includes 6,205 people who indicated they were male, aged 14 or over, living in the UK, had sex with a man in the last year and/or had a non-heterosexual sexual identity and had not completed the survey already in summer 2007.

We consider as 'demographics' all those characteristics which describe the groups of men but which our HIV prevention collaborators are not directly attempting to change. Therefore this chapter describes these men using the following variables: area of residence; age; ethnicity; education; sexual identity and gender of sexual partners in the last year; and relationship status, including civil partnership and marriage. In the remainder of the report the indicators of HIV infection, risk and precaution behaviours and prevention needs are examined across these characteristics.

2.1 COUNTRY AND REGION OF RESIDENCE

Men were asked *Which country do you currently live in?* The number of men taking part through the internet and the booklet living in each country is shown below, as is the distribution of the total UK population for comparison.

Which country do you live in? (n=6205, missing 0)	**% overall**	**% (n) by recruitment method**		**Mid-2007 estimate of UK population (ONS)**
		Internet	**Booklet**	
England (n=5595)	90.2	86.3 (3242)	96.1 (2353)	83.8
Wales (n=249)	4.0	4.4 (166)	3.4 (83)	4.9
Scotland (n=287)	4.6	7.4 (278)	0.4 (9)	8.4
Northern Ireland (n=74)	1.2	1.9 (71)	0.1 (3)	2.9

Booklet distribution occurred in England and Wales but 12 men living in Scotland or Northern Ireland completed one. If we compare the country distribution of the internet sample to that of all males in the UK, it is fairly similar, but with slightly fewer men in the sample living in Wales or Northern Ireland and Scotland and slightly more resident in England. However, we cannot say how it compares to the homosexually active male population.

Men were asked *Which Local Authority do you live in?* and were told *The local authority bills you for council tax. If you don't know your local authority, write in your home postcode or the city / town you live in*. From these answers men were allocated to Primary Care Trusts and then grouped into Strategic Health Authorities. Survey responses from groups of men in these smaller areas are available online at www.gmss.org.uk.

In the remainder of this report we use Wales, Scotland, Northern Ireland and the ten English Strategic Health Authorities to make geographic comparisons. The following table shows the area sub-sample sizes and the geographic distribution of the internet and booklet subsamples.

Country and SHA of residence for England (n=6205, missing 0)	% overall	% (n) by recruitment method	
		Internet	Booklet
All England (n=5595)	90.2	86.3 (3242)	96.1 (2353)
East of England (n=454)	7.3	6.0 (225)	9.4 (229)
East Midlands (n=313)	5.6	4.3 (163)	6.1 (150)
London (n=2002)	32.3	32.4 (1219)	32.0 (763)
North East (n=169)	2.7	2.8 (106)	2.6 (63)
North West (n=502)	8.1	8.1 (303)	8.1 (199)
South Central (n=323)	5.2	6.0 (225)	4.0 (98)
South East Coast (n=391)	6.3	6.9 (259)	5.4 (132)
South West (n=521)	8.4	6.8 (256)	10.8 (265)
West Midlands (n=456)	7.3	7.1 (267)	7.7 (189)
Yorkshire & Humber (n=464)	7.5	5.8 (219)	10.0 (245)
All Wales (n=249)	4.0	4.4 (166)	3.4 (83)
All Scotland (n=287)	4.6	7.4 (278)	0.4 (9)
All Northern Ireland (n=74)	1.2	1.9 (71)	0.1 (3)

A third of all men lived in London with the other two-thirds being spread throughout the UK.

The proportion recruited via the booklet was highest in Yorkshire and The Humber (52.8%), South West (50.9%) and East of England (50.4%) where our health promotion collaborators were most active and lowest for Scotland (3.1%) and Northern Ireland (4.1%) where booklet distribution did not take place.

2.2 AGE

Respondents were aged between 14 years and 87 years, with a median age of 33 years (mean 34.4, standard deviation 12.2). As in previous years the booklet sub-sample (age range 14-86, median 35, mean 36.5, standard deviation 12.3) were significantly older than the online sub-sample (range 14-87, median 31, mean 33.0, standard deviation 11.9). The following table shows the age profile in five-year bands, as well as the profile of the internet and booklet sub-samples.

Age groups (n=6205, missing 0)	% overall	% (n) by recruitment method		% Comparison groups
		Internet	Booklet	
14 – 19 years old (n=547)	8.8	11.0 (413)	5.5 (134)	**8.8**
20 – 24 years old (n=1022)	16.5	19.1 (718)	12.4 (304)	**31.6**
25 – 29 years old (n=938)	15.1	15.4 (578)	14.7 (360)	
30 – 34 years old (n=863)	13.9	13.5 (506)	14.6 (357)	**27.7**
35 – 39 years old (n=854)	13.8	12.9 (485)	15.1 (369)	
40 – 44 years old (n=773)	12.5	11.1 (419)	14.5 (354)	**20.5**
45 – 49 years old (n=500)	8.1	7.4 (279)	9.0 (221)	
50 – 54 years old (n=286)	4.6	4.2 (156)	5.3 (130)	**11.4**
55 – 59 years old (n=166)	2.7	2.1 (78)	3.6 (88)	
60 years old or over (n=256)	4.1	3.3 (125)	5.4 (131)	

In the remainder of this report we group men into the five age groups show in the right hand column of the table: 14-19 years (under 20), the 20s, the 30s, the 40s and 50 and over.

2.3 ETHNICITY

Men were asked *What is your ethnic group?* and were invited to tick one of the sixteen categories from the 2001 UK Census question. The following table shows the number of respondents in each of the sixteen ethnicity categories in the 2007 survey and in the previous four surveys for comparison.

Ethnic groups (n=6195, missing 10)		**% GMSS 2003** (n=14498)	**% GMSS 2004** (n=15975)	**% GMSS 2005** (n=16371)	**% GMSS 2006** (n=12038)	**% GMSS 2007** (n=6195)	**% Comparison groups**
White	*white British*	84.0	82.2	81.3	79.4	78.9	78.9
	Irish	3.5	2.9	3.1	3.2	3.2	12.7
	Other white	6.9	7.9	8.3	9.8	9.5	
Black / Black British	*Caribbean*	0.6	0.7	0.8	0.7	0.9	1.8
	African	0.3	0.5	0.6	0.5	0.7	
	Other black	0.1	0.2	0.1	0.1	0.2	
Asian / Asian British	*Indian*	1.1	1.1	1.2	0.9	1.2	1.9
	Pakistani	<0.1	0.5	0.5	0.4	0.4	
	Bangladeshi	<0.1	0.1	0.1	<0.1	0.1	
	Other Asian	0.2	0.3	0.5	0.3	0.2	
Dual Ethnicity	*white & black Caribbean*	0.5	0.6	0.6	0.7	0.7	2.3
	white & black African	0.1	0.2	0.2	0.3	0.2	
	white & Asian	0.7	0.6	0.6	0.7	0.6	
	other mixed	0.6	0.6	0.6	0.7	0.7	
Chinese		0.6	0.8	0.8	1.0	0.9	2.4
All other ethnicities		0.7	0.8	0.8	1.2	1.5	

In the final sample 78.9% (n=4886) were white British, the ethnic majority against which minority groups are compared. The next largest group was the varied group of men from white ethnicities other than British (12.7%, n=786), including 3.2% (n=199) who were Irish, the largest single ethnic minority. The remaining 8.4% were members of visible ethnic minorities: 1.8% (n=113) were black, 1.9% (n=120) Asian, 2.3% (n=142) of mixed or dual ethnicity and 2.4% (n=148) came from a variety of other ethnic groups. Overall then, 21.1% (n=1309) were members of ethnic minorities including 8.4% who were members of visible ethnic minorities. Both these proportions were increases on all previous GMSS surveys and the proportion from visible ethnic minorities is similar to that in the general UK population.

2.4 SEXUAL IDENTITY AND GENDER OF SEXUAL PARTNERS

The sample consists of men who had sex with another man in the last year, and men who had not done so but who identified as gay, bisexual or some other non-heterosexual sexual identity. The majority, 92.8% (n=5759), had sex with a man in the last year, including 6.9% (n=426) who also had sex with a woman. Only a small number of men had sex with a woman but not a man (0.6%, n=39) but a much larger proportion had sex with no one (6.6%, n=407). Overall 7.5% (n=465) had sex with a woman in the last year.

Compared with online recruited men, booklet recruits (who better approximate the clients of our health promotion collaborators) included a higher proportion who had sex with men only (89.1% vs. 83.9%) and fewer behaviourally bisexual men (6.3% vs. 7.2%), fewer exclusively heterosexual men (0.5% vs. 0.7%) and fewer men who had no sex (4.2% vs. 8.1%) in the last year. This suggests that relative to all men who have sex with men, HIV health promotion is disproportionately encountered by exclusively homosexually active men.

Men were asked *What term do you usually use to describe yourself sexually?* and were offered four options. Most men indicated *gay* (86.2%, n=5350), followed by *bisexual* (8.5%, 530), then *I don't usually use a term* (4.3%, 268) and *any other term* (0.9%, n=57).

The men who indicated *any other term* were asked to *say what?*. The most common response was queer (n=17), followed by homosexual (n=4) and open minded (n=3). All of the following terms were offered by one or two men: anti-sexual; asexual; batty; bear cub; bi-curious; bi-romantic asexual; controversial; fag; free spirit; human; lesbian; man who has sex with / sleeps with men; not heterosexual; pansexual; raving homo; sexual; slut; straight but enjoy a cock; straight with bi tendencies; straightish; trans; transvestite; try-sexual.

As we would expect, sexual identity was strongly but not perfectly associated with the gender of men's sexual partners. The following table shows the proportion of respondents indicating each sexual identity, with each type of sexual partners, and the proportions with each combination of these answers.

Sexual identity by gender of sexual partners in the last year (n=6205, missing 0)			**% by gender of sexual partners**			
			No partners (n=407)	**Women only** (n=39)	**Men and women** (n=426)	**Men only** (n=5333)
			6.6	**0.6**	**6.9**	**85.9**
% by sexual identity	**Gay** (n=5350)	**86.2**	5.6	0.1	1.4	79.1
	Bisexual (n=530)	**8.5**	0.9	0.5	4.1	3.0
	Don't usually use a term (n=268)	**4.3**	–	–	1.2	3.2
	Any other term (n=57)	**0.9**	<0.1	<0.1	0.2	0.7

The majority of gay identified men (91.7%) had sex with men only compared with 35.3% of bisexual men who, conversely, were much more likely to have had sex with both men and women (48.3%) compared with the gay men (1.6%). Slightly more bisexual men (10.6%) had no sex in the last year compared with gay men (6.5%).

2.5 RELATIONSHIPS INCLUDING CIVIL PARTNERSHIPS AND MARRIAGE

To establish men's relationship status and civil partnership / marital status, they were asked *Are you currently...* and asked to indicate the options in the table below, which also shows the proportion giving each response (several men who ticked *other* and indicated they were single or had casual partners only were re-coded into *none of these*).

Relationship status (n=6192, missing 13)	**% of all**	**% (n) by recruitment method**		**% Comparison groups**
		Internet	**Booklet**	
In a civil partnership with a man	5.9	6.5	4.9	43.8
In a relationship with man and not civilly partnered	37.9	38.9	36.5	
In a marriage with a woman	3.0	3.6	2.0	56.4
In a relationship with a woman and not married	1.3	1.4	1.0	
In none of these	52.0	49.7	55.5	
Other relationship status	0.2	0.1	0.3	

Twice as many men said they were in a civil partnership as were married, but the majority, 91.1% (n=5645), were in neither of these institutions.

Far more men were in relationships with men than were civilly partnered. Overall, 5.9% (364) were in a civil partnership and a very small number of these (n=4) indicated they were also in another relationship with a man, however, 37.9% were in a relationship with a man but not a civilly partnered. This proportion is lower than usually found in GMSS for the proportion who have a *regular sexual partner*, possibly because some men with a regular sexual partner do not consider that partner as a *relationship*.

Among the remaining 0.2% (n=11) *other* respondents eight did not specify what their *other* relationships was and three indicated they were in poly-amorous relationships.

Gay identified men were much more likely to be in a civil partnership than men who identified as bisexual (6.5% compared to 1.1%) while the latter were much more likely to be in a marriage with a woman (21.6% compared to 0.7%).

3 Evidence of HIV and STI infections

At the level of the population, the profile of the length of time infections go undiagnosed is the outcome of the interplay between the profile of sexual partner change and the profile of use of clinical services (testing and treatment). Currently among MSM in England and Wales there are too few sexual health screens (including HIV tests) for the rates of partner change and unprotected intercourse occurring in the population. To impact on the number of men living with a range of infections we need to either increase screening, decrease sexual risk acts, or both.

This chapter presents the responses to questions about diagnosis of HIV and other STIs.

3.1 INDICATORS OF INFECTIONS

Obviously with a pen-and-paper (or finger-and-keyboard) survey we are unable to clinically establish whether men have currently or recently acquired infections. We can however ask them about whether or not they have been diagnosed.

3.1.1 HIV testing

We think that the rate of HIV acquisition in the population of MSM is influenced but not determined by the rate of HIV testing. More testing means earlier diagnosis which means more accurate knowledge of HIV statuses and reduced infectivity through effective anti-retroviral treatment. The total number of HIV tests taken by MSM in the UK has increased dramatically in recent years due to changes in clinic policy, increasingly diverse testing sites and their social marketing. This has resulted in an increase in HIV diagnoses overall, and particularly in the diagnosis of recently acquired infections. The average length of time spent infected prior to diagnosis has correspondingly declined.

Men were asked *Have you ever received an HIV test result?* and were offered three responses: *No, I've never tested* (which 32.9% of all men indicated); *Yes, I've tested positive* (10.1%); *Yes, my last test was negative* (57.0%). Overall then, two thirds (67.1%) of men said they had been tested at some point, of which 15.1% had tested positive. Across the UK, a third had never tested for HIV.

GMSS is designed to maximise collaborator participation and to robustly describe *cross-sectional patterns* of risk and need among MSM. Because the survey is flexible to participation and alteration, it is therefore not well suited to measure change over time – both the recruitment base and the question forms change. However, if we examine national GMSS samples from 1997 to 2007 and include only those men living in England or Wales who had sex with a man in the last year, it is feasible to observe a steadily increasing proportion of each annual sample that has ever tested for HIV. The following table shows the proportion of the entire GMSS samples each year that had ever tested, the proportion of those who had tested who had received a positive diagnosis, and subsequently the proportion of the entire samples that were living with diagnosed HIV.

GMSS year	% ever HIV tested (all recruitment methods)	% diagnosed positive among men ever tested (all recruitment methods)	% living with diagnosed HIV
2007	**70.6%** (CI 69.4 – 71.8) (3826 of 5421, missing 9)	**15.2%** (CI 14.1 – 16.3) (580 of 3826, missing 9)	10.7
2006	**65.7%** (CI 64.8 – 66.6) (6882 of 10476, missing 68)	**12.9%** (CI 12.1 – 13.7) (876 of 6815, missing 67)	8.5
2005	**60.1%** (CI 59.3 – 60.9) (8486 of 14115, missing 46)	**11.9%** (CI 11.2 – 12.6) (996 of 8390, missing 96)	7.2
2004	**59.8%** (CI 59.0 – 60.6) (8255 of 13795, missing 36)	**11.8%** (CI 11.1 – 12.5) (964 of 8200, missing 55)	7.1
2003	**59.1%** (CI 58.2 – 60.0) (7282 of 12320, missing 74)	**11.7%** (CI 11.0 – 12.4) (852 of 7282, missing 0)	6.9
2002	**58.3%** (CI 57.5 – 59.1) (8517 of 14604, missing 145)	**13.0%** (CI 12.3 – 13.7) (1107 of 8517, missing 0)	7.6
2001	**55.8%** (CI 55.0 – 56.6) (7481 of 13399, missing 50)	**9.6%** (CI 8.9 – 10.3) (702 of 7308, missing 173)	5.4
2000	**59.5%** (CI 58.5 – 60.5) (5682 of 9545, missing 134)	**9.9%** (CI 9.1 – 10.7) (531 of 5344, missing 338)	5.9
1999	**57.6%** (CI 56.6 – 58.6) (5323 of 9246, missing 76)	**9.3%** (CI 8.5 – 10.1) (458 of 4935, missing 388)	5.4
1998	**57.4%** (CI 56.2 – 58.6) (3534 of 6155, missing 108)	**11.0%** (CI 10.0 – 12.0) (379 of 3434, missing 105)	6.3
1997	**58.5%** (CI 57.0 – 60.0) (2532 of 4331, missing 65)	**9.8%** (CI 8.6 – 11.0) (243 of 2492, missing 40)	5.7

Recruitment at Pride-events started in 1997. We introduced booklet recruitment in 1999 and online recruitment in 2001, and we did not recruit at Pride-type events in 2002 and subsequently. The online samples are significantly less likely to have ever tested compared to the booklets samples and Pride samples, with rates broadly similar in the latter two (Hickson *et al.* 2003a). The booklet samples are most likely to have diagnosed HIV compared to Pride and online samples, who had the lowest rates of diagnosed HIV.

The following table shows these same proportions for the booklet and internet recruits separately, as does the subsequent graph.

BOOKLET RECRUITS ONLY

GMSS year	% ever HIV tested (Booklet recruits only)	% diagnosed positive among men ever tested (Booklet recruits only)	% living with diagnosed HIV
2007	**77.4%** (CI = 75.7 – 79.1) (1790 of 2314, missing 8)	**15.4%** (CI = 13.7 – 17.1) (276 of 1790, missing 8)	11.9
2006	**72.2%** (CI = 70.7 – 73.7) (2628 of 3642, missing 23)	**14.0%** (CI = 12.7 – 15.3) (363 of 2593, missing 35)	10.1
2005	**71.0%** (CI = 69.6 – 72.4) (2756 of 3884, missing 29)	**13.4%** (CI = 12.4 – 15.0) (362 of 2698, missing 58)	9.5
2004	**66.8%** (CI = 65.3 – 68.3) (2416 of 3619, missing 11)	**11.4%** (CI = 10.1 – 12.7) (270 of 2361, missing 55)	7.6
2003	**67.1%** (CI = 65.5 – 68.7) (2299 of 3424, missing 35)	**12.7%** (CI = 11.3 – 14.1) (290 of 2299, missing 0)	8.5
2002	**64.9%** (CI =63.3 – 66.5) (2101 of 3235, missing 42)	**16.9%** (CI = 15.3 – 18.5) 355 of 2101, missing 0)	11.0
2001	**61.2%** (CI = 59.2 – 63.2) (1459 of 2383, missing 12)	**13.2%** (CI = 11.5 – 15.0) (190 of 1439, missing 20)	8.1
2000	**60.1%** (CI = 58.4 – 61.8) (1854 of 3140, missing 56)	**10.6%** (CI = 9.2 – 12.0) (186 of 1763, missing 91)	6.4
1999	**56.2%** (CI = 54.2 – 58.2) (1390 of 2473, missing 7)	**11.5%** (CI = 9.7 – 13.3) (145 of 1264, missing 126)	6.5

INTERNET RECRUITS ONLY

GMSS year	% ever HIV tested (Internet recruits only)	% diagnosed positive among men ever tested (Internet recruits only)	% living with diagnosed HIV
2007	**65.6%** (CI 63.9 – 67.3) (2037 of 3107, missing 1)	**14.9%** (CI 13.4 – 16.5) (304 of 2037, missing 1)	9.8
2006	**62.2%** (CI 61.1 – 63.4) (4254 of 6834, missing 45)	**12.2%** (CI 11.2 – 13.2) (513 of 4222, missing 32)	7.6
2005	**56.0%** (CI 55.0 – 57.0) (5730 of 10231, missing 17)	**11.1%** (CI 10.3 – 11.9) (634 of 5692, missing 38)	6.2
2004	**57.1%** (CI 56.1 – 58.1) (2743 of 10049, missing 25)	**11.8%** (CI 11.0 – 12.6) (379 of 5743, missing 0)	6.7
2003	**56.0%** (CI 55.0 – 57.0) (4983 of 8896, missing 0)	**11.3%** (CI 10.4 – 12.2) (562 of 4983, missing 0)	6.3
2002	**49.3%** (CI 48.1 – 50.6) (3050 of 6185, missing 50)	**9.3%** (CI 8.3 – 10.3) (284 of 3050, missing 0)	4.6
2001	**45.9%** (CI 44.3 – 47.5) (1773 of 3863, missing 11)	**8.8%** (CI 7.5 – 10.1) (142 of 1766, missing 7)	4.0

Both ever having tested and having tested positive rose steadily in both recruitment sub-samples, with the booklet sub-sample always being more likely to have tested than the internet sub-sample as well as containing a higher proportion of men with diagnosed HIV.

The number of MSM living with diagnosed HIV in the UK has only ever gone up. Our community-based data reflects this with an increasing proportion of men living with diagnosed HIV.

If, as suggested by the second *National Survey of Sexual Attitudes and Lifestyles* (Mercer *et al.* 2004), the number of MSM is increasing, this will dampen the rise in prevalence that would be accompanied by a rise in the absolute number of men living with diagnosed HIV.

The *actual* shape of these curves in the population is smooth (there was no dip in the actual number of men living with HIV in 2005 for example. The jaggedness of the lines in the graph reflect the changing recruitment bases to the survey. That the lines for the two recruitment methods are different (even though both sub-samples have the same socio-sexual inclusion criteria), indicate that the absolute levels of all variables are related to how the men are recruited.

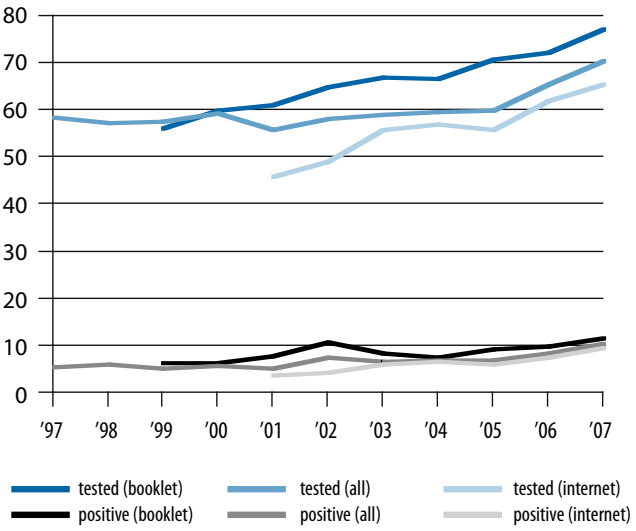


Figure 1: Proportion of GMSS respondents who had tested for HIV and the proportion living with diagnosed HIV, by recruitment method

We have therefore predominantly used the *Gay Men's Sex Survey*s to describe patterns across different groups of men. Section 3.2 describes how HIV testing, living with diagnosed HIV and recently being diagnosed with an STI varied across the groups described in Chapter 2.

3.1.2 Other sexually transmitted infections

HIV negative men who are sexually exposed to HIV are more vulnerable to infection if they have another STI at the time of their exposure (a genital infection will increase vulnerability during insertive anal intercourse, a rectal infection will increase vulnerability during receptive anal intercourse and a pharyngeal infection will increase vulnerability during receptive oral intercourse). Also, other STIs can increase HIV viral load in men with HIV. So an HIV positive man who has another STI is more infectious than if he did not have another infection. Together, these effects mean that the more sexual exposures that occur in the presence of another STI, the more HIV transmissions will occur.

Making it Count (Hickson *et al.* 2003b) advocates reducing other STIs as an essential part of a comprehensive HIV prevention programme. Knowing which men are more likely to have another STI allows better targeting of prevention and diagnosis interventions.

Men were asked *In the last 12 months, have you PICKED UP a sexually transmitted infection?* and were offered the responses: *No; Yes; Maybe*. Men who indicated *yes* or *maybe* were asked to *say what* on a blank line. We have previously shown that self-reports of STI diagnoses tally well with surveillance reports – the most commonly self-reported STIs are the same as the most commonly reported to central surveillance.

Overall, 11.4% (n=707) of respondents said they had picked up an STI in the last year and this proportion was much higher for men who had tested HIV positive (28.4%) than those whose last test was negative (12.8%) which was higher than for those who had never tested for HIV (3.9%). A relatively small proportion (2.7%) of men indicated *maybe* and this proportion did not vary by HIV testing history.

Of the 707 men who said they had picked up an STI, 662 specified what they thought the STI was, with 76 men specifying more then one STI. The STIs specified were as follows.

STI diagnoses	Number who were diagnosed with this infection in the last year	% of those diagnosed with this STI in the last year who were living with diagnosed HIV at the time of survey
Gonorrhoea	166	27.7
Chlamydia	152	27.6
Syphilis	94	46.8
NSU	91	17.6
Crabs / lice / scabies	86	3.5
HPV / warts	68	7.4
HIV	34	–
Herpes	29	24.1
LGV	7	100
Hepatitis C	6	83.3
Other	17	17.6

The following infections were each specified by two men: molluscum contagiosum; thrush; hepatitis A; hepatitis B; impetigo. Single instances of the following were specified: CMV; shigella; giardia; circinate balanitis; meningococcal meningitis; strep.

Among those who indicated each STI, the proportion who were co-infected with HIV varied considerably. All seven of the men who indicated they had picked up LGV had HIV, as did five of the six men who picked up hepatitis C.

Men living with diagnosed HIV were significantly more likely than men whose last HIV test was negative to have been diagnosed with gonorrhoea (7.5% vs 3.0%), chlamydia (6.9% vs 2.9%), syphilis (7.2% vs 1.3%), hepatitis C (0.8% vs 0.0%) and LGV (1.1% vs 0.0%).

However, NSU, HPV and herpes were equally common in both groups and men with diagnosed HIV were *less* likely to indicate having had crabs (0.5% vs 1.6%) in the last year.

Men with HIV are more likely to acquire other STIs and (among HIV negative men) men acquiring other STIs are more likely to acquire HIV. Gonorrhoea in particular has for some time been recognised as associated with HIV sero-conversion (Vittinghoff *et al.* 1999) and emerged as one of the few independent risk factors for sero-conversion among MSM in England (Macdonald *et al.* 2008).

HIV prevention programmes and STI prevention programmes should go hand-in-hand.

3.2 VARIATION IN HIV AND STI DIAGNOSES ACROSS DEMOGRAPHIC GROUPS

The following tables show how diagnosis of HIV and other STIs vary across the key demographics reported in chapter 2, looking first at HIV and then at other STIs among men tested positive for HIV separately from those not tested positive. The table includes only those STIs which showed a significant difference across the groups.

3.2.1 Residence and HIV and STI diagnoses

The table below shows how the indicators of infection varied across the country.

Indicators of HIV / STI infections (all men)		% by area of residence												
		England										Wales (249)	Scotland (285)	N Ire. (74)
		London (1991)	South West (517)	South Central (322)	South East Coast (384)	East (453)	East Mids (309)	West Mids (455)	York & Hum (461)	North West (500)	North East (167)			
Never HIV tested		20.9	35.9	39.0	36.1	38.0	39.9	37.6	41.2	35.8	37.9	39.4	46.3	47.3
Living with diagnosed HIV		15.1	5.4	5.6	13.3	6.2	4.8	10.5	4.7	14.0	7.7	6.0	3.8	4.1
Positive HIV diagnosis incidence		0.9	0	0.3	0.6	0.5	0	0.7	0.7	1.4	0	0.4	0	0
Not tested HIV positive	Chlamydia	2.5	1.0	2.0	4.8	1.7	2.0	0.7	1.8	1.4	1.9	0.9	1.5	2.8
	Crabs etc.	1.8	2.5	0.7	0.3	1.2	0.3	1.2	0.7	0.9	1.9	1.7	3.0	5.6

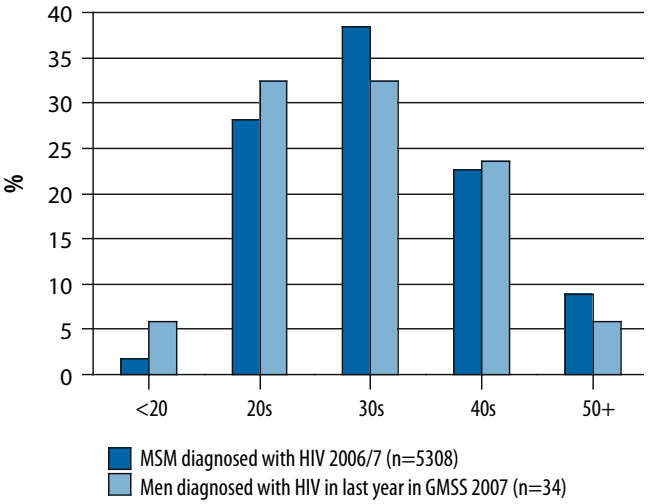
As in previous years, HIV testing was most common among men living in London, and living with diagnosed HIV was also most common in London. However, men living in the regions containing the other two major gay cities in the UK, the North West for Manchester and the South Coast for Brighton, also had high levels of diagnosed HIV. Both HIV testing and living with diagnosed HIV were lowest in this survey among men in Scotland and Northern Ireland.

3.2.2 Age and HIV and STI diagnoses

The following table shows how HIV testing history and STI acquisition in the last year varied across the age range.

Indicators of HIV / STI infections (all men)		% by age group				
		under 20 (n=547)	**20s** (n=1961)	**30s** (n=1717)	**40s** (n=1273)	**50+** (n=708)
Never HIV tested		72.6	39.2	20.8	23.2	31.8
Living with diagnosed HIV		1.1	3.8	13.3	17.8	12.7
Positive HIV diagnosis incidence		0.4	0.6	0.7	0.8	0.3
Not tested HIV positive	Gonorrhoea	2.2	2.3	2.8	1.9	0.7
	NSU	0.7	0.9	2.1	1.3	1.8
	Crabs etc.	1.5	2.4	1.0	0.9	1.0
	HPV / warts	0	1.8	1.3	0.9	0.2
Tested HIV positive	Chlamydia	33.3	11.0	8.6	4.9	2.2
	HPV / warts	16.7	2.7	0.5	0.4	0

Never having tested for HIV was unsurprisingly highest among the youngest age group. Living with diagnosed HIV was most common among men in their 40s, where more than one-in-six was doing so (and even higher in some parts of the country).



The figure shows the profile of the age at diagnosis of the 5308 MSM diagnosed with HIV for the first time in 2006 or 2007 (Health Protection Agency 2009) alongside the age profile of the 34 men in GMSS 2007 who indicated they were diagnosed with HIV for the first time in the last year. The two profiles are similar but with over-representation in GMSS of both younger men (under 30 years) and older (over 40 years) men.

This further suggests that GMSS respondents are a fairly representative sample of men at risk for HIV infection.

3.2.3 Ethnicity and HIV and STI diagnoses

The following table shows the associations between HIV and STI diagnoses and the respondents' ethnicity. For a description of an attempt to subvert the findings of this table, and the steps we took to rectify this, see Section 1.5.

Indicators of HIV / STI infections (all men)		% by ethnic group					
		white British (n=4887)	white other (n=786)	black (n=113)	Asian (n=120)	mixed (n=142)	other (n=148)
Never HIV tested		35.3	20.6	25.9	35.3	23.2	30.6
Living with diagnosed HIV		10.0	11.3	13.4	6.7	11.3	5.4
Positive HIV diagnosis incidence		0.6	1.0	0	0.9	0	0
Not tested HIV positive	Chlamydia	1.7	3.0	5.2	2.7	4.0	2.2
	Crabs etc.	1.4	2.9	0	1.8	0.8	0
	Hep C	0.6	2.3	0	0	0	0
Tested HIV positive	HPV / warts	0.4	2.3	0	14.3	0	0
	LGV	0.8	0	0	0	13.3	12.5

Although living with diagnosed HIV varied by ethnicity as in previous years (higher among black men, lower among Asian men, relative to the white majority), this was not statistically significant. No clear or consistent pattern of associations between ethnicity and other STIs emerged, with different groups appearing to have higher levels of different STIs.

3.2.4 Gender of partners and HIV and STI diagnoses

The following table shows the associations between HIV and STI diagnoses and the gender of men's sexual partners in the last year.

Indicators of HIV / STI infections (all men)		% by gender of partners last year			
		No partners (n=407)	Women only (n=39)	Women and men (n=426)	Men only (n=5334)
Never HIV tested		67.7	69.2	47.9	28.8
Living with diagnosed HIV		7.6	0	5.2	10.7
Positive HIV diagnosis incidence		0.3	0	0.7	0.6
Not tested HIV positive	Gonorrhoea	0	0	2.3	2.4
	Chlamydia	0.3	0	1.5	2.2
	NSU	0	0	2.5	1.4
Tested HIV positive	Crabs etc.	0	–	4.8	0.4
	HPV / warts	0	–	9.5	0.5

None of the (small group of) men who had sex with women only in the last year were living with diagnosed HIV. A positive diagnosis was most common among men who had sex with men only, about twice that among behaviourally bisexual men.

Sex with men was associated with diagnosis of several STIs, but no consistent and strong pattern emerged over sex with women also. Among the men living with HIV, two STIs were most common among the men who had sex with both men and women.

3.2.5 *Relationship status and HIV and STI diagnoses*

The following table shows the associations between HIV and STI diagnoses and whether or not men were in a relationship with another man at the time of the interview.

Indicators of HIV / STI infections (all men)		% by male relationship status	
		NO relationship with a man (n=3497)	Current relationship with a man (n=2709)
Never HIV tested		37.1	27.4
Living with diagnosed HIV		9.4	11.0
Positive HIV diagnosis incidence		0.6	0.6
Tested HIV positive	Syphilis	10.1	4.1
	HPV / warts	1.6	0

Living with diagnosed HIV was more common among men in a relationship than those not (conversely more men with HIV were in a relationship than those without HIV). Only two of the STIs were more common in one group than the other and only then among men with diagnosed HIV: syphilis and HPV diagnoses were more common among single men.

3.3 SUMMARY AND IMPLICATIONS FOR PROGRAMME PLANNING

There was no single sub-group who disproportionately experienced all STIs. Some STIs were higher in some groups than others, but different STIs (including HIV) were most common in different groups. This suggests that STI patterns are not simply the outcome of sexual behaviour, but of a complex interaction between sexual behaviour, mixing patterns and service use.

The number of men currently living with any one STI is a function both of the rate at which the STI is acquired and the rate at which it is diagnosed and treated (plus the rate at men with the infection die or otherwise leave the population).

Gonorrhoea has in particular been associated with HIV acquisition and in the data above, where gonorrhoea diagnosis did vary across groups, it was most common in the same group as HIV acquisition was highest.

The next chapter reports on men's sexual behaviour, and this may be a necessary supplement on which to segment the population for interventions rather than on demographic characteristics alone.

4 Having sex and other health-related behaviours

This chapter considers the extent and distribution of behaviours that present an HIV transmission risk. All sexual HIV transmission behaviours are by definition sexual behaviours and we start by looking at the broader group of sexual risk behaviours within which transmission behaviours are located.

Chapter 2 reported that 7.2% of respondents had not had sex with another man in the last year (including 0.6% who had sex with a woman but not a man). This section concerns the 92.8% (n=5759) who were homosexually active in the preceding year, including 6.9% who had sex with both men and women.

4.1 INDICATORS OF SEXUAL RISK

In order for an HIV transmission to occur a number of necessary and sufficient behavioral conditions must be met, and a number of other factors facilitate and detract from the probability transmission will occur. Sexual HIV risk comprises many different elements and no one of the indicators here will determine risk or transmission occurring.

4.1.1 Regular HIV sero-discordant sexual partners

The first common way in which men can find themselves regularly engaging in sero-discordant sex is by being in a relationship with a man of a different HIV status. Obviously, asking men this has the limitations of diagnosis and disclosure. Men were asked *Do you have a regular male sexual partner who has a different HIV status to yourself (where one of you has HIV and the other does not)?* and were offered three responses: *No; Yes; Don't know*. The following table shows each response according to HIV testing history.

Do you have a regular male sexual partner who has a different HIV status to yourself? (n=5750, missing 9)	**% by HIV testing history**			**% Total**
	Never tested (n=1737)	**Last test negative** (n=3532)	**Tested positive** (n=625)	
No	85.7	86.4	54.7	82.9
Yes	1.4	5.6	38.2	7.7
Don't know	12.9	8.0	7.1	9.4

Overall, 7.7% of respondents said they has a regular sexual partner who they knew had a different HIV status to themselves. This was much more common for men with diagnosed HIV (38.2% had a regular HIV negative partner) compared with men without diagnosed HIV.

4.1.2 Locations of meeting new sex partners

The gay sexual market place, the infrastructure within which men can make contact and have sex, is in constant flux. As well as individual sites opening and closing, the last decade has seen the introduction of the internet as a way of making contact and an expansion of the sauna and backroom scenes in the UK. Men were asked *Where have you met NEW male sexual partners in the last 12 months?* and were offered a list of 12 types of location plus space for specifying others.

Overall 82.4% of respondents who had a male sex partner in the last year (or 76.1% of all respondents) indicated they had at least one new sexual partner in the last year (the remaining 17.6% having sex in the last year only with men they had previously had sex with; this does not necessarily mean only one partner – see the next section). The following table shows the proportion of men who said they had met a new sex partner in each of the twelve location types (on the right). For a historical comparison the table also shows (on the left) the proportion of men taking part in a gay press community survey in 1987 (McManus & McEvoy 1987) who indicated they often met sex partners at that location. It should be noted that the venues are not necessarily in the UK.

1987: Where do you most often meet your sexual partner in the UK? (McManus & McEvoy 1987, N=1292 men responding to a survey in a national gay press title, non-exclusive answers)		**2007; Where have you met new male sexual partners in the last 12 months?** (GMSS 2007, n=4723 men who had met a new sex partner in last year, non-exclusive answers)	
–	–	62.0	On the internet
Bars	71.9	52.2	In a bar, pub or club
Discotheques	64.2		
Saunas	28.1	37.8	At a sauna
Backrooms	15.9	22.6	At a backroom / sex club
–	–	22.3	At a cruising ground
Private parties	49.1	17.9	At a private party
Public lavatories	37.7	12.4	In a cottage (public toilet)
–	–	11.3	At a regular social group
–	–	9.9	At work
–	–	8.2	At the gym
Cinemas	14.1	3.3	At a sex cinema
Contact advertisements	29.6	2.7	Through ads in magazines and newspapers

In 2007 the most popular route overall for meeting new sexual partners was the internet with almost two thirds of men with a new sexual partner having met one online.

Compared with the gay community survey in 1987 we can see increases in men meeting sex partners at saunas and backrooms but decreasing in the other five locations asked about (bar/club, parties, cottages, cinemas and adverts).

In 2007 the rank ordering of popularity of places to meet new sexual partners was very similar for men recruited on the internet and those recruited using the booklet (see table following). The main difference was that among internet recruited men the internet was a more popular place to meet sexual partners than were pubs/clubs, while for men recruited with the booklet this was reversed. This suggests that 'Booklet recruited men' and 'Internet recruited men' are not two separate groups.

Where have you met new male sexual partners in the ast 12 months? (% and 95% CI of men who had met a new sex partners in last year)	Booklet recruited			Internet recruited		
	2002 (n=2662)	2007 (n=1966)	Change	2002 (n=5016)	2007 (n=2757)	Change
On the Internet	36.0 34.2-37.8	50.9 49.0-52.8	Up	75.3 74.1-76.5	69.9 68.2-71.6	Down
In a bar, pub or club	64.7 62.9-66.5	54.8 52.9-56.7	Down	51.1 49.7-52.5	50.4 48.5-52.3	n.s.
At a sauna	37.2 35.4-39.0	48.0 46.1-49.9	Up	29.5 28.2-30.8	30.5 28.8-32.2	n.s.
At a backroom / sex club	21.5 19.9-23.1	24.6 23.0-26.2	n.s.	16.6 15.6-17.6	21.2 19.7-22.7	Up
At a cruising ground	32.5 30.7-34.3	25.2 23.6-26.8	Down	27.3 26.1-28.5	20.3 18.8-21.8	Down
At a private party	19.3 17.8-20.8	15.6 14.2-17.0	Down	16.8 15.8-17.8	19.5 18.0-21.0	Up
In a cottage (public toilet)	21.7 20.1-23.3	12.5 11.2-13.8	Down	17.1 16.1-18.1	12.4 11.2-13.6	Down
At a regular social group	13.0 11.7-14.3	11.6 10.4-12.8	n.s.	7.4 6.7-8.1	11.1 9.9-12.3	Up
At work	11.1 9.9-12.3	9.5 8.4-10.6	n.s.	10.3 9.5-11.1	10.2 9.1-11.3	n.s.
At the gym	7.3 6.3-8.3	7.4 6.4-8.4	n.s.	6.5 5.8-7.2	8.8 7.7-9.9	Up
At a sex cinema	3.7 3.0-4.4	3.3 2.6-4.0	n.s.	2.9 2.4-3.4	3.3 2.6-4.0	n.s.
Through ads in magazines and newspapers	7.9 6.9-8.9	2.4 1.8-3.0	Down	3.7 3.2-4.2	2.9 2.3-3.5	n.s.

In 2007 the six least popular locations were equally used between men recruited online and men recruited using the booklet: the same proportion of each had met a new partner at a cottages, social group, work, gym, sex cinema or through a press advert.

In 2007 men recruited with the booklet were more likely than those recruited online to have met a new sexual partner in four locations: a backroom / sex club, a cruising ground, a bar / club and at a sauna. Men recruited online were more likely to have met one on the internet or at a private party.

Comparing 2007 with 2002, in neither recruitment sub-sample was there a change in the small proportion meeting sex partners at cinemas or the larger proportion meeting them at work.

The new sexual market places continue to attract new customers. Among booklet recruited men there were relatively large increases in the proportions meeting sex partners online and at saunas. The sites less commonly used as a consequence are the older ways of meeting: bars / clubs, cruising grounds and cottages, parties and personal ads. The two locations less commonly used in both groups were cottages and cruising grounds.

From the foregoing, we would suggest that:

- **There has been an increase in the supply and use of enclosed meeting places for immediate sex (saunas, backrooms) and a decline in public meeting places for immediate sex (cottages, cruising grounds).**
- **The method of advertising for sexual partners has become much more efficient and immediate (from personal ads to the internet).**

Together these two developments, which are a combination of technological and commercial developments, make an overall contribution to more sex, therefore more risky sex, and hence more HIV and other sexually transmitted infections.

4.1.3 Number of male sex partners last year

The second way in which men will find themselves regularly having sex with men of a different HIV status is through having large numbers of sexual partners. Men were asked *In total, how many MEN have you had sex with in the last 12 months?*

As every year, respondents were very varied in their number of sexual partners. Among the men who had a male sex partner in the last year, 21.4% indicated they had one male partner only; 27.6% had two, three or four male partners; 24.4% had between five and twelve male partners; 13.4% had between thirteen and 29 male partners; and the remaining 13.4% had thirty or more male partners in the last year.

- **There is a very wide range of sexual partner change among MSM – many men have only one partner, many men have a different partner each week (or more often).**

Among the 21.4% of men who had only one partner, 25.6% had a new partner and 74.4% did not. The proportion who did not have a new partner was much smaller among men with larger numbers of partners. Among those who had two, three or four partners, only 5.8% had no new partner and the figure drops below 0.5% for men with more than four partners.

Number of sex partners and HIV and STI diagnoses

Numbers of sexual partners was strongly related to HIV testing history, HIV diagnosis and diagnosis of other STIs, as shown in the following table (see Chapter 3 for a description of these variables).

Indicators of HIV / STI infections (all men)		% by number of male sex partners last year					
		None (n=444)	One (n=1226)	2, 3, 4 (n=1583)	5-12 (n=1399)	13-29 (n=767)	30+ (n=767)
Never HIV tested		67.9	42.6	39.4	26.1	15.7	13.6
Tested HIV positive		7.0	5.7	6.6	9.6	16.1	20.9
Positive HIV diagnosis incidence		0.2	0.3	0.1	0.6	1.5	1.8
Not tested HIV positive	Gonorrhoea	0	0.1	1.2	2.8	4.4	6.6
	Chlamydia	0.2	0.4	0.8	2.3	5.0	5.2
	Syphilis	0	0.1	0.5	0.8	2.5	2.5
	NSU	0	0.3	0.5	1.4	3.4	4.2
	Crabs / lice / scabies	0.2	0.1	1.3	2.6	1.9	2.9
	HPV / warts	0	0.1	1.1	1.8	1.9	1.8
Tested HIV positive	Gonorrhoea	0	0	4.9	5.3	7.6	16.1
	Chlamydia	0	0	1.9	5.3	9.3	14.2
	Syphilis	0	1.4	3.9	4.5	6.8	15.5
	NSU	0	0	1.0	3.8	0	6.5
	Herpes	0	0	1.0	0	0	3.9
	LGV	0	0	0	0	0	3.9

Living with diagnosed HIV was most common among men with thirty or more partners in the last year. Conversely, while 10.0% of men not tested positive had thirty or more partners, 25.7% of the diagnosed positive men had. Men with diagnosed HIV were less likely to have no partners (5.0%

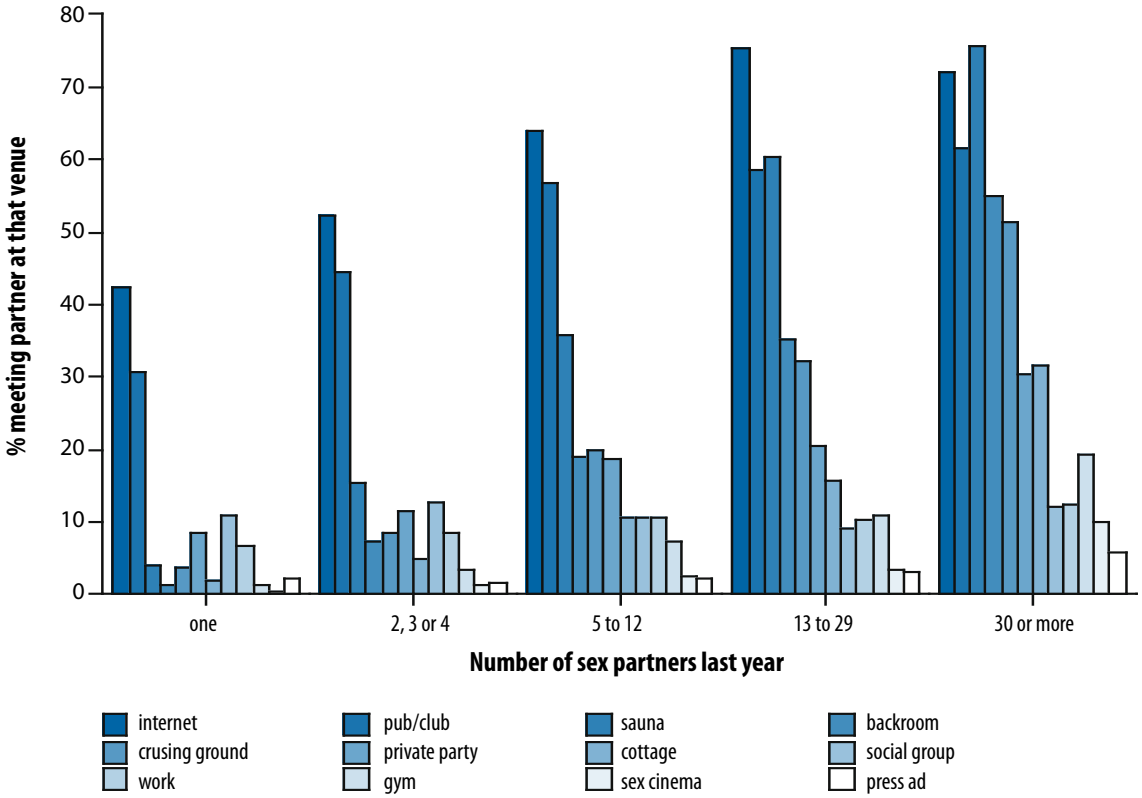
versus 7.5%) and were less likely to be monogamous or otherwise had only one partner (11.2% versus 20.8%). Similarly, being diagnosed with HIV for the first time in the last year was much more common among men with the highest numbers of partners.

Almost all of the STIs showed a strong association with numbers of sexual partners, increasing step-wise with increasing numbers of partners. Among men with HIV, recent diagnosis of herpes and LGV only occurred in men with 30 or more partners in the last year

- **The probability of acquiring (and currently being infected by) any sexually transmitted infection, including HIV, increases with increasing numbers of sexual partners.**

Number of sex partners and location of meeting new sex partners

The following figure illustrate the associations between the number of men's sexual partners and the venues where they meet sexual partners, among men who had a new male sex partner in the last year.



The graph shows the proportion of men using each venue to meet partners, split by how many partners men had in the last year. All settings (except social groups) were more commonly used by men with more partners rather than fewer partners. However, the popularity of settings varied by the number of partners men had. The internet and pubs / clubs were important settings for all men. However, saunas, backrooms and cruising grounds were much more common sources for men with many partners. The following table shows how much more likely men with 30 or more partners were to use a setting compared to men with 2-4 partners.

Setting	*Odds*	*Ratio (95%CI) of men with 30+ partners using setting to men with 2-4 partners using it*
Social group	0.88	(0.70–1.10)
At work	1.44	(1.13–1.83)
Pub / club	2.07	(1.79–2.39)
Private party	2.79	(2.30–3.40)
Internet	2.88	(2.48–3.35)
Ads	2.95	(1.84–4.73)
Gym	5.38	(3.93–7.37)
Sex cinema	6.23	(3.76–10.33)
Cottage	6.43	(4.94–8.37)
Cruising ground	8.24	(6.69–10.15)
Backroom	11.28	(9.05–14.07)
Sauna	12.46	(10.44–14.86)

Saunas and backrooms, followed by cruising grounds and cottages, were the settings very disproportionately used by men with larger numbers of partners. Compared to pubs / clubs and the internet, the groups of men who can be encountered in these settings can be expected to have a higher sexual partner volumes.

- **Saunas and backrooms are very disproportionately used by men with higher numbers of sexual partners.**

These two settings are those we identified above as having greatly increased in recent years. The rise of these low-threshold access, instant contact, multi-partner settings for MSM has had a major impact on the transmission of HIV/STIs and poses a serious challenge to sexual health promotion. Effective interventions in these settings have a much larger potential for sexual health gain than interventions on the internet or in pubs / clubs (without backrooms).

4.1.4 HIV status seeking and disclosure

Sometimes HIV prevention programmes attempt to influence the behaviours that cause or prevent HIV transmission by influencing other behaviours which influence the extent to which prevention needs are met. For example, if substance use undermines HIV prevention needs and increases risk behaviours, then reducing substance use should reduce risk behaviours. Similarly taking an HIV test is likely to meet the need of knowing whether or not one has HIV, a need many people believe is related to probability of sexual HIV exposure. Not using substances or taking an HIV test can be thought of as a second-tier prevention behaviour.

One second tier prevention behaviour that has gained attention in the last few years has been HIV status disclosure. It is unclear however whether seeking and disclosing HIV status information with sexual partners should be considered a risk behaviour (perhaps for uninfected men lulled into a false sense of security) or a preventative behaviour (when done by positive men it may increase the likelihood an uninfected partner will recognise their sero-discordancy).

Men were asked *In the last 12 months, how often have you asked casual sex partners about their HIV status?*, and *In the last 12 months, how often did you tell casual sexual partners about your HIV status?*. For both questions men were offered the four options: *Always / Sometimes / Never / I had no casual sex partners in the last 12 months*. Among the men who had a male sexual partner in the last

year, 19.5% indicated they had no casual sex partners in that time. The following table shows the proportion of the men who did have casual sex, who used each combination of HIV status seeking and disclosure.

Men who had casual sex with a man in the last year (n=4630)		**Asking** casual sex partners their HIV status			**Row Total**
		Always	**Sometimes**	**Never**	
Telling casual sex partners your HIV status	Always	12.8	3.7	1.7	18.3
	Sometimes	1.8	19.0	6.3	27.1
	Never	1.0	4.4	49.1	54.6
Column Total		15.6	27.1	57.2	100.0

HIV status enquiry and disclosure were strongly related. Half of the men having casual sex never enquired about their partners HIV statuses and never disclosed their own. Of the other half, 19.0% sometimes enquired and sometimes disclosed, and 12.8% always did both. Smaller numbers of men engaged in the other combinations.

- **Half of all men having casual sex never share their HIV status or seek the status of their sexual partners.**

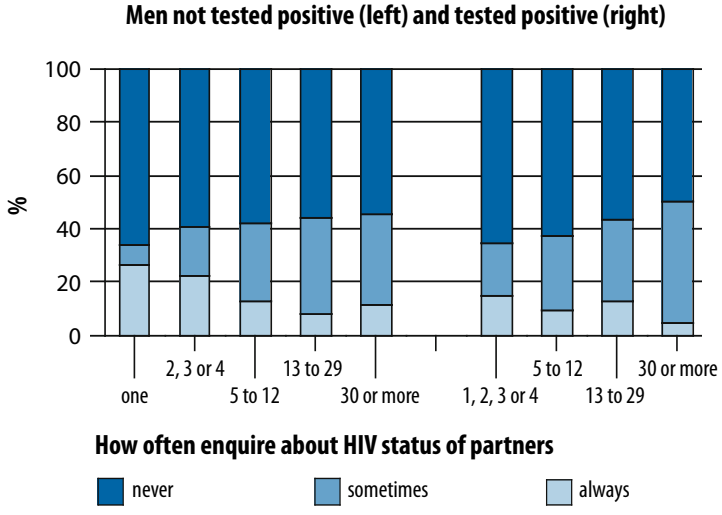
Never enquiring about HIV was the norm among both men living with diagnosed HIV and those not doing so: 51.1% of positive men and 58.1% of not positive men never enquired about the HIV status of their casual sex partners. However, men with diagnosed HIV were less likely to always (11.1% vs. 16.2%) or never (51.1% vs. 58.1%) enquire about the HIV status of their casual sex partners, and were more likely to sometimes (37.9% vs. 24.7%) do so, compared with men without diagnosed HIV. This suggests diagnosed positive men are more circumspect about discussing HIV with casual sex partners and are less likely to have a hard and fast rule.

On the other hand, while never disclosing HIV status was the norm for men not tested positive (57.5% never did so), only a third of positive men never did so (32.5%). Men with diagnosed HIV were more likely to always (21.2%) or sometimes (46.3%) disclose their HIV status compared with men without HIV (17.9% and 24.7% respectively).

- **Only 1-in-5 positive men always tell their casual partners they have HIV.**

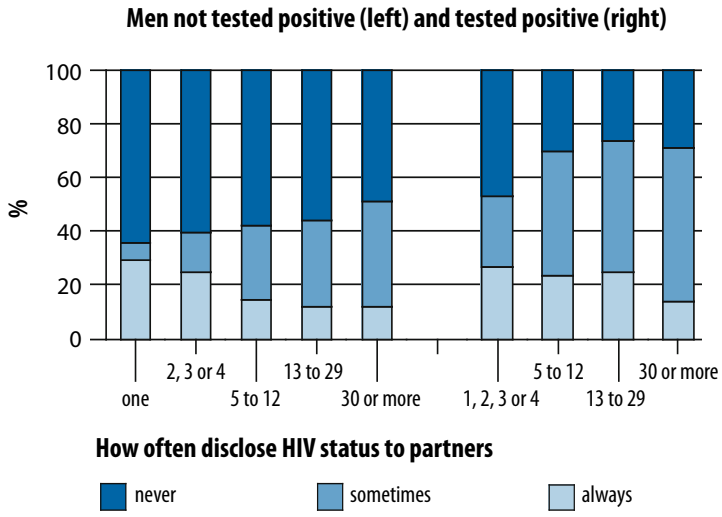
Fewer men not tested HIV positive disclosed this to casual partners. This may be because not having HIV is the norm among gay and bisexual men and men who think they do not have HIV regard not mentioning their (presumed negative) status to mean they assume they are negative.

Enquiry about HIV status of partners is related to the number of sexual partners men have. With increasing numbers of partners men were more likely to sometimes ask and less likely to never or always do so. This was the case for both positive and not positive men (see graph).



Similarly, men were more likely to sometimes disclose their HIV status to sexual partners with increasing numbers partners. The more partners men have the more opportunities they have for enquiring about the status of casual partners and for disclosing their own.

- **Selective HIV status communication increases with increasing numbers of sex partners.**



4.1.5 Recency of HIV risk events: anal intercourse

Men were asked a series of questions about how recently they had engaged in anal intercourse of differing modes with differing partners. Together there were ten different circumstances asked about. These were:

- Receptive Anal Intercourse (with or without a condom)
    - Unprotected Receptive Anal intercourse (URAI)
        - URAI with a partner of unknown HIV status
        - URAI with a partner of known discordant status
- Insertive Anal Intercourse (with or without a condom)
    - Unprotected Insertive Anal Intercourse (UIAI)
        - UIAI with a partner of unknown HIV status
        - UIAI with a partner of known discordant status
    - Protected Insertive Anal Intercourse (PIAI)
        - PIAI with condom failure

For each of the ten behaviours, men were asked *How long has it been since you had...* and were asked to indicate one of four time periods. The table below shows the proportion of men who indicated each time period for each behaviour.

Men who had sex with a man in the last year (n=5760)	% length of time since doing the act			
	within last month	over a month but in last year	over a year ago	never
Receptive AI (missing 41)	44.4	27.7	14.2	13.7
Unprotected RAI (missing 75)	24.1	18.5	18.8	38.5
URAI with partner of unknown status (missing 75)	7.7	10.1	16.7	65.5
URAI with known discordant partner (missing 264)	3.2	4.1	7.2	85.5
Insertive AI (missing 37)	41.6	26.6	13.5	18.4
Unprotected IAI (missing 68)	23.7	18.1	16.9	41.3
UIAI with partner of unknown status (missing 91)	7.1	10.1	14.3	68.5
UIAI with known discordant partner (missing 293)	2.9	4.4	7.2	85.5
Protected IAI (missing 62)	29.3	25.9	19.7	25.1
PIAI with condom failure (missing 477)	2.3	5.0	11.8	80.8

Experience of anal intercourse is widespread. Only 13.7% had *never* been receptive in anal intercourse and 18.4% had *never* been insertive. Combined, 4.9% said they had never had anal intercourse in either mode.

Large proportions of MSM engage in anal intercourse (AI) in a given year. Overall, 72.1% had engaged in receptive AI and 68.2% had engaged in insertive AI. Combined, 86.8% had engaged in one or both modes in the last year. Compare this figure with that found (using a different question format) in the GMSS 1998 survey which found 84.0% had AI in the last year (Hickson *et al.* 1999, p.31).

Overall, 19.0% of men indicated they had receptive unprotected anal intercourse (UAI) in the last year with either a man whose status they did not know or with a man they knew to be sero-discordant to themselves (what we will call a risky partner). Similarly, 18.3% of men said they had insertive UAI with a risky partner. Together, 26.0% of men said they had either receptive or insertive UAI (or both) with a risky partner in the last year.

When assessing the extent of risk behaviour in the population, we also take into account the fact that most men with undiagnosed HIV infection believe themselves to be HIV negative. Therefore some of the 74.0% who indicated having UAI but not having had UAI with an unknown or known discordant partner, will have been involved in exposure (that is some men will have had what they thought was HIV negative sero-concordant UAI but their partner or they will have had undiagnosed HIV).

4.1.6 Self-rating of sexual HIV risk

Ideally, we would have a question that would distinguish those men who had been involved in sexual HIV exposure from those men who had not. In the absence of such a question, we can ask sexual behaviour questions and decide who is more or less likely to have been involved in behaviour with a risk of exposure. Alternatively, we can ask men directly. Men were asked *Have you had sex with a risk of HIV transmission in the last 12 months?* and were offered the options *yes* or *no*. Overall, a third of men (33.9%) said *yes*.

In GMSS 2004 men were asked a similar question (*Have you had sex with a risk of HIV transmission since you're last HIV test?*) and those who said yes were asked to say what made the sex risky

(Weatherburn *et al.* 2005). We know from the answers that men regard a range of behaviours as risky for HIV (some of which have little chance of transmitting HIV) and that they make judgements on both risky sex acts and risky partners. However, the most common construction of risky sex was unprotected anal intercourse with men not known to be HIV sero-concordant.

Having more sex partners was associated with a higher likelihood of risky sex. Having had sex with a risk of HIV transmission was strongly associated with the number of male sexual partners in the last year – 13.3% of men with one partner felt they had engaged in sex with a risk of HIV transmission compared with 52.4% of men with 30 or more male partners.

Sex with a new partner was also associated with a higher likelihood of risky sex. Among men who had only one partner in the last year (n=1205), 18.8% (58 / 308) of those whose one partner was a new partner felt they had engaged in sex with risk compared with 11.1% (100 / 897) of those whose one partner was not new.

Among men with a new sexual partner in the last year, sexual risk was significantly associated with having met a partner at backrooms / sex clubs (53.6% vs. 34.1%), cottages (52.6% vs. 36.5%), cruising grounds (51.4% vs. 34.8%), the internet (43.3% vs. 30.7%), pubs / clubs (42.7% vs. 34.0%), private parties (45.7% vs. 37.0%), saunas (46.3% vs. 33.8%), gyms (46.0% vs. 37.8%) and sex cinemas (50.0% vs. 38.1%). It was not significantly associated with meeting new partners though social groups, personal ads or the work place.

- **Sexual HIV risk is positively associated with sex – at the population level, a higher average rate of sexual partner change results in more HIV transmissions in the population.**

We noted that enquiring about the HIV status of sexual partners was closely associated with disclosure of HIV status to sexual partners, and the pattern of associations between disclosure and risk appear similar to those between enquiry and risk.

Among men not tested HIV positive who had casual sex, self-rating of risk was lower among those who always (27.4% indicated risk) or never (32.4%) disclose compared with those who sometimes disclose (54.4%). Similarly, self-rating of risk was less common in those who always (25.8%) or never (33.3%) enquired about HIV status than those who sometimes did so (50.3%). So among men who had not tested positive, risk was associated with sometimes discussing HIV with casual partners and sometimes not doing so. Men who were least likely to have felt at risk (of acquiring HIV) are those who always discuss HIV with casual partners.

Among men with diagnosed infection who had casual sex, self-rating of risk was lower among those who never (at 47.9%) enquired about a casual partners HIV status compared with those who always did (60.3%) or who sometimes did (68.2%). Similarly, it was lower in those who never disclosed to casual partners (44.1%) compared with those who always (62.2%) or sometimes (63.6%). Those who were least likely to feel at risk (of passing HIV) were those who never discussed HIV with casual partners.

4.2 VARIATION IN SEXUAL BEHAVIOURS ACROSS GROUPS

The following tables show the association between eight sexual risk behaviour indicators, and the demographic descriptors in Chapters 2 and 3. In each table, the group showing the highest level of risk is shaded while that with the lowest level is underlined.

4.2.0 HIV testing history and sexual risk behaviours

The following table shows for the indicators of sexual risk varied in the different HIV testing history groups.

Indicators of sexual risk (men who had a sexual partner in the last year)	% by HIV testing history group		
	Never tested (n=1733)	Tested negative (n=3407)	Tested positive (n=592)
Regular HIV sero-discordant sex partner	1.4	5.6	38.3
Met new sex partner at sauna	18.2	35.0	46.9
Met new sex partner at back-room	9.8	20.3	35.4
30+ male sex partners last year	6.0	14.7	27.0
Receptive UAI with unknown / discordant partner last year	14.8	16.6	40.8
Insertive UAI with unknown / discordant partner last year	13.2	18.7	31.7
Insertive protected AI with condom failure last year	5.3	8.2	8.5
Self-identified sex with a risk of HIV transmission	23.9	35.8	52.5

All of the indicators of sexual risk varied by HIV testing history and all showed the same bias: men living with diagnosed HIV were most likely to engage in all the risk practices, while men who had never tested were least likely to.

4.2.1 Residence and sexual risk behaviours

The table below shows for the indicators of sexual risk varied in different areas of the country.

Indicators of sexual risk (men who had a sexual partner in the last year)	% by area of residence												
	England										Wales (233)	Scotland (263)	N Ire. (65)
	London (1915)	South West (486)	South Central (290)	South East Coast (359)	East (407)	East Mids (276)	West Mids (416)	York & Hum (420)	North West (464)	North East (147)			
Regular HIV sero-discordant sex partner	10.1	5.1	4.8	11.1	5.2	5.8	6.0	5.7	9.9	7.5	7.3	3.4	4.6
Met new sex partner at sauna	41.1	28.0	25.9	35.2	20.9	26.2	31.8	24.8	28.1	16.3	21.8	18.6	27.7
Met new sex partner at back-room	27.7	12.2	14.5	18.6	12.3	15.6	17.1	13.2	15.2	6.8	14.8	10.3	18.5
30+ male sex partners last year	19.6	10.5	8.6	14.8	7.9	8.0	11.8	9.8	11.9	7.5	12.9	7.2	4.6
Receptive UAI with unknown / discordant partner last year	18.9	17.1	16.8	21.0	15.0	17.1	20.6	18.3	23.9	19.0	21.4	19.2	23.4
Insertive UAI with unknown / discordant partner last year	19.8	16.2	16.7	19.3	15.4	15.1	18.3	17.9	19.6	17.4	19.3	18.5	18.8
Insertive protected AI with condom failure last year	8.3	7.4	8.6	6.6	4.6	7.2	6.1	7.5	4.9	5.9	10.9	9.4	5.3
Self-identified sex with a risk of HIV transmission	38.0	27.8	35.2	33.4	25.6	29.7	34.9	35.2	34.5	30.6	30.9	33.1	33.8

London and the South East Coast (which includes Brighton) showed the most consistent higher sexual risk behaviour profiles out of the thirteen areas, while the North East of England and Scotland showed the lower risk profiles.

In terms of the national picture, national programmes will have a poor impact on HIV incidence if they do not ensure coverage in London and the South East Coast.

4.2.2 Age and sexual risk behaviours

The following table shows how the indicators of sexual risk varied across the age range.

Indicators of sexual risk (men who had a sexual partner in the last year)	% by age group				
	under 20 (n=442)	**20s** (n=1843)	**30s** (n=1626)	**40s** (n=1201)	**50+** (n=629)
Regular HIV sero-discordant sex partner	2.3	4.8	10.0	10.8	8.4
Met new sex partner at sauna	8.2	20.9	36.0	43.8	41.1
Met new sex partner at back-room	6.8	12.3	24.4	24.6	19.7
30+ male sex partners last year	5.9	8.5	16.8	17.3	16.5
Receptive UAI with unknown / discordant partner last year	24.5	17.6	21.6	18.8	13.2
Insertive UAI with unknown / discordant partner last year	17.3	16.6	21.0	19.9	14.3
Insertive protected AI with condom failure last year	11.2	8.9	7.8	4.9	3.8
Self-identified sex with a risk of HIV transmission	29.9	33.3	39.0	34.1	25.4

The frequency of sexual risks practices generally increase with increasing age, peaking in the 30s and 40s and then falling back again. Unlike most of the other demographic variables, all men will move through the age range. This means investment in younger men has a longer potential impact in the future.

Among the younger men (under 30 year old), risky receptive UAI is more common than risky insertive UAI, evening out among men in the 30s before risky insertive UAI becomes slightly more common in later life.

4.2.3 Ethnicity and sexual risk behaviours

The following table shows how the indicators of sexual risk varied in the different ethnic groups.

Indicators of sexual risk (men who had a sexual partner in the last year)	% by ethnic group					
	white British (n=4496)	**white other** (n=746)	**black** (n=107)	**Asian** (n=113)	**mixed** (n=132)	**other** (n=138)
Regular HIV sero-discordant sex partner	7.6	8.3	4.7	13.3	10.6	5.1
Met new sex partner at sauna	29.2	37.0	36.8	41.6	37.4	45.3
Met new sex partner at back-room	17.3	24.6	14.2	30.1	21.4	22.6
30+ male sex partners last year	12.7	16.4	7.5	23.0	13.6	15.9
Receptive UAI with unknown / discordant partner last year	18.8	19.9	16.7	24.5	23.7	15.6
Insertive UAI with unknown / discordant partner last year	18.0	18.1	26.0	14.5	24.8	20.1
Insertive protected AI with condom failure last year	6.8	7.9	17.5	8.8	11.1	9.7
Self-identified sex with a risk of HIV transmission	32.7	39.1	39.3	31.9	47.0	31.2

No one ethnic group showed consistent higher risk on the range of indicators, in fact each of the three indicators that showed an ethnic group difference identified a different ethnic group as being most likely to be involved in sexual risk.

4.2.4 Gender of partners and sexual risk behaviours

The following table shows how the indicators of sexual risk varied between men who had sex with men only and those who had sex with both men and women in the last year.

Indicators of sexual risk (men who had a sexual partner in the last year)	% by gender of partners last year	
	Women and men (n=426)	Men only (n=5334)
Regular HIV sero-discordant sex partner	6.8	7.8
Met new sex partner at sauna	36.7	30.7
Met new sex partner at back-room	20.9	18.5
30+ male sex partners last year	14.6	13.3
Receptive UAI with unknown / discordant partner last year	20.7	18.9
Insertive UAI with unknown / discordant partner last year	20.8	18.1
Insertive protected AI with condom failure last year	13.8	6.9
Self-identified sex with a risk of HIV transmission	35.7	33.8

The risk behaviour profile of men who had sex only with men (broadly self-identified gay men) and those who had sex with men and women (broadly not self-identified as gay) was strikingly similar. Men who had sex with both men and women were more likely to have met sex partners in a sauna last year and in particular to have experienced condom failure during protected insertive anal intercourse.

4.2.5 Relationship status and sexual risk behaviours

The following table shows how the indicators of sexual risk varied between men in and not in a current relationship with man.

Indicators of sexual risk (men who had a sexual partner in the last year)	% by male relationship status	
	NOT in relationship with a man (n=3497)	Current relationship with a man (n=2709)
Regular HIV sero-discordant sex partner	4.6	11.3
Met new sex partner at sauna	35.5	26.1
Met new sex partner at back-room	20.4	16.6
30+ male sex partners last year	16.2	9.9
Receptive UAI with unknown / discordant partner last year	21.8	15.9
Insertive UAI with unknown / discordant partner last year	20.8	15.4
Insertive protected AI with condom failure last year	8.2	6.4
Self-identified sex with a risk of HIV transmission	38.0	29.2

Some gay men make a distinction between a someone they have sex with on a regular basis and a 'relationship'. A regular sex partner, in the context of friendship or simple convenience may not qualify as a relationship. Similarly, some gay men remain in domestic and emotional arrangements with other men, which they see as a relationship, but may have little or not sex with that partner. This may explain why 4.6% of men who said they were not in a current relationship with a man *also* said they had a regular HIV sero-discordant sex partner. However, men in a relationship were much more likely to have a regular sero-discordant partner.

On the other hand, all the other indicators of sexual risk showed higher levels of risk among men not in a current relationship. It is worth noting however, that many men in relationships engage in casual sex in saunas and backrooms, have large numbers of partners and engage in UAI with risky partners.

4.3 SUMMARY AND IMPLICATIONS FOR PROGRAMME PLANNING

Sexual risk behaviours are a subset of sexual behaviours and the more sexual mixing in a population the more HIV risk will occur. In the next chapter we will see that many men may be having sex when they would rather not do. This essentially unwanted sex is not only a risk for HIV but also carried no benefits. Reducing unwanted sexual partners may be a feasible target for sexual health promotion with gay men.

The only demographic characteristic consistently associated with all measures of sexual risk is HIV testing history: men living with diagnosed HIV have a much higher sexual risk profile than those not living with HIV. We saw in the previous chapter that men with HIV were more likely to have been diagnosed with almost all other STIs in the last year. Although men with HIV may be biologically more susceptible to infections, this chapter provides a convincing behavioural explanation for why this is the case: men with HIV are much more likely to engage in high risk sex with large numbers of partners. This suggests that positive prevention that is, meeting the STI prevention needs of people with HIV, is an essential part of any community STI /HIV prevention programme.

5 Indicators of HIV prevention need

This chapter contains the answers to those questions designed to gauge the extent to which HIV prevention needs are met or not. We count as prevention needs those aspects of knowledge, motivation and ability required to have control over the behaviors that cause HIV infection.

5.1 INDICATORS OF HIV PREVENTION NEED

GMSS'07 asked six items of knowledge about PEP, three items about resources for gaining knowledge, and four items about sexual confidence and risk management self-efficacy. These indicators are intended to complement and enhance the battery of needs indicators asked in previous GMSS surveys. The questions were not asked to establish whether or not these qualitites are HIV prevention needs but to establish how widely they are (un)met and in which parts of the population they may be particularly lacking.

5.1.1 PEP knowledge

Men were asked a series of questions about their knowledge of post-exposure prophylaxis (PEP). They were first asked *Have you heard of post exposure prophylaxis?* Overall 56.3% of all men said they had heard of PEP, leaving 43.7% who had not (the group in need of awareness in the first instance). In comparison 22.2% of all men said they had ever heard of PEP in GMSS 2003, rising to 38.5% in GMSS 2005 (Dodds *et al.*2006). The GMSS 2007 figure of 56.3% thus represents an ongoing increase in PEP awareness since the CHAPS PEP awareness campaign was first undertaken in 2004.

All men were then told *All of the following statements are TRUE. Did you know this already?* They were given six items of knowledge about PEP and asked to indicate one of four options (shown in the table below). The question was designed in this way to maximise its educational impact and the items were suggested and developed from items our health promotion collaborators felt were important about PEP.

Knowledge of PEP among all respondents (n=6205, missing 0)	**% Knew this**	**% Not known**	**% Not sure**	**% Do not understand**	**% In need**
PEP attempts to stop HIV infection taking place after a person is exposed to the virus.	53.8	32.2	6.2	7.9	46.2
PEP is a one month course of anti-HIV drugs.	34.9	47.9	11.6	5.6	65.1
PEP should be started as soon as possible after exposure, preferably within hours.	52.1	36.7	5.5	5.6	47.9
PEP should be available in most UK hospitals for people exposed to HIV during sex.	30.1	50.6	13.8	5.5	69.9
In practice, PEP may be hard to get hold of.	26.6	51.5	15.8	6.2	73.4
PEP may be particularly hard to get hold of at the weekend.	19.6	59.5	14.0	6.9	80.4

Promoting awareness and knowledge of PEP has been challenging given the variable availability of the service. One of the ways in which the community has made PEP more available has been through gay men who required the intervention intervening with health authorities to make it available.

5.1.2 Skills and resources for gaining knowledge

In order to gain and maintain knowledge and understanding of HIV and how it fits into our lives, we need sources of information, discussion and support. Three items attempted to gauge men's access to such resources.

Power needs: skills and resources for knowledge gain (n=6205, missing 0)	**% strongly agree**	**% agree**	**% don't know**	**% disagree**	**% strongly disagree**	**% in need**
I can talk to my friends about safer sex and HIV.	42.2	37.7	11.2	6.2	2.7	8.9
I have someone to talk to if I'm worried about safer sex and HIV.	40.8	36.4	11.0	8.1	3.6	11.7
If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	53.2	35.4	6.9	2.4	2.1	4.5

Generally, the majority of men felt they had people to talk to about HIV and safer sex and that they would be able to find information if the needed it. However, 11.7% said they did not have someone they could talk to if they were worried about HIV (and another 11.0% were unsure); 8.9% could not discuss HIV and safer sex with their friends (plus 11.2% who were unsure); and 4.5% said they would not know how to find information about HIV (with another 6.9% being unsure).

5.1.3 Social and communication skills

Both motivation and power are needed to manage sexual HIV risks. Power includes an array of needs, including opportunities, resources and skills. Skills cover both physical motor and interpersonal skills, as well as self-efficacy. Four items concerned interpersonal skills for HIV risk management.

Power needs: social and communication skills (n=6205, missing 0)	**% very easy**	**% quite easy**	**% quite difficult**	**% very difficult**	**% in need**
How easy do you find it to decline sexual contact from other men?	34.6	41.5	18.5	5.4	23.9
How easy is it for you to have safer sex during sexual encounters?	51.6	37.3	8.9	2.2	11.1
How easy is it for you to negotiate the sex that you want?	37.2	48.8	11.9	2.1	14.0
How easy is it for you to maintain condom use in your sexual encounters?	45.8	38.1	12.6	3.5	16.1

Many men expressed difficulty in declining unwanted sexual contact. Almost one-in-four men found difficulty with this. Fewer but still substantial proportions of men found negotiating and enacting safer sex difficult. These measures suggests many men subjectively experience difficulties matching their desires or motivations with their behaviours, indicating that needs related to the power to reduce risk are as important as the needs related to the will to reduce risks.

5.2 VARIATION IN NEED ACROSS GROUPS

In this section we examine how the data reported above varies across the population groups described in previous chapters. We are particularly interested in population groups who have many aims poorly met (ie. high levels of need) compared with others.

5.2.0 HIV testing history and unmet prevention needs

The following table shows how unmet HIV prevention needs varied across the HIV testing history groups.

Indicators of HIV prevention need (all men) [• knowledge items show proportion who did not know, were unsure, or did not understand the question]	**% by HIV testing history group**		
	Never tested (n=2039)	**Tested negative** (n=3532)	**Tested positive** (n=625)
NEVER heard of post-exposure prophylaxis	63.4	37.8	12.6
• *PEP attempts to stop HIV infection taking place after a person is exposed to the virus.*	66.9	40.0	13.8
• *PEP is a one month course of anti-HIV drugs.*	82.1	61.4	30.4
• *PEP should be started as soon as possible after exposure, preferably within hours.*	67.8	42.2	15.0
• *PEP should be available in most UK hospitals for people exposed to HIV during sex.*	84.1	67.1	39.5
• *In practice, PEP may be hard to get hold of.*	85.5	70.1	52.8
• *PEP may be particularly hard to get hold of at the weekend.*	90.6	78.6	57.3
DISAGREE: I can talk to my friends about safer sex and HIV.	12.2	6.5	12.3
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	17.4	8.8	10.4
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	5.9	3.5	5.4
Finds it DIFFICULT to decline sexual contact from other men	24.1	23.1	27.2
Finds it DIFFICULT to have safer sex during sexual encounters.	9.9	9.3	24.6
Finds it DIFFICULT to negotiate the sex that is wanted.	15.0	12.6	18.4
Finds it DIFFICULT to maintain condom use in sexual encounters.	14.9	14.4	30.2

Different needs show different profiles by HIV testing history. As we have reported previously, knowledge is lower among men who have never tested for HIV compared with those who have, with positive men being most likely to be knowledgeable. On the other hand, positive men showed greater unmet need in the area of interpersonal skills and sexual negotiation.

- **HIV prevention programmes should aim for a diverse portfolio of interventions, encountered by men with a wide variety of testing histories.**

5.2.1 Residence and unmet prevention needs

The table below shows how the indicators of prevention need differed among groups of men living in different areas of the country.

Indicators of HIV prevention need (all men)	% by area of residence												
	England										Wales (249)	Scotland (285)	N Ire. (74)
	London (1991)	South West (517)	South Central (322)	South East Coast (384)	East (453)	East Mids (309)	West Mids (455)	York & Hum (461)	North West (500)	North East (167)			
NEVER heard of PEP	30.3	50.7	49.5	41.4	49.6	55.9	49.6	52.2	49.2	42.6	49.8	54.0	73.0
• *PEP attempts to stop HIV infection taking place after a person is exposed to the virus.*	31.1	53.2	56.7	46.0	52.4	61.3	53.1	53.9	49.4	46.7	53.8	58.5	74.3
• *PEP is a one month course of anti-HIV drugs.*	54.6	70.1	72.1	64.5	69.8	73.8	69.5	73.3	65.9	62.7	68.7	76.0	86.5
• *PEP should be started as soon as possible after exposure, preferably within hours.*	33.6	53.6	56.7	47.1	53.5	61.3	53.3	58.6	50.4	49.1	55.0	60.6	75.7
• *PEP should be available in most UK hospitals for people exposed to HIV during sex.*	62.0	74.1	77.4	68.3	74.0	74.8	72.8	76.7	69.3	65.7	71.1	81.2	90.5
• *In practice, PEP may be hard to get hold of.*	68.3	78.5	78.3	75.7	72.5	76.0	75.0	77.4	71.1	73.4	75.5	80.1	87.8
• *PEP may be particularly hard to get hold of at the weekend.*	77.0	81.4	85.4	84.1	79.7	81.5	81.6	83.0	80.5	79.3	76.7	85.4	93.2
DISAGREE: I can talk to my friends about safer sex and HIV.	7.6	8.6	9.6	9.7	11.2	10.2	9.2	9.5	9.8	9.5	6.8	11.1	8.1
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	10.2	9.2	16.1	13.8	13.7	12.1	11.2	11.9	12.0	19.5	9.2	14.6	10.8
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	4.7	3.8	4.0	5.1	4.2	3.2	5.3	3.0	4.2	8.9	4.4	3.5	8.1
Finds it DIFFICULT to decline sexual contact from other men.	21.9	23.2	24.5	26.9	24.0	19.8	28.5	22.4	24.9	23.7	29.3	26.1	24.3
Finds it DIFFICULT to have safer sex during sexual encounters.	10.6	11.7	10.5	13.0	11.0	9.9	11.8	10.6	10.8	11.2	12.9	11.1	9.5
Finds it DIFFICULT to negotiate the sex that is wanted.	12.6	14.8	18.0	12.5	15.4	10.9	13.4	16.2	13.1	13.6	16.1	19.5	10.8
Finds it DIFFICULT to maintain condom use in sexual encounters.	15.5	14.2	18.3	17.4	16.3	16.6	17.8	15.1	16.9	16.0	18.5	15.0	16.2

Several of the indicators of need varied across the different regions of the country. Awareness and knowledge of PEP was particularly lacking in Northern Ireland and Scotland, as well as in the East Midlands of England. PEP knowledge was highest in London.

In addition, two of the non-knowledge needs were also most unmet among men in Scotland, where men were least likely to have someone to talk to if they are worried about HIV, and also where difficulty in negotiating safer sex was common.

Having friends to discuss concerns with, self-efficacy in finding the answers to questions, difficulty declining sex and difficulty having safer sex were all equally common problems across the country.

5.2.2 Age and unmet prevention needs

The following table shows how unmet HIV prevention needs varied across the age groups.

Indicators of HIV prevention need (all men) [• knowledge items show proportion who did not know, were unsure, or did not understand the question]	**% by age group**				
	under 20 (n=547)	**20s** (n=1961)	**30s** (n=1717)	**40s** (n=1273)	**50+** (n=708)
NEVER heard of PEP	69.7	46.3	36.9	35.9	47.0
• PEP attempts to stop HIV infection taking place after a person is exposed to the virus.	72.0	49.2	37.7	39.6	50.8
• PEP is a one month course of anti-HIV drugs.	81.0	67.0	56.8	61.4	74.2
• PEP should be started as soon as possible after exposure, preferably within hours.	70.6	50.6	40.2	41.2	53.2
• PEP should be available in most UK hospitals for people exposed to HIV during sex.	81.2	73.0	63.4	65.4	76.4
• In practice, PEP may be hard to get hold of.	83.2	75.0	69.5	69.8	77.5
• PEP may be particularly hard to get hold of at the weekend.	92.0	83.8	74.7	75.6	84.2
DISAGREE: I can talk to my friends about safer sex and HIV.	9.0	8.0	9.1	10.3	8.8
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	12.4	10.9	11.3	12.6	13.6
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	5.5	5.2	4.1	4.3	2.8
Finds it DIFFICULT to decline sexual contact from other men.	30.2	26.0	22.2	19.2	25.4
Finds it DIFFICULT to have safer sex during sexual encounters.	14.1	10.1	10.2	12.3	11.3
Finds it DIFFICULT to negotiate the sex that is wanted.	16.8	13.6	12.7	14.8	14.5
Finds it DIFFICULT to maintain condom use in sexual encounters.	17.7	13.5	16.9	16.5	19.8

Almost all indicators show the greatest unmet need among younger men. Men under 20 were most likely to report knowledge deficits.

- **HIV prevention programmes should aim to increase their contribution to meeting younger gay men's sexual health needs, especially those under 20.**

5.2.3 Ethnicity and unmet prevention needs

The following table shows how unmet HIV prevention needs varied across the ethnic groups.

Indicators of HIV prevention need (all men) [• knowledge items show proportion who did not know, were unsure, or did not understand the question]	**% by ethnic group**					
	white British (n=4887)	**white other** (n=786)	**black** (n=113)	**Asian** (n=120)	**mixed** (n=142)	**other** (n=148)
NEVER heard of PEP.	44.3	37.8	36.3	53.3	38.7	57.4
• PEP attempts to stop HIV infection taking place after a person is exposed to the virus.	47.3	37.3	44.2	55.8	44.4	54.1
• PEP is a one month course of anti-HIV drugs.	65.9	59.2	59.3	70.8	63.4	70.3
• PEP should be started as soon as possible after exposure, preferably within hours.	48.8	40.3	42.5	57.5	41.5	60.1
• PEP should be available in most UK hospitals for people exposed to HIV during sex.	70.3	66.4	62.8	71.7	69.7	79.7
• In practice, PEP may be hard to get hold of.	73.4	73.2	69.0	74.2	70.4	79.7
• PEP may be particularly hard to get hold of at the weekend.	80.4	79.8	77.0	78.3	81.7	85.1
DISAGREE: I can talk to my friends about safer sex and HIV.	9.4	7.1	6.2	11.7	5.6	8.1
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	11.8	11.7	8.8	20.8	8.5	8.8
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	4.0	7.0	6.2	6.7	2.1	4.7
Finds it DIFFICULT to decline sexual contact from other men.	24.1	21.0	16.8	27.5	25.4	32.4
Finds it DIFFICULT to have safer sex during sexual encounters.	10.9	9.8	13.3	15.8	14.1	14.9
Finds it DIFFICULT to negotiate the sex that is wanted.	14.4	11.2	13.3	18.3	10.6	16.2
Finds it DIFFICULT to maintain condom use in sexual encounters.	16.4	14.6	17.7	17.5	16.9	14.2

No single ethnic group emerges as being in greater need across all indicators. However, Asian men showed greater unmet need than other ethnic groups.

- **HIV prevention programmes concerned with equity of HIV prevention needs should prioritise Asian men.**

5.2.4 Gender of sexual partners and unmet prevention needs

The following table shows how unmet HIV prevention needs varied across the gender of sexual partners in the last year groups.

Indicators of HIV prevention need (all men) [• knowledge items show proportion who did not know, were unsure, or did not understand the question]	**% by gender of partners last year**			
	No partners (n=407)	**Women only** (n=39)	**Women and men** (n=426)	**Men only** (n=5334)
NEVER heard of PEP.	64.9	69.2	61.7	40.5
• *PEP attempts to stop HIV infection taking place after a person is exposed to the virus.*	69.3	69.2	64.1	42.9
• *PEP is a one month course of anti-HIV drugs.*	81.3	74.4	75.4	62.9
• *PEP should be started as soon as possible after exposure, preferably within hours.*	70.5	71.8	64.3	44.7
• *PEP should be available in most UK hospitals for people exposed to HIV during sex.*	81.8	79.5	80.8	68.1
• *In practice, PEP may be hard to get hold of.*	83.0	76.9	81.7	72.0
• *PEP may be particularly hard to get hold of at the weekend.*	87.5	82.1	85.2	79.4
DISAGREE: I can talk to my friends about safer sex and HIV.	14.3	17.9	17.1	7.8
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	20.9	35.9	21.1	10.2
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	6.4	10.3	5.6	4.2
Finds it DIFFICULT to decline sexual contact from other men.	15.2	25.6	35.9	23.5
Finds it DIFFICULT to have safer sex during sexual encounters.	11.5	15.4	19.0	10.4
Finds it DIFFICULT to negotiate the sex that is wanted.	28.7	23.1	14.1	12.8
Finds it DIFFICULT to maintain condom use in sexual encounters.	15.5	20.5	24.9	15.5

Men who had not had sex with a man in the last year were on the whole less knowledgeable about PEP than those who had, with men who had sex with men only being most knowledgeable.

Those men who had sex with women (whether or not they also had sex with men) were more likely to lack friends to talk to about safer sex or places to turn to discuss worries and information needs. Behaviourally bisexual men in particular appear to have difficulty asserting themselves sexually.

5.2.5 Relationship status and unmet prevention needs

The following table shows how unmet HIV prevention needs varied by having a current relationship with a man.

Indicators of HIV prevention need (all men) [• knowledge items show proportion who did not know, were unsure, or did not understand the question]	**% by male relationship status**	
	NOT in relationship with a man (n=3497)	**Current relationship with a man** (n=2709)
NEVER heard of PEP.	46.6	39.9
• *PEP attempts to stop HIV infection taking place after a person is exposed to the virus.*	49.0	42.6
• *PEP is a one month course of anti-HIV drugs.*	66.8	62.8
• *PEP should be started as soon as possible after exposure, preferably within hours.*	50.7	44.3
• *PEP should be available in most UK hospitals for people exposed to HIV during sex.*	71.1	68.4
• *In practice, PEP may be hard to get hold of.*	75.2	71.1
• *PEP may be particularly hard to get hold of at the weekend.*	82.0	78.2
DISAGREE: I can talk to my friends about safer sex and HIV.	10.5	6.9
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	14.5	8.2
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	5.1	3.7
Finds it DIFFICULT to decline sexual contact from other men.	25.9	21.2
Finds it DIFFICULT to have safer sex during sexual encounters.	11.7	10.3
Finds it DIFFICULT to negotiate the sex that is wanted.	16.4	10.9
Finds it DIFFICULT to maintain condom use in sexual encounters.	16.6	15.6

The majority of the indicators of need showed a difference across relationship status, with men in a current relationship with a man having less unmet need than single men. These findings are consistent with those reported previously (Reid *et al.* 2004).

5.2.6 Numbers of male sexual partners and unmet prevention needs

The following table shows how unmet HIV prevention needs varied by the number of male partners men had in the last year. The table only includes men that had a male partner in the last year (those that did not have a male partner in the last year are represented in 5.3.4 above).

Indicators of HIV prevention need (all men) [• knowledge items show proportion who did not know, were unsure, or did not understand the question]	**% by number of male partners last year**				
	One (n=1226)	**2, 3, 4** (n=1583)	**5-12** (n=1399)	**13-29** (n=767)	**30+** (n=767)
NEVER heard of PEP.	49.3	50.3	39.6	30.4	29.1
• PEP attempts to stop HIV infection taking place after a person is exposed to the virus.	52.5	53.3	41.5	31.8	31.0
• PEP is a one month course of anti-HIV drugs.	71.2	71.1	62.9	53.1	49.4
• PEP should be started as soon as possible after exposure, preferably within hours.	54.1	55.3	43.2	32.6	33.1
• PEP should be available in most UK hospitals for people exposed to HIV during sex.	75.0	75.7	69.4	57.5	56.2
• In practice, PEP may be hard to get hold of.	75.9	77.9	73.2	64.8	63.8
• PEP may be particularly hard to get hold of at the weekend.	82.7	84.3	81.3	74.1	69.0
DISAGREE: I can talk to my friends about safer sex and HIV.	6.8	8.7	8.2	9.3	10.7
DISAGREE: I have someone to talk to if I'm worried about safer sex and HIV.	7.2	12.7	11.8	12.3	11.0
DISAGREE: If I wanted to know something about safer sex or HIV, I'd know how to find the answer.	3.8	5.3	4.0	4.2	3.8
Finds it DIFFICULT to decline sexual contact from other men.	12.7	21.2	27.1	31.4	38.5
Finds it DIFFICULT to have safer sex during sexual encounters.	7.4	9.4	11.1	13.6	17.5
Finds it DIFFICULT to negotiate the sex that is wanted.	10.8	14.0	13.7	12.4	13.3
Finds it DIFFICULT to maintain condom use in sexual encounters.	10.5	13.8	16.7	21.4	23.7

Different HIV prevention needs show different patterns by the number of male partners men have. Men who have higher numbers of partners were more likely to be involved in sexual HIV exposure than those with fewer partners. However, they were less likely to be ignorant about HIV transmission and prevention. On most knowledge and awareness items men with fewer sexual partners show more need. Conversely, men with higher numbers of partners were most likely to report concern that the sex they had was not always as safe as they wanted.

- **Interventions concerned with increasing knowledge should disproportionately benefit men with fewer partners, while those concerned with increasing skills and social support networks should disproportionately benefit men with higher numbers of partners.**

5.3 SUMMARY AND IMPLICATIONS FOR PROGRAMME PLANNING

These implications for programme planning should be read in conjunction with those at the end of Chapter 4, with our complementary reports from GMSS from 1997 to 2005 and *Making it Count* (Hickson *et al.* 2003b). They are intended to suggest where HIV prevention programmes might have the greatest impact, balancing impact on equity of HIV health promotion aims and impact on HIV incidence.

5.3.1 Aims poorly met for many men

Knowledge about PEP, its limitations and how to access it continue to show extensive ignorance. The aim of HIV health promotion with regard to PEP is that men know the reality of the intervention, what it can and cannot do and where it can be accessed. Interventions should not promote PEP taking, but PEP knowledge and control.

Generally, sources of social support and information about HIV and safer sex were satisfactory. About 1-in-ten men however had no one to turn to discuss concerns although fewer felt they would not be able to find out what they wanted to know.

Social and communication skills, especially assertiveness, were more commonly wanting. One-in-four men found it difficult to decline unwanted sexual approaches, perhaps a combination of lack of interpersonal skills and a high expectation and social norm for easy sexual contact on the gay scene. A major aim of sexual health promotion should be to enable men to have the sex they want, including no sex. This data would suggest that a lot of the sex occurring among gay men is not desired by both partners, and it this sexual activity, not all sex between men, that should be the target of interventions.

5.3.2 Groups for whom many aims are poorly met

Only one characteristic showed consistent bias across a wide range of indicators of need: single men were more often in need than men in relationships. Single men showed more need than men in relationships on most measures and may share life circumstances that enable segmentation. Media advertised and open-access groupwork disproportionately attracts single men and may be an apt setting/method for this sub-group.

All other characteristics showed different levels of unmet need on different indicators. This suggests interventions will be best planned by attending to the likely profile of clients and the specific unmet needs that are common in those groups.

6 Intervention performance indicators

This chapter outlines survey respondents' experience of HIV prevention and other sexual health interventions. It outlines responses about a range of questions concerned with respondents' interaction with organisations and the HIV prevention and sexual health promotion interventions they undertake.

6.1 MEASURES OF INTERVENTION PERFORMANCE

All interventions consists of finite activities that occur in specified places, encountered by some people and not others and having circumscribed and limited effects on those people. Correspondingly, all interventions vary in the extent to which they are feasible, their cost per 'user', the profile of their users (accessibility), their acceptability, the extent to which they are needed by the people who encounter them, and the amount of desired change they bring about (effectiveness).

Since GMSS is a national survey, it is not appropriate to be asking about the performance of specific local interventions. However, we have used GMSS to generate data about the coverage of several 'generic' interventions, particularly their coverage, or access profile.

6.1.1 Post-Exposure Prophylaxis: coverage and acceptability

The proportion of men sexually exposed to HIV who use PEP swiftly and properly is one of the factors influencing the number of new diagnoses. Unlike sexual behaviour (which requires no service to engage in), PEP must be prescribed in a service context.

In GMSS 2007 we repeated a set of questions about HIV post-exposure prophylaxis (PEP) that were previously asked in the *Gay Men's Sex Survey* in 2003 and 2005. Chapter 4 includes needs related to PEP taking including a measure of overall awareness and six knowledge items. This chapter reports on the coverage of PEP and its prospective acceptability. Men were asked:

- *Have you ever tried to get PEP?*
- *Have you ever taken PEP?*

In the GMSS 2003 survey 1.0% men said they had ever tried to get PEP and in GMSS 2005 this rose to 1.4%. In GMSS 2007 3.4% (212 / 6205) said they have ever tried to get PEP.

Similarly, 0.6% said they had ever taken PEP in GMSS 2003, rising to 1.2% in GMSS 2005. The figure rose again in GMSS 2007 to 2.4% (146 / 6205).

Compared with the number of men engaged in sex with a risk of HIV transmission the proportion seeking and taking PEP remains very small. In order to assess prospective acceptability of PEP to potential users of it, men who had not tested HIV positive were asked *If you thought you had been exposed to HIV would you consider trying to get PEP?* They were offered the responses: *Yes / No / Maybe*. Overall, 77.3% of men said *yes* and another 18.9% said *maybe*. Only 3.8% said thy would not consider trying to get PEP if they thought they had been exposed to HIV. The vast majority of men see PEP as a risk reduction tactic that might be useful to them.

6.1.2 Hepatitis A and B vaccination

A vaccine against hepatitis B has been available since 1981 and against hepatitis A since 1995. Getting vaccinated against hepatitis viruses can be considered a precautionary behaviour for men who will have sex, and the proportion of the MSM population that is vaccinated can be considered a property of a collective hepatitis vaccination intervention (including policy and clinical and educational services). Our collective target is that the smallest proportion of men are susceptible to hepatitis viruses.

GMSS 2007 asked about their vaccination behaviours for hepatitis A and B. We have asked about hepatitis B vaccine before (Nationally in 2002 and in Manchester in 1997) but had never before asked a question about hepatitis A vaccination. In 2007 men were asked *Have you been vaccinated against hepatitis B?* with an identical and separate question for hepatitis A. In each question they were offered six options as shown in the table below.

All men (n=6205, missing 0)	**% Hepatitis B vaccination status**	**% Hepatitis A vaccination status**
I'm naturally immune	5.9	6.1
Yes, and I completed the course of vaccinations	46.5	28.1
Yes, but I did not complete the course of vaccinations	5.6	2.0
Yes, but I did not respond to the vaccinations	2.8	0.5
No, and I don't know if I'm immune	22.6	32.1
Don't know	16.6	31.2

Among men recruited to the *Gay Men's Sex Survey* at Manchester Mardi Gras in 1997 (n=1153) 47.1% said they had completed a course of hepatitis B vaccination and another 7.4% said they were naturally immune. This left 45.5% who were vulnerable to hepatitis B (including 6.0% who started but did not complete a course and 7.0% who did not know whether they had been vaccinated). Vulnerability was higher among men never tested for HIV and among those under 30 or over 50 years of age [Hickson *et al.* 1998: page 37].

The proportion of men recruited at Manchester Mardi Gras in 2002 who were vulnerable to hepatitis B was 43.4%, a statistically non-significant drop from 1997 [Hickson *et al.* 2003a: 35]. Nationally in 2002, among all men recruited across all methods (n=16,871), 48.2% of GMSS respondents were vulnerable to hepatitis B [Hickson *et al.*, 2003a: 35].

In GMSS 2007, almost half (47.6%) of all men were vulnerable to hepatitis B, very close to the 2002 figure. We caution that the sources of recruitment to GMSS had significantly changed between 2002 and 2007 (dropping all recruitment at Pride events for example). It is possible that overall coverage of hepatitis B vaccine has improved but that our 2007 survey recruited those men less in contact with clinical services at a greater rate than previously. Nevertheless, in the 2007 survey almost half of the men had not taken advantage of a free vaccination against a sexually transmitted disease that can kill. Even more men, 65.8%, were vulnerable to hepatitis A, and men were more than twice as likely to not know whether they had been vaccinated against it.

Vulnerability to hepatitis A and B were strongly and positively associated. While 90.6% of those vulnerable to hepatitis B were also vulnerable to hepatitis A, only 43.4% of those not vulnerable to hepatitis B were vulnerable to hepatitis A. Overall, only 29.7% of men were not vulnerable to either A or B, 22.7% were vulnerable to A but not B, 4.5% were vulnerable to B but not A, and 43.1% were vulnerable to both. Despite the availability of a vaccine against these viruses, the combined intervention has not reached the majority of the population.

- **Almost half of all respondents were still vulnerable to both hepatitis A and B, despite effective vaccines against both.**

6.1.3 Help and advice services

All men were asked *Have you ever approached an organisation or service for help or advice about HIV?* They were offered four responses shown in the table below, which gives responses separately for online and booklet recruits.

Among all men, have you ever approached an organisation or service for help or advice about HIV? (n=6167, missing 38)	**% overall**	**% by recruitment method**	
		Internet	**Booklet**
No, and I've had no need to	60.3	64.1	54.6
No, but I might benefit from doing so	11.3	11.7	10.6
Yes, but I needn't have bothered	3.3	3.3	3.2
Yes, and it was useful to do so	25.1	20.9	31.6

The majority (71.6%) of men had never approached an organisation, and most of those (84.2%) did not feel the need to do so. Having approached an organisation or service for help or advice about HIV was significantly more common among men recruited using the booklet compared to men recruited online (33.8% compared to 24.2%).

One-in-nine (11.3%) of all men had never approached an organisation or service for help or advice about HIV but reported that they might benefit from doing so. The greater reporting of approaches to agencies by booklet-recruited men may reflect their greater willingness to engage with agencies by completing the survey. However, booklet-recruited men report similar levels of potential to engage and dissatisfaction.

Of all the men that had ever approached an organisation or service for help or advice about HIV (28.4%), the vast majority (88.4%) reported that it had been useful to do so.

6.1.4 Coverage of HIV/safer sex writing and reading interventions

All respondents were asked *When was the last time you saw an ADVERT about HIV or safer sex?* and offered the responses outlined in the table below.

Among all men, when was the last time you saw an ADVERT about HIV or safer sex? (n=6205, missing 0)	**% overall**	**% by recruitment method**	
		Internet	**Booklet**
In the last month	65.2	63.4	67.9
In the last year	22.3	24.1	19.5
Over a year ago	9.5	9.2	10.1
Never	3.0	3.3	2.5

Mass media advertising is the most visible type of HIV prevention intervention and has a far reach in this population. Two thirds (65.2%) of all men had seen an advert about HIV or safer sex in the previous month and more than a fifth (22.3%) had seen adverts in the last year, but not the last month. Only 12.5% had not seen an advert about HIV or safer sex in the last year, including 3.0% that had never done so.

All respondents were also asked *When was the last time you took away a CARD, BOOKLET OR MAGAZINE about HIV or safer sex to read in your own time?* and offered the responses outlined in the table below.

Among all men, when was the last time you took away a CARD, BOOKLET OR MAGAZINE about HIV or safer sex to read in your own time? (n=6205, missing 0)	**% overall**	**% by recruitment method**	
		Internet	**Booklet**
In the last month	24.6	16.5	37.0
In the last year	31.4	30.6	32.6
Over a year ago	26.3	30.4	19.9
Never	17.8	22.6	10.5

A quarter (24.6%) of all men had taken a card, booklet or magazine about HIV or safer sex to read in their own time in the previous month and another third (31.4%) had done so in the last year. Only 17.8% had never taken away a card, booklet or magazine about HIV or safer sex to read in their own time. Never having done so was significantly more common among men recruited online, compared to men recruited via the booklet (10.5% compared to 22.6%).

All respondents were asked *When was the last time you read anything about HIV or safer sex on the INTERNET?* and offered the responses outlined in the table below.

Among all men, when was the last time you read anything about HIV or safer sex on the INTERNET? (n=6205, missing 0)	**% overall**	**% by recruitment method**	
		Internet	**Booklet**
In the last month	40.9	45.5	33.8
In the last year	32.0	34.0	29.0
Over a year ago	14.6	14.1	15.2
Never	12.5	6.4	21.9

Four in every ten men (40.9%) had read something about HIV or safer sex on the internet in the previous month and another third (32.0%) had done so in the last year, but not the last month. One man-in-eight (12.5%) had never read anything about HIV or safer sex on the internet. Never having done so was significantly more common among men recruited by service providers via the booklet, compared to men recruited online (21.9% compared to 6.4%).

6.1.5 Coverage of condom and lubricant distribution interventions

Finally, all respondents were asked *When was the last time you got a FREE CONDOM and lubricant pack?* and offered the responses outlined in the table below. Due to an oversight in the preparation of the online survey this question was only asked in the booklet version of the questionnaire.

Among all men, when was the last time you got a FREE CONDOM and lubricant pack? (BOOKLET only, n=2448, missing 0)	**% Booklet**
In the last month	60.1
In the last year	24.3
Over a year ago	10.6
Never	5.0

Almost two thirds (60.1%) of all men had got a free condom and lubricant pack in the previous month and another quarter (24.3%) had done so in the last year, but not the last month. One man-in-twenty (5.0%) had never received a free condom and lubricant pack, and another 10.6% had not done so in the last year.

6.2 VARIATION IN INTERVENTION COVERAGE ACROSS GROUPS

The following tables show how the measures of intervention performance varied across the various groups identified in earlier chapters.

6.2.0 HIV testing history and intervention coverage

The following table shows the intervention coverage measures by HIV testing history.

Indicators of intervention performance (all men)		**% by HIV testing history**		
		Never tested (n=2039)	**Tested negative** (n=3532)	**Tested positive** (n=625)
PEP	Ever tried to get	0.3	4.7	6.2
	Ever taken	0.2	3.5	2.9
	If thought exposed, would consider using (not tested positive)	95.4	96.7	–
Vulnerable to Hepatitis A		85.6	59.4	37.4
Vulnerable to Hepatitis B		77.4	35.2	19.7
Ever approached an organisation or service for help or advice about HIV	Yes, approached	8.3	32.2	73.3
	It was helpful (of those who approached one)	81.1	90.2	86.9
Seen HIV / safer sex intervention in last month	Saw an advert	55.3	69.2	74.4
	Took a booklet, card, leaflet	15.0	26.6	44.0
	Read on internet	35.9	39.7	63.5
Got free condom/lube pack last month		50.4	62.9	64.6

Men with diagnosed HIV were considerably more likely than others to have approached services for help and advice about HIV. Among those men with diagnosed HIV that had ever approached an organisation for help and advice (73.3%), the vast majority (87%) reported that it had been useful, as did a similar proportion (90%) of men tested negative. Men who had never tested were least likely to have approached an organisation for help or advice about HIV (only 8.4% had done so), but most likely to consider they may benefit by doing so.

There was a strong and consistent relationship between HIV testing history and use of HIV prevention interventions. Men who had never tested for HIV were least likely to have encountered adverts, booklets, online advice or free condoms and lubricant, compared to men who had tested for HIV. Men with diagnosed HIV were most likely to have come in contact with all these interventions, reflecting their heightened use of HIV services and the commercial venues where these materials are distributed.

6.2.1 Residence and intervention coverage

The table opposite shows the indicators of intervention performance among groups of men living in different areas of the country.

Indicators of intervention performance (all men)		% by area of residence												
		England										Wales (249)	Scotland (285)	N Ire. (74)
		London (1991)	South West (517)	South Central (322)	South East Coast (384)	East (453)	East Mids (309)	West Mids (455)	York & Hum (461)	North West (500)	North East (167)			
PEP	Ever tried to get	5.8	2.1	2.5	1.3	2.0	1.3	1.8	2.4	3.4	4.1	2.8	3.1	0
	Ever taken	4.2	1.5	1.5	0.8	1.5	1.0	1.3	1.1	2.2	1.2	2.0	2.1	0
	If thought exposed, would consider using (of not tested positive)	97.4	95.6	96.7	97.3	94.2	94.6	95.3	95.8	96.5	95.3	93.9	97.5	97.1
Vulnerable to Hepatitis A		51.4	72.4	82.0	58.3	71.6	75.7	75.2	73.1	70.1	78.1	73.5	73.9	82.4
Vulnerable to Hepatitis B		37.6	49.3	53.9	47.6	52.4	54.3	52.0	50.6	47.6	51.5	61.4	60.6	66.2
Ever approached service for help or advice about HIV	Yes, approached	35.1	25.9	26.7	29.2	22.1	22.3	27.0	24.5	30.2	27.5	22.9	17.5	16.2
	It was helpful (of those who approached one)	88.8	90.3	91.9	94.6	88.0	88.4	85.4	85.0	86.8	93.5	87.7	80.0	75.0
Seen HIV / safer sex int. in last month	Saw an advert	72.8	60.7	56.7	66.0	54.0	57.5	63.8	60.8	65.1	67.5	64.7	66.6	52.7
	Took a booklet, card, leaflet	27.6	27.4	17.0	19.2	19.6	23.6	27.4	23.7	26.5	32.5	23.7	16.0	13.5
	Read on internet	43.3	38.4	38.4	40.4	38.1	33.9	37.3	37.5	44.4	51.5	41.8	42.9	36.5
Got free condom/lube pack last month		61.8	58.9	43.9	59.1	65.5	58.7	60.3	58.8	58.8	68.3	57.8	44.4	100.0

There were significant differences in service use by country of residence. English-resident men were most likely to report having approached an organisation or service for help or advice about HIV (28.4% had done so), and men resident in Northern Ireland (16.3%) or Scotland (17.5%) were substantially less likely to report having done so. Compared to men resident in England or Wales, those resident in Northern Ireland and Scotland were more likely to report that they might benefit from seeking such advice and support now.

Among residents of England, men resident in London were most likely to report having approached an organisation or service for help or advice about HIV (35.1% had done so) and men resident in the East of England (22.0%), East Midlands (22.3%) and Yorkshire and Humber (24.5%) were least likely to report having done so.

There was a significant difference in intervention uptake by country of residence for only one of the four intervention types. In the last month, English-resident men were most likely to report having taken away a card, booklet or magazine about HIV or safer sex to read in their own time, and Northern Ireland-resident (and Scottish-resident) men were most likely to report not having done so. There were no country level differences for seeing adverts, reading HIV or safer sex information online or getting free condom and lubricant packs, in the last month.

Among residents of England, there were significant differences in intervention uptake by Strategic Health Authority (SHA) of residence for three of the four intervention types. Men resident in London were most likely to report having seen an advert in the last month (only 27.2% had not done so) and men resident in the East of England (46.0% had not done so), South Central (43.3%) and East Midlands (42.5%) were most likely to report not having seen any HIV prevention adverts in the last month.

The same relationship was not observed for having taken away a card, booklet or magazine about HIV or safer sex to read. Men resident in the North East of England were least likely to report not having done this in the last month (67.5% had not), and men resident in South Central England were most likely to report not having done so (83.0% had not). A similar pattern was observed for seeking information about safer sex or HIV online in the last month. Men resident in the North East were least likely to report not having done this (48.5% had not), and men resident in East Midlands were most likely to report having done so (66.1% had not). There were no significant SHA-level differences in getting free condom packs in the last month.

6.2.2 Age and intervention coverage

The following table shows the indicators of intervention performance across the age range.

Indicators of intervention performance (all men)		**% by age**				
		under 20 (n=547)	**20s** (n=1961)	**30s** (n=1717)	**40s** (n=1273)	**50+** (n=708)
PEP	Ever tried to get	1.6	3.3	5.4	3.0	1.1
	Ever taken	1.1	2.3	3.7	2.1	0.7
	If thought exposed, would consider using (of not tested positive)	93.7	96.4	96.7	96.1	97.3
Vulnerable to Hepatitis A		87.2	73.4	58.2	55.7	65.1
Vulnerable to Hepatitis B		76.6	55.8	39.4	35.0	44.9
Ever approached an organisation or service for help or advice about HIV	Yes, approached	11.6	20.0	35.5	38.3	29.6
	It was helpful (of those who approached one)	76.2	84.6	89.0	91.1	91.8
Seen HIV / safer sex intervention in last month	Saw an advert	59.0	64.2	67.2	66.9	64.7
	Took a booklet, card, leaflet	22.7	20.3	28.5	24.6	28.4
	Read on internet	48.1	43.4	41.8	37.0	33.1
Got free condom/lube pack last month		66.4	60.4	61.4	59.3	55.9

Men under 20 were least likely to have approached services for advice about HIV, though men in their 20s (and 50s) were not much more likely to have done so. Similarly, men under 20 were most likely to consider they might benefit from doing so, closely followed by men in their 20s (and 50s). Among those men that had approached an organisation for help and advice about HIV, there was little difference in their satisfaction by age.

There was no consistent relationship between age and use of HIV prevention interventions. Men in their 20s and younger were least likely to have approached services although they were most likely to consider they might benefit from doing so. Young men were more likely than others to have seen adverts or booklets and most likely to have read something on the internet. Men over in their 40s and 50s were least likely to have received information over the internet recently.

6.2.3 Ethnicity and intervention coverage

The following table shows the indicators of intervention performance across the six comparison ethnic groups.

Indicators of intervention performance (all men)		% by ethnicity					
		white British (n=4887)	white other (n=786)	black (n=113)	Asian (n=120)	mixed (n=142)	others (n=148)
PEP	Ever tried to get	2.9	5.9	4.4	3.3	5.6	3.4
	Ever taken	2.0	4.1	2.7	1.7	5.6	2.0
	If thought exposed, would consider using (of not tested positive)	96.2	98.0	93.5	90.9	97.6	95.0
Vulnerable to Hepatitis A		67.9	56.6	55.8	65.0	60.6	60.0
Vulnerable to Hepatitis B		49.0	41.5	42.5	48.3	43.0	41.0
Ever approached an organisation or service for help or advice about HIV	Yes, approached	27.7	30.9	35.4	22.0	36.7	32.0
	It was helpful (of those who approached one)	88.5	88.8	95.0	92.3	84.3	83.0
Seen HIV / safer sex intervention in last month	Saw an advert	63.5	72.5	74.3	63.3	71.8	71.0
	Took a booklet, card, leaflet	23.3	27.1	36.3	30.0	32.4	33.0
	Read on internet	39.8	45.9	48.7	43.3	38.7	43.0
Got free condom/lube pack last month		59.1	62.5	51.9	72.7	59.7	77.0

Men of white British and Asian ethnicities were least likely to have approached services for advice about HIV, and black and Asian men were most likely to consider they might benefit from doing so in the future. Black men and mixed ethnicity men were also most likely to have already approached an organisation and most likely to report it was useful.

Black men were also most likely to have encountered written information resources about HIV but least likely to have received free condoms and lubricant.

6.2.4 Gender of partners and intervention coverage

The following table shows the indicators of intervention performance by the gender of men's sexual partners in the last year.

Indicators of intervention performance (all men)		% by gender of partners last year			
		No partners (n=407)	Women only (n=39)	Men and women (n=426)	Men only (n=5334)
PEP	Ever tried to get	0	0	4.5	3.6
	Ever taken	0	0	3.3	2.5
	If thought exposed, would consider using (of not tested positive)	94.9	92.1	96.9	96.3
Vulnerable to Hepatitis A		85.3	82.1	75.6	63.4
Vulnerable to Hepatitis B		71.5	71.8	62.4	44.4
Ever approached an organisation or service for help or advice about HIV	Yes, approached	17.0	7.7	22.0	29.9
	It was helpful (of those who approached one)	88.4	100.0	80.6	88.9
Seen HIV / safer sex intervention in last month	Saw an advert	45.7	46.2	62.7	67.0
	Took a booklet, card, leaflet	15.7	5.1	22.8	25.6
	Read on internet	37.1	33.3	42.7	41.1
Got free condom / lube pack last month		34.3	33.3	55.2	61.8

Men who had not had sex with a man in the last year were least likely to have approached organisations for advice about HIV, and men who only had sex with men were most likely to have done so.

Homosexually active men and in particular exclusively homosexually active men were most likely to have approached services and to consider they would benefit from doing so if they had not. They were also most likely to have seen adverts, received booklets and condom and lube packs.

Men who had not had sex with men had less access or experience with services and health promotion materials. They were least likely to have approached services or come across health promotion interventions or to consider they may benefit from doing so.

6.2.5 Relationship status and intervention coverage

The following table shows the indicators of intervention performance by whether or not men were in a relationship with another man at the time of interview.

Indicators of intervention performance (all men)		% by male relationship status	
		Not in relationship (n=3497)	In relationship with a man (n=2709)
PEP	Ever tried to get	3.5	3.2
	Ever taken	2.4	2.3
	If thought exposed, would consider using (of not tested positive)	96.2	96.4
Vulnerable to Hepatitis A		67.4	63.8
Vulnerable to Hepatitis B		49.6	44.9
Ever approached an organisation or service for help or advice about HIV	Yes, approached	27.4	29.8
	It was helpful (of those who approached one)	87.6	89.5
Seen HIV / safer sex intervention in last month	Saw an advert	64.8	65.8
	Took a booklet, card, leaflet	23.8	25.7
	Read on internet	41.0	40.7
Got free condom/lube pack last month		62.1	57.5

There was little difference in service use between those in a relationship with a man and those without though those in a relationship were slightly more likely to have used services and to have been satisfied when they did so. Men in relationships were more likely to have picked up a free condom and lubricant pack but were no more likely to have seen other HIV prevention materials.

6.2.6 Numbers of male partners and intervention coverage

The following table shows the indicators of intervention performance among groups of men with increasing numbers of male sex partners in the last year.

Indicators of intervention performance (all men)		% by number of male partners last year				
		One (n=1226)	2, 3 or 4 (n=1583)	5 to 12 (n=1399)	13 to 29 (n=767)	30+ (n=767)
PEP	Ever tried to get	1.2	1.6	3.4	7.2	9.0
	Ever taken	0.8	0.9	2.4	5.0	6.5
	If thought exposed, would consider using (of not tested positive)	96.1	95.7	97.3	97.6	95.3
Vulnerabie to Hepatitis A		73.3	71.4	62.5	53.6	49.4
Vulnerable to Hepatitis B		57.6	52.9	44.2	32.3	27.9
Ever approached an organisation or service for help or advice about HIV	Yes, approached	21.5	21.2	30.3	39.7	46.9
	It was helpful (of those who approached one)	88.9	85.6	88.3	89.8	89.6
Seen HIV / safer sex intervention in last month	Saw an advert	59.5	62.8	67.0	74.6	78.0
	Took a booklet, card, leaflet	20.3	21.9	26.3	29.7	34.2
	Read on internet	38.3	40.6	41.8	43.5	44.2
Got free condom / lube pack last month		48.9	53.8	61.3	68.5	77.5

Men who have higher numbers of partners are more likely to be involved in sexual HIV exposure than those with fewer partners and were more likely to have sought help and advice. They were however, most likely to have seen adverts and to have got free condoms, especially compared to men with only one male partner.

6.3 SUMMARY AND IMPLICATIONS FOR PROGRAMME PLANNING

Although the vast majority of respondents would consider PEP if they thought they needed it, and although many had a sexual risk act in the last year that might warrant it, few men had tried to access PEP. It is unlikely to ever be a major impediment to HIV incidence but for some men access to PEP is vital to prevent sero-conversion. Prospective acceptability of PEP is very high in all groups.

Collectively, HIV prevention interventions have a fairly high but by no means universal coverage. Different interventions have different user profiles and to engage a large and diverse population a large and diverse programme is needed.

- **HIV prevention programmes should aim for a diverse portfolio of interventions, encountered by men with a wide variety of testing histories.**

Most interventions appear to be disproportionately encountered by men with higher numbers of male partners and men with diagnosed HIV, two groups disproportionately likely to be involved in HIV exposure and transmission risk.

However, most interventions also appear to disproportionately benefit men in their 30s, after the average age of HIV sero-conversion (which is about 30 years of age). However, the internet is clearly an important source of information for younger men, especially those under 20. It is imperative therefore that easily located, age-appropriate information and advice about HIV and safer sex for gay men is available online.

- **HIV prevention interventions should reconsider their settings in order to ensure better coverage of younger groups of men.**

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