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**HIV, SEXUAL RISK, AND ETHNICITY AMONG GAY AND BISEXUAL MEN IN ENGLAND:  
SURVEY EVIDENCE FOR PERSISTING HEALTH INEQUALITIES**

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## ABSTRACT

**Objectives:** To examine ethnic group differences in HIV testing and sexual behaviours among a large sample of gay and bisexual men (GBM), 13 years after similar observations were made, in order to assess national HIV prevention responses and inform planning priorities.

**Methods:** Cross-sectional convenience self-completion online survey in summer 2014, designed and recruited in collaboration with community-based health promoters and gay internet services; comparison with earlier findings reporting on a similarly designed survey in 2001.

**Results:** We recruited 15 388 GBM living in England who self-reported as: 18.5% from ethnic minorities; 9.0% tested HIV positive (cf. 17.0% and 5.4% in 2001).

Compared to the White British: Asian men were no longer less likely to report diagnosed HIV but had an equal probability of doing so (2001 OR=0.32, 95%CI 0.13-0.79; 2014 OR=1.04, 95%CI 0.71-1.54); Black men remained significantly more likely to report diagnosed HIV (2001 OR=2.06, 95%CI 1.56-3.29; 2014 OR=1.62, 95%CI 1.10-2.36) as did men in the Other White group (2001 OR=1.54, 95%CI 1.23-1.93; 2014 OR=1.31, 95%CI 1.10-1.55).

Overall annual incidence of reported HIV diagnoses in 2014 was 1.1%. Black men were significantly more likely to report diagnosis with HIV in the last 12 months than the White British (AOR 2.57, 95%CI 1.22-5.39).

No minority ethnic group was more or less likely to report condom unprotected anal intercourse (CUAI) in the last year but men in the Asian, Black and All Others groups were more likely than the White British to report CUAIs with more than one non-steady partners.

**Conclusions:** Among GBM in England, HIV prevalence continues to be higher among Black men and Other White men compared with the White British. The protective effect of being from an Asian background appears no longer to pertain. Sexual risk behaviours may account for some of these differences.

## BACKGROUND

Gay and bisexual men (GBM) are at higher risk of illness, disability and early death than age comparable straight men.<sup>1</sup> These harms are not equally distributed among GBM.

Socioeconomic health inequalities observed in the general population are maintained among sexual minority subpopulations.<sup>2,3</sup>

In fieldwork from 2001, we found that diagnosed HIV infection among GBM in England significantly varied across ethnic groups, using a community-based self-completion survey.<sup>4</sup> Compared to the White British majority, Black men (AOR 2.26, 95%CI 1.56-3.29) and Other White men (AOR 1.54, 95%CI 1.23-1.93) were more likely and Asian men (AOR 0.32, 95%CI 0.13-0.79) were less likely to be living with diagnosed HIV infection.

Another convenience survey in 2007/8, wholly online, also found Asian men were less likely to be living with diagnosed HIV than the White British majority (AOR 0.43, 0.23-0.79) but that survey found no difference in diagnosed HIV between Black men and the White British.<sup>5</sup>

The reasons for these inequalities in HIV remain unclear. A meta-analysis of studies from Canada, the United States and the UK concluded that while Black men were more likely to be living with diagnosed and undiagnosed HIV than White men, they were less likely to engage in HIV risk behaviours and more likely to engage in HIV precautionary behaviours.<sup>6</sup> Similarly, a comparison of White British GBM with GBM from all other groups using sexual health clinic records found White men to be less likely to engage in condom unprotected anal intercourse (CUAI) but more likely to be diagnosed with rectal gonorrhoea.<sup>7</sup> No clear account of ethnic group differences in HIV and sexual risk among GBM has yet emerged.

Several HIV initiatives in the last decade among GBM in England may have had differential impact across ethnic groups. In recent years, HIV prevention policy and practice among GBM in the UK has concentrated on increasing HIV testing. Between 1999 and 2013 the number of HIV tests taken by GBM in the UK increased almost 10-fold (from 10,900 to 102,600) and the number of new diagnoses more than doubled (1,440 to 3,250) over the same period.<sup>8</sup> There is no data available about the differential impact of these changes on different ethnic groups.

In this paper, we examine ethnic group differences in HIV testing and sexual behaviours among a large sample of gay and bisexual men (GBM), 13 years after similar observations

were made, in order to assess national HIV prevention responses and inform planning priorities.

## **METHODS**

Data come from *The Gay Men's Sex Survey 2014*, a national community-based self-completion sexual health needs assessment collaboratively designed and implemented. The study received a favourable ethical opinion by the Observational Research Ethics Committee of the London School of Hygiene and Tropical Medicine (reference 7958).

### **Population**

We sought to recruit men, living in England, aged 16 years and over, who are sexually attracted to men.

### **Instrument design**

Content was developed collaboratively with the commissioner and data users working in GBM HIV health promotion (see Acknowledgments). Agreed content was transferred on-line using Demographix.com. Several naïve volunteers reported on completing the pilot-survey and minor amendments were made.

### **Measures**

Men were asked "Are you sexually attracted to men?"; inclusion required an affirmative answer. We measured ethnicity using the 18 category 2011 United Kingdom Census question which was developed for UK policy makers.<sup>9</sup> Changes since the 2001 Census included new response options of Gypsy and Arab (within the All Others group), and Chinese (formerly in the All Others group) now being placed in the Asian group.

In this analysis we recoded ethnicity into the five groups (Table 1) used in our earlier survey, placing men of mixed ethnicity in the group of their minority parent (ie. White-Black with

Black and White-Asian with Asian) rather than together in a 'mixed' group. Respondents with two minority parents, Gypsy, Arab and Chinese respondents were placed in All Others.

Men chose their local authority from a list and were recoded into regions of Public Health England. Age was asked as a free variable. Men were asked their highest education qualification and coded to three groups: high (university degree or higher); medium (post-16 qualifications but no university degree); or low (no post-16 qualifications).

Men were asked "Have you ever received an HIV test result?" and given the options: No, I've never received an HIV test result; Yes, I've tested positive (I have HIV infection); Yes, my last test was negative (I did not have HIV infection at the time of the test).

Sexual behaviour definitions and measures were those pretested in EMIS 2010 and concern the last 12 months.<sup>10</sup> Respondents were asked separately when they last had any sex with a man and when they last had any sex with a woman. Responses were coded to four groups based on partners in the last 12 months: men only; both men and women; women only; and no sex.

The denominator for other sexual behaviours are men who had any sex with a man in the last 12 months. Respondents were asked when they last had anal intercourse with a man, if a condom was used, and if so, when they last had anal intercourse without a condom.

Binary measures were created for any anal intercourse (AI) in the last year, and any condom unprotected anal intercourse (CUAI) within the last year.

Respondents were asked separately about sex with steady and non-steady male partners. A binary measure was created for CUAJ with two or more non-steady partners in the last 12 months, or not, in order to divide respondents into higher and lower risk for HIV acquisition and to focus on men taking repeated risks.

## **Recruitment**

In the absence of a sampling framework of the population we used convenience sampling in a range of community settings as had been done in our 2001 survey.

The survey was available for completion online only and was open for three months from the end of July 2014 to the end of October 2014. The survey was promoted through a

variety of sources: banner adverts and push-notices on online gay hook-up/dating apps and websites; on web-sites, mailing lists and social media of HIV and gay community organisations; targeted adverts on Facebook and Twitter; and invitations by existing respondents and going directly to the survey site URL.

The opening page explained the nature and purpose of the survey, provided contact details of the lead researcher and asked respondents to confirm (1) they had read and understood what the questionnaire was about and that they wished to take part and (2) they lived in the United Kingdom of Great Britain & Northern Ireland, and were aged 16 years or over. Respondents were requested to complete the survey once only that summer.

Data were captured when the respondent pressed 'submit' at the end of the survey.

### **Data input and statistical analysis**

Data were downloaded from Demographix into SPSS.13 where labelling and cleaning occurred. The data were then read into STATA/SE 14.1 in which all analyses were carried out.

We tabulated frequencies and descriptive statistics for demographic characteristics, HIV testing and sexual risk behaviours, both for the whole sample and stratified by ethnicity. We then estimated a series of multivariate logistic regression models to examine the relationship between ethnicity and HIV-related dependent variables (ever testing for HIV, testing positive for HIV among those tested, living with diagnosed HIV and being diagnosed with HIV in the preceding 12 months), controlling for known confounders of age, education, residence and education. We did not undertake model selection, choosing instead to use known confounders in multivariate models. We estimated the same models with sexual behaviours (any AI, any CUI, and CUI with two or more non-steady partners) as the dependent variables.

## **RESULTS**

Website and app monitoring does not allow measurement of the proportion of men exposed to survey advertisement who participated.

There were 17,287 surveys submitted. Of these: 1,583 (9.2%) did not report living in England; 113 (0.7%) did not identify themselves as being a man/transman; 102 (0.6%) were under 16 or missing age; 70 (0.4%) were missing ethnicity; 276 (1.6%) did not indicate they were sexually attracted to men. A total of 1,899 (11.0%) were excluded (some multi-criteria exclusions).

The sample in this paper consists of 15,388 men (including transmen), aged 16 or over, living in England, who are sexually attracted to men; 96.1% identified as gay, bisexual or queer. Cases missing data for any confounder variable (no more than 4.7% of the total) were excluded from regression models.

### **Ethnic composition of sample**

Table 1 shows the self-reported ethnic groups of the sample and of all men aged 16 years and over living in England in the 2011 census.<sup>11</sup>

Compared with all males in England, our sample has the same proportion of White British men, more men from the Other White and All Other groups, and fewer from the Asian and Black groups. Differences within Asian and Black groups did not tend in the same direction for all subgroups. Particularly low in the sample (compared with the adult male population) are Bangladeshi and African men, while the sample had higher proportions than the general population of White-Asian and White-Black sub-groups.

### **Differences across ethnic groups**

#### *Demographics*

Ethnic group was significantly associated with region of residence, age and education, but not gender of sexual partners (Table 2). All four minority groups were more likely to report living in London. Black men more likely to live in the Midlands than the White British. The Asian, Black and All Other groups (but not the Other White group) gave significantly younger ages the White British. All four minority groups were more likely to report higher education than the White British. Differences in reported male and female sexual partners were small



although Black men were slightly more likely to have both (and consequently were least likely to have no sexual partners).

Ethnic group was associated with reporting ever having tested for HIV, living with diagnosed HIV, and having anal sex. It was not associated with having any CUI but was associated with having CUI with two or more non-steady partners. We explored these associations with adjusted odds ratios.

### *HIV Testing History*

Overall, 76.5% reported ever testing for HIV, with 11.7% of those reporting receiving a positive diagnosis (9.0% overall were living with diagnosed HIV). Table 3 shows the adjusted odds ratios for HIV testing, receiving a positive diagnosis (among those tested) and living with diagnosed HIV between the ethnic majority and the four ethnic minority groups.

Reporting ever testing and reporting having tested positive were both significantly higher among Other White and Black men than White British men (Table 3).

Overall, 1.1% reported being diagnosed with HIV in the last 12 months (excluding men diagnosed with over 12 months before the survey), being 1.0% in White British men and 2.8% in Black group men (Table 2), Compared with White British men, Black men were 2.6 times more likely to report being diagnosed with HIV in the last year. (Table 3).

### *Sexual Behaviours*

Sexual risk was measured among men not diagnosed with HIV and who had a male sex partner in the last 12 months.

Overall, 82.4% reported anal sex in the last 12 months, 63.4% had CUI and 18.7% had CUI with two or more non-steady sexual partners (Table 2). Table 4 shows the odds ratios for engaging in each behaviour between the ethnic majority and the four ethnic minority groups.

AI was common in all groups and highest in the Other White group (Table 2). This difference persisted after adjustment (Table 4). No group was more or less likely to have CUI (61-

64%). However, multiple non-steady CUA partners were more commonly reported by Black (29.9%), Asian (23.5%) and All Others (23.4%) than by White British (18.3%) men (Table 4).

## **DISCUSSION**

Using a large community-based self-completion online convenience survey of men living in England who are sexually attracted to men we described ethnic group differences in HIV testing, diagnosis and sexual risk behaviours. The research design was close as possible to a survey we carried out in 2001.<sup>2</sup> In both surveys Other White men and Black men were more likely to report living with diagnosed HIV than the White British, with no evidence of change in the magnitude of this health inequity across time.

By contrast, while both our own 2001 survey<sup>4</sup> and Elford et al.'s 2007/8 survey<sup>5</sup> found Asian men to be less likely to report diagnosed HIV than the White British majority, our current 2014 survey found no significant difference. If valid, this may be because whatever social, economic or cultural protective effects were shielding Asian GBM from HIV for the first 20 years of the epidemic are no longer operating. The higher levels of multiple non-steady CUA partners reported by Asian men in the 2014 survey may be driving this change. This also suggests that, without changes in risk and/or precautionary behaviours, Asian gay and bisexual men in England can be expected to have a higher prevalence of HIV than the White majority in the future.

Our findings are limited due to the convenience nature of recruitment and the difficulty of generalising. While such samples may be fairly representative of homosexually active men who have sex only with men (and are predominantly gay identified) they are less representative of behaviourally bisexual men.<sup>12</sup> Apparent difference in HIV testing and sexual behaviours may be due to recruitment bias but also differences in reporting. Our 2001 survey used three methods of recruitment (at Gay Pride festivals, through community educators, and online) while our 2014 survey was online only. In addition, the websites on which recruitment advertising could occur changed between the surveys, and smartphone apps became available, so the online recruitments were not strictly comparable. However, our 2014 survey sample is strikingly similar to our 2001 sample. The median age is identical (32 years) and the proportions having male and female sexual partners was very similar. The

ethnic group profile is also very similar in the two surveys, with slightly larger proportions of Asian and Other White men in 2014, and comparably smaller proportions of White British and Black men. The ethnic group subsamples are all larger in 2014 than in 2001, suggesting a failure in 2014 to detect a difference seen in 2001 is unlikely to be due to sample size.

Racial and ethnic inequities in health vary with geography so we should not expect to see associations in one place to be replicated elsewhere.<sup>13</sup> However, our findings are broadly congruent with global findings. A review of GBM in the global African diaspora found Black GBM to have a higher prevalence of HIV than both Black heterosexuals and non-Black GBM. The authors pointed to 'common roots' for this finding in "common experiences such as discrimination, cultural norms valuing masculinity, concerns about confidentiality during HIV testing or treatment, low access to HIV drugs, threats of violence or incarceration, and few targeted HIV prevention interventions."<sup>14</sup> Socio-sexual network effects and associations between partnership race characteristics and sexual behaviours may also be important.<sup>15</sup> Our findings here also suggest that multiple non-steady condomless anal sex partners are important in understanding differences in HIV. We do not see a necessary conflict or competition between behavioural/biological, psychosocial, service-related and structural explanations for ethnic group disparities in HIV. Social hierarchies must be expressed through behaviour and biology for HIV infection to occur and for inequitable prevention services to fail to prevent it.

Our data are also congruent with surveillance data which show a significant year-on-year increase in new UK HIV diagnoses among Asian and black African men for over a decade.<sup>16</sup> Other data point to the importance of mental health. In the UK, compared with the White British majority, Black and Asian men are more likely to qualify as depressed and Black men to report suicidal thoughts.<sup>2</sup> Negative mood states have been associated with heightened sexual risk taking.<sup>17</sup> Together these findings confirm and underline the importance of Public Health England's syndemic approach to sexual, mental and drug-related health in MSM, perhaps particularly Black men.<sup>18</sup>

However, responses to HIV inequities across ethnic groups among GBM in the UK have relied on grassroots organising which often have proved unsustainable. Voluntary associations such as the Black Gay Men's Advisory Group (closed in 2009) and The Black Connexion (closed in 2014) have had neither the organisational power nor sufficient funds

to significantly dent the incidence of HIV among Black men. Similarly, in October 2014 Public Health England announced a 12 month training and education programme for non-governmental organisations about the needs of Black GBM in the UK (co-funded by MAC AIDS Fund), the first centralised public health response.<sup>19</sup> While useful for those involved, such short term responses are unlikely to recast this persistent health inequity. Sustained systemic change is needed across major social institutions. This includes increased cultural competence among sexual health service providers for serving ethnic minority gay and bisexual men.<sup>20</sup>

Future research could focus on the mechanisms by which these health inequities arise and may be addressed as well as their surveillance.

#### **KEY MESSAGES**

- Among men-who-have-sex-with-men in England in the early 2000s black and non-British white men were disproportionately likely to be living with diagnosed HIV, with Asian men less so.
- These inequalities persist today, and the lower prevalence of diagnosed HIV among Asian men observed a decade ago no longer appears to be the case.
- Large increases in HIV testing and limited targeted interventions have not altered these health inequities.
- Sustained systemic change across a wide range of social institutions is needed to change ethnic group inequities in HIV infection among gay and bisexual men.

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#### **COMPETING INTERESTS**

The authors have no competing interests.

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## CONTRIBUTORSHIP

FH conceived the paper, designed the analysis and wrote the first draft; FH, PW and DR designed and managed the survey; GMT advised on and ran the analysis; all authors contributed to the manuscript and agreed the final version. FH revised the manuscript.

## LICENSING

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**Table 1: Ethnic composition of GMSS14 sample and adult males in the 2011 Census**

Grouping	Census group	GMSS 2014		All men aged 16+ living in England (Census 2011)	
		Number	% (N=15,388)	Number (1000s)	% (N=41,107,810)
<i>White British</i>		12544	81.5	16,612	81.1
	White British	12544	81.5	16,612	81.1
<i>White Other</i>		1731	11.2	1,200	5.8
	White Irish	296	1.9	227	1.1
	White Gypsy/Irish traveller	14	0.1	18	0.1
	White Other	1421	9.2	954	4.6
<i>Asian British/ Asian</i>		403	2.6	1,492	7.2
	Asian Indian	152	1.0	569	2.7
	Asian Pakistani	71	0.5	382	1.8
	Asian Bangladeshi	11	0.1	148	0.7
	Asian & White	82	0.5	90	0.4
	Asian Other	87	0.6	303	1.5
<i>Black British/ Black</i>		320	2.1	782	3.8
	Black Caribbean	87	0.6	220	1.1
	Black Caribbean & White	118	0.8	112	0.5
	Black African	52	0.3	324	1.6
	Black African & White	47	0.3	40	0.2
	Black Other	16	0.1		0.4
<i>All Others</i>		390	2.5	467	2.2
	Chinese	134	0.9	154	0.7
	Arab	24	0.7	95	0.5
	Other, mixed	132	0.9	78	0.4
	All Others	100	0.7	140	0.7



**Table 2: Demographic characteristics, HIV testing and sexual behaviours in ethnic group subsamples of men in *The Gay Men's Sex Survey 2014***

	All (%)	Ethnic group (%)				
		White British	White Other	Asian / Asian & White	Black / Black & White	All Others
SAMPLE SIZE	15388	12544	1731	403	320	390
<b>DEMOGRAPHICS</b>						
Residence (%)*						
Missing n (%)	377 (2.4)	310 (2.5)	44 (2.5)	7 (1.7)	8 (2.5)	8 (2.1)
Valid No.	15011	12234	1687	396	312	382
North	26.0	28.9	11.2	18.4	13.8	16.0
Midlands	23.2	24.7	14.0	21.2	26.3	14.9
London	26.4	20.1	57.3	45.7	47.4	53.9
South	24.5	26.4	17.5	14.7	12.5	15.2
Age (years)*						
Missing n (%)	49 (0.3)	37 (0.2)	4 (0.2)	2 (0.4)	2 (0.6)	4 (0.1)
Valid No.	15339	12507	1727	401	318	386
Mean	34.9	35.1	35.8	31.0	30.2	32.0
SD	13.1	13.6	11.1	9.5	10.0	9.7
Median	32	32	34	29	28	30
Range	16-90	16-90	16-80	16-65	17-65	16-62
Education (%)*						
Missing n (%)	303 (2.0)	234 (1.9)	41 (2.3)	5 (1.2)	11 (3.4)	12 (3.0)
Valid No.	15085	12310	1690	398	309	378
Low	17.9	20.2	7.3	7.0	12.3	5.6
Medium	33.7	35.4	26.2	24.6	34.6	20.9
High	48.4	44.4	66.5	68.3	53.1	73.5
Sexual partners (%) *						
Missing n (%)	112 (0.7)	81 (0.6)	17 (0.9)	3 (0.8)	5 (1.6)	6 (0.2)
Valid No.	15276	12463	1714	400	315	384
None	5.7	6.1	3.4	6.0	2.9	5.5
Women only	0.8	0.9	0.6	1.3	0.0	0.5
Men and women	6.0	6.1	4.8	7.3	9.5	6.3
Men only	87.5	87.0	91.2	85.5	87.6	87.8
<b>HIV TESTING</b>						
HIV test history						
Missing n (%)	66 (0.4)	49 (0.3)	11 (0.6)	0 (0.0)	3 (0.9)	3 (0.7)
Valid No.	15322	12495	1720	403	317	387
<i>Ever tested</i>						
% ever tested*	76.5	74.5	88.3	76.2	83.0	85.0
No. ever tested	11724	9306	1519	307	263	329
<i>Diagnosed positive</i>						
% positive of tested*	11.7	11.3	14.6	10.8	12.9	9.7
No. positive	1369	1049	221	33	34	32
First diagnosed with HIV in last 12 months**						
Missing n (%)	119 (0.8)	93 (0.8)	17 (1.1)	1 (0.2)	5 (1.7)	3 (0.8)

Valid No.	14068	11532	1512	373	290	361
% diagnosed positive (n.s.)	1.1	1.0	1.3	1.1	2.8	1.7
No. diagnosed positive	156	119	19	4	8	6
<b>SEXUAL BEHAVIOURS***</b>						
Any anal intercourse (AI)						
Missing n (%)	413 (3.2)	342 (3.2)	46 (3.2)	9 (2.6)	10 (3.6)	6 (1.8)
Valid No.	12599	10280	1393	334	265	327
% any anal sex*	82.4	81.8	86.1	82.3	83.8	85.3
Any condom unprotected AI (CUAI)						
Missing n (%)	609 (4.7)	495 (4.7)	78 (5.4)	13 (3.8)	11 (4.0)	12 (3.6)
Valid No.	12403	10127	1361	330	264	321
% any CUIAI (n.s.)	63.4	63.7	61.1	63.9	62.9	61.4
Multiple non-steady CUIAI partners						
Missing n (%)	365 (2.8)	275 (2.6)	57 (4.0)	11 (3.2)	14 (5.1)	8 (2.4)
Valid No.	12647	10347	1382	332	261	325
% 2+ non-steady CUIAI*	18.7	18.3	17.4	23.5	29.9	23.4

\* P<0.01

\*\*Among men not already living with diagnosed HIV 12 months ago.

\*\*\*In last 12 months, among men not tested HIV positive who had sex with a man in the past 12 months.

**Table 3: Odds ratios across ethnic groups for HIV testing and testing positive in *The Gay Men's Sex Survey 2014*, unadjusted (Unadj.) and adjusted for age, residence and education (Adj.).**

		Ever HIV tested		Tested HIV positive (among those tested)		Living with diagnosed HIV		Tested positive in last 12 months (among those not already living with diagnosed HIV 12 months ago)	
		Odds Ratio	95%CI	Odds Ratio	95%CI	Odds Ratio	95%CI	Odds Ratio	95%CI
White British		1.00	--	1.00	--	1.00	--	1.0	--
White Other	Unadj.	2.59	<b>2.22-3.02</b>	1.34	<b>1.15-1.57</b>	1.61	<b>1.38-1.88</b>	1.22	0.75-1.99
	Adj.	1.57	<b>1.33-1.86</b>	1.23	<b>1.04-1.46</b>	1.31	<b>1.10-1.55</b>	1.02	0.61-1.70
Asian/ Asian & White	Unadj.	1.10	0.87-1.38	0.95	0.66-1.37	0.97	0.68-1.40	1.04	0.38-2.83
	Adj.	0.81	0.62-1.04	1.09	0.73-1.62	1.04	0.71-1.54	0.70	0.22-2.22
Black/ Black & White	Unadj.	1.67	<b>1.24-2.24</b>	1.17	0.81-1.69	1.31	0.91-1.88	2.72	<b>1.32-5.62</b>
	Adj.	1.50	<b>1.08-2.09</b>	1.53	<b>1.04-2.25</b>	1.62	<b>1.10-2.36</b>	2.57	<b>1.22-5.39</b>
All Others	Unadj.	1.94	<b>1.47-2.58</b>	0.85	0.59-1.23	0.98	0.68-1.42	1.62	0.71-3.71
	Adj.	1.33	0.97-1.82	0.97	0.65-1.43	1.02	0.70-1.51	1.40	0.60-3.27

**Table 4: Odds ratios across ethnic groups for sexual behaviours in last 12 months in *The Gay Men's Sex Survey 2014* , unadjusted (Unadj.) and adjusted for age, residence and education (Adj.), among men who had homosex in the last year and are not diagnosed with HIV**

		Any anal intercourse (AI)		Any condom unprotected AI (CUAI)		CUAI with 2+ non-steady partners	
		OR	95%CI	OR	95%CI	OR	95%CI
White British		1.00	--	1.00	--	1.00	--
White Other	Unadj.	1.37	<b>1.17-1.61</b>	0.90	0.80-1.01	0.94	0.81-1.09
	Adj.	1.24	<b>1.04-1.47</b>	0.96	0.85-1.10	0.95	0.81-1.11
Asian/Asian & White	Unadj.	1.04	0.78-1.38	1.01	0.80-1.27	1.37	<b>1.06-1.78</b>
	Adj.	0.88	0.65-1.18	0.98	0.77-1.23	1.46	<b>1.12-1.90</b>
Black/Black & White	Unadj.	1.15	0.82-1.60	0.96	0.75-1.24	1.90	<b>1.45-2.49</b>
	Adj.	1.04	0.73-1.48	0.94	0.72-1.22	1.85	<b>1.40-2.46</b>
All Others	Unadj.	1.29	0.95-1.76	0.90	0.72-1.14	1.36	<b>1.04-1.77</b>
	Adj.	1.13	0.81-1.57	0.93	0.73-1.18	1.38	<b>1.05-1.82</b>