



HAL
open science

Factors associated with GUM clinic attendance and STI diagnosis among Central and East European migrants in London

Alison R Evans, Catherine H Mercer, Violetta Parutis, Graham J Hart, Richard Mole, Christopher J Gerry, Fiona M Burns

► **To cite this version:**

Alison R Evans, Catherine H Mercer, Violetta Parutis, Graham J Hart, Richard Mole, et al.. Factors associated with GUM clinic attendance and STI diagnosis among Central and East European migrants in London. *Sexually Transmitted Infections*, 2011, 87 (4), pp.331. 10.1136/sti.2010.046839 . hal-00599965

HAL Id: hal-00599965

<https://hal.science/hal-00599965>

Submitted on 12 Jun 2011

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Factors associated with GUM clinic attendance and STI diagnosis among Central and East European migrants in London

Alison R. Evans¹, Catherine H. Mercer¹, Violetta Parutis², Graham J. Hart¹, Richard Mole², Christopher J. Gerry² and Fiona M. Burns¹

1. Centre for Sexual Health and HIV Research, Research Department of Infection and Population Health, University College London, London, UK

2. The School of Slavonic & East European Studies, University College London, London, UK

Correspondence to:

Dr Fiona Burns

UCL Centre for Sexual Health & HIV Research

Mortimer Market Centre

Off Capper Street

London WC1E 6JB

Tel: 08451 555000 ext 8185

Fax: 0207 3884182

Email: f.burns@ucl.ac.uk

Word count: 3051 (abstract 250)

Key words: GUM Services; Health Service Research; Sexual Behaviour; Sexual Health; STD; European migration; UK

ABSTRACT

Objectives: There has been a large influx of Central and East European (CEE) migrants to the UK following the expansion of the European Union. This paper examines the factors associated with GUM clinic attendance and STI diagnosis among CEE migrants in London.

Methods: We conducted a survey of sexual behaviour among CEE migrants attending two central London GUM clinics (n=299) and community venues in London (n=2276). Routinely-collected clinic data were also analysed.

Results: CEE migrants made up 2.9% of male and 7.0% of female attendees at the clinics. Half of the women attending sessions for female sex workers were from CEE countries and paying for sex was widely reported by men. Women were more likely than men to have attended a GUM clinic in the UK (7.6% vs 4.5%, $p=0.002$). GUM survey respondents were more likely than community survey respondents to report one or more new sexual partners in the past year (women: 67.9% vs 28.3%, $p<0.001$; men: 75.6% vs 45.1%, $p<0.001$) and homosexual partnership(s) in the past five years (men: 54.3% vs 1.8%, $p<0.001$); but were less likely to report assortative heterosexual mixing (women: 25.9% vs 74.2%, $p<0.001$; men: 56.5% vs 76.3%, $p<0.001$).

Conclusions: CEE patients make up a notable minority of patients attending two central London GUM clinics. Higher numbers of sexual partners, homosexual partnerships and sexual mixing with people from outside the country of origin are associated with GUM clinic attendance. Heterosexual CEE men report behaviours associated with HIV/STI acquisition but appear to be under-utilizing GUM services.

Key messages

- The accession of ten Central and East European (CEE) countries has resulted in a large influx of predominantly young economic migrants to the UK.
- Attendances at central London GUM services by migrants from eight of these accession countries have increased steadily over a number of years.
- CEE GUM clinic attendance is associated with reporting new sexual partners, homosexual partnerships and heterosexual mixing with people from outside the home country.
- CEE migrants make up a notable minority of patients at central London GUM services but these services may be under-utilized by heterosexual CEE men.

INTRODUCTION

On 1st May 2004, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovakia and Slovenia (Accession 8 or A8) joined the European Union (EU), followed by Romania and Bulgaria (A2) on 1st January 2007. The accession of these ten Central and East European (CEE) countries resulted in a large influx of predominantly young economic migrants to the UK. All nationals of these countries have entitlement to NHS services and the UK has a responsibility to ensure that the health needs of these communities are met.

In a recent study of people who attended two central London GUM clinics, 2.2% of men and 6.6% of women were from an A8 country and the proportion of attendances by A8 men and women had increased significantly over six years.[1] However, these data do not provide any information on sexual risk behaviour which would enhance our understanding of the sexual health service needs of people from CEE countries. While reporting GUM clinic attendance is associated with greater numbers of sexual partners, having same-sex partnerships, injecting drug use and paying for sex among those in the general British population,[2] the factors lying behind GUM clinic attendance among the new CEE migrant population are unknown. Following the accession of the A2 countries, this paper examines sexual risk factors among men and women from both the A8 and A2 countries who attend sexual health services in London, as part of the SALLEE project (Sexual Attitudes and Lifestyles of London's East Europeans).

METHODS

SALLEE cross sectional survey

A detailed description of the methodology has been published.[3] A summary of the methods for the SALLEE cross sectional survey is described below. In this paper we refer to two samples of

men and women who took part in the survey - SALLEE GUM respondents and SALLEE community respondents.

Participants and procedure

Eligible respondents for both samples were literate men and women aged 18 years or over who self-identified as migrants from one of the ten CEE countries. Eligible respondents were born or spent formative years in one of these countries. Given the fluid nature of migration, length of time in the UK was not a pre-condition for participation. The SALLEE GUM sample was recruited from the two central London GUM clinics over nine months (1st July 2008 – 31st March 2009). Recruitment in the clinics was mainly undertaken by two members of the research team, one of whom was a native speaker of Polish and Lithuanian. The SALLEE community sample was recruited from a range of venues in London over the same period. The nine fieldworkers involved in community sample recruitment were native speakers of six of the languages of the CEE countries.

Sampling

For the SALLEE GUM sample, the days and times of recruitment in the clinics varied over the data collection period. During the times that recruitment took place, men and women who stated on their clinic registration form that they had been born in one of the ten CEE countries were asked to participate in the study. For the SALLEE community sample, recruitment locations were selected following a detailed social mapping exercise and times of recruitment at venues were varied. Fieldworkers asked individuals where they were from before asking if they would be willing to take part in the study. The resulting community sample reflects a broad cross-section of CEE migrants in London.

Study instrument

The survey instrument was a self-completed questionnaire that was fielded using hand-held computers and included no information that would allow respondents to be identified. The questionnaire was available in twelve languages (the ten CEE languages plus English and Russian). It was translated from English into the eleven languages and checked for accuracy by native speakers of these languages. Informed consent was sought using information sheets available in the twelve languages. A £5 high street voucher was offered as an incentive.

The questionnaire concentrated on sexual risk behaviour, including sexual practices, numbers of partnerships, use of condoms, paying for sex, STIs (including HIV) and use of sexual health services. Respondents were also asked about recreational drug use. Where possible, questions from previously validated questionnaires were used in order to maximize their reliability and validity. The questionnaire was piloted with nine CEE migrants to examine its feasibility and acceptability and to explore understanding of the question items and underlying constructs. The final questionnaire took about ten minutes to complete.

Retrospective analysis of routinely-collected GUM clinic data

Routinely-collected data on all attendances of patients from CEE countries and elsewhere at the same two GUM clinics were analysed for the same period (1st July 2008 to 31st March 2009). We refer to these data as *GUM patients* in order to distinguish them from the *SALLEE GUM respondents* who participated in the cross sectional survey. Data analysed here refer to new attendances; GUM attendees who were known to be HIV positive prior to their visit were excluded, as were follow-up GUM appointments unless they resulted in a new STI diagnosis.

Statistical analysis

Standard statistical tests such as chi-square and the Student's t-test were used to examine associations between factors. Logistic regression modelling was used to obtain odds ratios (OR) and adjusted odds ratios (aOR). Analysis was performed using SPSS12.0 (SPSS Inc, Chicago, Illinois, USA).

Ethics

The study was granted approval from the Camden and Islington Community Research Ethics Committee (07/H0722/110).

Table 1: Factors associated with having a new STI diagnosis[†] among CEE patients attending two GUM clinics in London

	n	%	p value	Crude OR (95% CI)	p value	Adjusted OR[§] (95% CI)	p value
All	165	13.5	-	-	-	-	-
Gender							
Female	92	10.9		1.00		1.00	
Male	73	19.2	<0.001	1.94 (1.39, 2.71)	<0.001	2.06 (1.38, 3.10)	<0.001
Age							
25 years and over	100	11.7		1.00		1.00	
Under 25 years	65	17.7	0.005	1.62 (1.16, 2.28)	0.005	1.85 (1.30, 2.63)	0.001
Country of birth							
A8	128	12.6		1.00		1.00	
A2	37	17.5	0.057	1.47 (0.99, 2.20)	0.058	1.37 (0.91, 2.06)	0.136
Recorded as homosexual or bisexual							
Not homo / bisexual	133	12.6		1.00		1.00	
Homo / bisexual	32	18.8	0.028	1.61 (1.05, 2.46)	0.029	1.08 (0.65, 1.79)	0.780

[†]STI diagnoses include syphilis; gonorrhoea; Chlamydia; HSV (1st attack); genital warts (1st attack); trichomonas, uncomplicated non-gonococcal / non-specific urethritis; and complicated non-specific infection (non-chlamydial / non-gonococcal) including pelvic inflammatory disease and epididymitis

[§] adjusting for the other variables listed in this table

RESULTS

Retrospective analysis of routinely-collected GUM clinic data

This analysis of routinely-collected GUM clinic data was conducted for the same period as data collection for the SALLEE project (1st July 2008 to 31st March 2009) and provides the context for our analysis of the SALLEE cross sectional survey. A total of 29,770 GUM patients attended the two clinics at least once during this time and half of them were male (48.7%). Country of origin was not recorded for 8.9% of GUM patients. Of the 27,131 men and women with a known country of origin, 1,373 (5.1%) were born in a CEE country: 2.9% of men and 7.0% of women.

One of the GUM clinics runs sessions specifically for female sex workers (FSW). Among the 295 patients attending these sessions, 50.2% (n=148) were from a CEE country, compared to 6.1% of female patients attending all other GUM sessions. The majority of CEE women attending sessions for FSWs were Romanian (44.6%), Lithuanian (25.7%) or Polish (10.8%). As the SALLEE cross sectional survey was not administered to women attending sessions for FSWs, these women are excluded from the remaining analysis of clinic data.

Overall, male GUM patients were more likely than females to have one or more STI diagnoses (including HIV) during their visits (18.5% vs 13.3%, $p < 0.001$). There was no significant difference between men from CEE countries and from the UK or elsewhere on the overall likelihood of an STI diagnosis (20.5% vs 18.5%, $p = 0.338$). CEE women were slightly less likely to be diagnosed with an STI than women from the UK or elsewhere (11.0% vs 13.6%, $p = 0.032$). A higher proportion of CEE men were recorded as homosexual or bisexual than men from other countries (42.8% vs 33.0%, $p < 0.001$). Among CEE GUM patients, STI diagnoses (excluding HIV) were more likely among men than women, those under 25 years old, from an A2 country and who were recorded as homosexual or bisexual (table 1). In multivariate analysis, gender and

age remained statistically significant. Seven CEE GUM patients (0.06% of all CEE GUM patients) were diagnosed with HIV during the study period, five of whom were men recorded as homosexual or bisexual.

SALLEE cross sectional survey

A total of 299 men and women attending these clinics completed the SALLEE questionnaire. The SALLEE GUM sample therefore represents 24.4% (299/1225) of all CEE GUM patients who attended the clinics (excluding sessions for FSWs) over the data collection period. 325 CEE GUM patients were approached and 26 declined to take part, giving a response rate of 92%.

Table 2: Background characteristics of SALLEE GUM respondents compared to all CEE GUM patients attending between 1st June 2008 and 31st March 2009

	SALLEE GUM respondents n = 299		All CEE GUM patients n = 1225		p-value
	n	%	n	%	
Age in years: mean (SD)	27.0 (4.7)		27.4 (5.2)		0.218
Male	95	31.8	381	31.1	0.823
Country of birth					0.167
Bulgaria	24	8.1	82	6.7	
Czech Republic	15	5.1	107	8.7	
Estonia	3	1.0	26	2.1	
Hungary	20	6.7	103	8.4	
Latvia	18	6.1	54	4.4	
Lithuania	36	12.1	111	9.1	
Poland	126	42.4	487	39.8	
Romania	32	10.8	129	10.5	
Slovakia	22	7.4	118	9.6	
Slovenia	1	0.3	8	0.7	

Two thirds of SALLEE GUM respondents were female (68.2%). The majority had been in the UK for more than one year (this was more likely among people from the A8 than from the A2 (94.5% vs 74.5%, $p < 0.001$)), and had returned home twice or more in the previous year (68.5%). SALLEE GUM respondents were similar in age to the population of CEE GUM patients who attended the clinics during the data collection period (27.0 vs 27.4 $p = 0.218$) (table 2), were as likely to be male (31.8% vs 31.1%, $p = 0.823$) and the distribution of CEE nationalities was similar ($p = 0.167$), with Poles making up about forty percent of the total.

A previous STI diagnosis was reported by 38.0% of male SALLEE GUM respondents and 41.2% of females ($p = 0.607$). HIV positive status was reported by 2.2% of men (2/93) and 1.0% of women (2/195). All HIV positive respondents had been diagnosed in the UK and the majority of previous STI diagnoses had been made in the UK (fig 1a and 1b).

Comparing SALLEE GUM and SALLEE community samples

In order to explore the factors which may lie behind attendance at the GUM clinic, we examined differences between the SALLEE GUM and the SALLEE community samples (table 3). Women in the SALLEE community sample were more likely than men to have attended a GUM clinic in the UK (7.6% vs 4.5%, $p = 0.002$). In comparison to community respondents, male and female GUM respondents were younger, more educated and had been in the UK for longer. They were less likely to be married or co-habiting. Female GUM respondents were more likely to be working than their community counterparts.

Table 3: Background characteristics and sexual risk behaviour among SALLEE respondents, by gender and sample

	Women					Men				
	Clinic n = 204		Community n = 1173		p value	Clinic n = 95		Community n = 1103		p value
	n	%	n	%		n	%	n	%	
Background characteristics										
Age in years: mean (SD)	26.6 (4.6)		28.5 (8.5)		<0.001	27.8 (4.9)		29.8 (8.7)		<0.001
Whether working	161	78.9	755	64.8	<0.001	79	83.2	892	81.2	0.645
Whether has a degree	111	54.4	408	34.8	<0.001	47	50.0	260	23.6	<0.001
Married or co-habiting	85	41.7	700	60.2	<0.001	32	33.7	489	44.7	0.037
More than one year in UK	184	92.5	837	72.8	<0.001	83	87.4	727	68.2	<0.001
Born in an A2 country	34	16.8	260	22.3	0.082	22	23.2	325	29.6	0.183
Numbers of partners										
1+ new heterosexual partners (last year)	123	65.4	289	27.7	<0.001	29	31.5	436	44.4	0.017
1+ new homosexual AI partners (last year) ¹	-	-	-	-	-	42	45.2	8	0.7	<0.001
1+ new sexual partners (last year) ²	127	67.9	294	28.3	<0.001	68	75.6	442	45.1	<0.001
Heterosexual practices and partnerships										
Consistent heterosexual condom use (4 weeks) ³	44	28.4	212	29.9	0.716	5	13.5	220	38.7	0.002
Ever paid for sex with woman ⁴	-	-	-	-	-	17	24.3	342	35.2	0.063
Most recent heterosexual partner					<0.001					<0.001

from:										
Home country	51	25.9	787	74.2		39	56.5	739	76.3	
UK	69	35.0	142	13.4		10	14.5	105	10.8	
Other country	74	37.6	125	11.8		19	27.5	103	10.6	
Homosexual practices and partnerships										
1+ homosexual partners (last 5 years)	24	11.8	39	3.4	<0.001	51	54.3	20	1.8	<0.001
Homosexual AI in last 4 weeks	-	-	-	-	-	32	34.0	7	0.6	<0.001
Ever paid for sex with a man ⁵	-	-	-	-	-	7	13.5	3	12.0	0.858
Most recent male homosexual partner from:					-					<0.001
Home country	-	-	-	-		5	9.6	14	58.3	
UK	-	-	-	-		20	38.5	6	25.0	
Other country	-	-	-	-		24	46.2	2	8.3	
STIs, sex work and drug use										
Ever had STI (excl HIV & thrush)	80	41.2	118	11.4	<0.001	35	38.0	82	8.8	<0.001
Been paid for sex in UK	15	7.7	6	0.5	<0.001	8	8.5	15	1.4	<0.000
Recreational drug use (last year)	63	31.2	124	10.8	<0.001	41	43.6	311	28.7	0.003
Ever injected drugs	5	2.5	26	2.2	0.841	4	4.3	57	5.3	0.672
Injected drugs (last year)	2	1.0	12	1.0	0.949	3	3.2	22	2.0	0.455

¹ AI = anal intercourse; ² excluding men who did not have AI with their male sexual partners and including women who had sex with women; ³ among men and women who have had heterosexual sex in the past 4 weeks; ⁴ among men who have had sex with a woman; ⁵ among men who have had sex with a man

Overall, SALLEE GUM respondents were substantially more likely than community respondents to report at least one new sexual partner in the past year (women: 67.9% vs 28.3%, $p < 0.001$; men: 75.6% vs 45.1%, $p < 0.001$). Although male community respondents were more likely to report one or more new heterosexual partners than their GUM counterparts (44.4% vs 31.5%, $p = 0.017$), SALLEE GUM respondents were more likely than community respondents to report one or more homosexual partners in the past five years and the difference was particularly marked among men (54.3% vs 1.8%, $p < 0.001$).

Community men were more likely to report consistent heterosexual condom use than GUM men (38.7% vs 13.5%, $p = 0.002$) but there was no difference on consistency of condom use between women in the two samples (28.4% vs 29.9%, $p = 0.716$). Community men were also more likely to have paid for sex with a woman (35.2% vs 24.3%, $p = 0.063$). Among men reporting male sexual partners, however, there was no difference between the samples on ever paying for sex with a man (13.5% vs 12.0%, $p = 0.858$). Three quarters of female and male community respondents reported assortative heterosexual sexual mixing (whereby their most recent partner was from their home country), compared to 25.9% of female GUM respondents and 56.5% of male GUM respondents ($p < 0.001$ for female and male comparisons). GUM men were much less likely than community men to report a most recent male partner from their home country (9.6% vs 58.3%, $p < 0.001$).

Male and female SALLEE GUM respondents were more likely than community respondents to report a previous STI diagnosis, being paid for sex in the UK and recreational drug use (all $p < 0.01$). There were no differences between the samples on injecting drug use.

In logistic regression analysis adjusting for background characteristics (age, work status, education, relationship status, time in the UK, country of birth), all significant associations

between sample and the sexual risk behaviours listed in table 3 remained significant (at $p < 0.001$ among women and $p < 0.01$ among men). The only exception was recreational drug use among men with an adjusted odds ratio of 1.55, $p = 0.063$.

DISCUSSION

CEE patients make up a notable minority of patients in two central London GUM clinics. Previous patient data from these GUM clinics (May 2006–April 2007) showed that 2.2% of men and 6.6% of women were from an A8 country.[1] In this paper, we included men and women from the two CEE countries which joined the EU in January 2007, giving them entitlement to NHS services, and found that CEE men now make up 2.9% and CEE women make up 7.0% of patients.

The key factors associated with having a new STI diagnosis among CEE patients were gender and age. Surveillance data from the UK as a whole also show that people under 25 years old are disproportionately affected by STIs.[4] A previous STI was reported by forty percent of SALLEE GUM respondents which is consistent with data from the broader population of people attending GUM clinics in Britain. One third of men and forty percent of women who had attended a GUM clinic in Britain reported a previous STI diagnosis,[2] as did forty-one percent of those attending one of the GUM clinics included in the present study.[7]

Half of the women attending GUM sessions for FSWs were from CEE countries and almost half of these were Romanian. While sessions specifically for sex workers were excluded from our analysis, sex workers attending general GUM clinics may have contributed towards increased new STI diagnoses among people from A2 countries. As a newer migrant population, people from A2 countries may be more likely to use GUM services only if they have a suspected STI

whereas A8 patients might be more likely to come for a sexual health check. We are unable to test these hypotheses as data on sex work and time in the UK are not routinely collected.

CEE MSM appear to be more likely to access GUM services than their heterosexual counterparts. Male CEE patients were more likely to be recorded as homosexual or bisexual than men from other countries. Homosexuality is no longer a criminal offence in CEE countries but stigmatization and discrimination are widely reported in the region,[5,6] which may encourage higher levels of migration among CEE men who have sex with men (MSM) compared to the CEE population as a whole.

Data collected from SALLEE respondents suggest that GUM patients have increased risk due to higher turnover of sexual partners, more homosexual partnerships among men and commercial sex. This is consistent with data showing that increased partner numbers and same sex partnerships are more commonly reported among people who have attended GUM clinics across Britain.[2] Levels of consistent condom use were similar for women across both samples but the higher turnover of sexual partners among GUM respondents is likely to put them at greater risk for acquisition and transmission of STIs. Recreational drug use, which was highest among male GUM respondents, was found to be substantially higher among MSM compared to heterosexual men and women at a London HIV testing clinic.[8] Interestingly, male SALLEE GUM respondents were less likely to have paid for sex with a woman than men in the community whereas paying for sex is associated with GUM clinic attendance in Britain.[2] GUM services may not be reaching all CEE men who are at risk for STIs.

A major point of concern is that all self-reported HIV and the majority of previous STIs among SALLEE respondents had been diagnosed in the UK. We cannot rule out the possibility that infections went undiagnosed in their countries of origin or the impact of an age effect unrelated to

migration on sexual risk behaviours among this group of young migrants. However, other factors are likely to have played a part. Firstly, migration has been identified as an independent risk factor for HIV.[9] These CEE migrants have taken a risk in coming to the UK and it is thought that such risk-taking may filter through to other areas of their lives.[10] Secondly, the sexual norms in the UK may be less limiting than in their countries of origin. Thirdly, data suggest that the incidence of STIs may be higher in the UK than in CEE countries: notification rates of gonorrhoea and Chlamydia are higher in the UK than in CEE countries and the UK is only exceeded in new HIV diagnoses by Estonia and Latvia.[11] It also has the highest rate of newly diagnosed cases of HIV infection among MSM in Europe.[12] SALLEE GUM respondents were much less likely to report assortative sexual mixing than men and women in the community and this may have increased their risk for acquisition of STIs.

A key limitation of our study is that we did not link data from the cross sectional survey to clinic records which means that we are unable to look at the association between reported sexual behaviour and a new STI diagnosis. We wanted to assure respondents of anonymity and our high response rate suggests that we were successful in this respect although other studies have found that respondents are willing to consent to linking questionnaire data to their clinic records.[13] There were some data missing on nationality although this did not vary according to whether patients were or were not diagnosed with a new STI. CEE migrants come from ten different countries across an area of wide regional variation but the small size of our study sample did not provide sufficient statistical power to analyse behavioural data at the country level. The limitations of convenience samples have been published[3] but it is reassuring that our SALLEE GUM sample did not differ from the CEE GUM population on age, gender or nationality. While HIV positive patients were excluded from our analysis of GUM patient data, seven SALLEE

GUM respondents reported that they were HIV positive. However, inclusion of HIV positive SALLEE GUM respondents provides a more complete picture of CEE migrants accessing GUM services.

These findings have important implications for cross-border transmission of infections. Our data show that sexual mixing with people from the UK and other countries is one of the factors associated with GUM clinic attendance, a risk indicator for STIs. In addition to frequent trips home, CEE migrants often stay in the UK for short but recurring periods,[14] creating an opportunity for the transmission of infections between countries. Language barriers, confusion over entitlement and lack of knowledge about the services provided by GUM clinics may mean that migrants do not fully benefit from public health programmes or services. Bulgarians and Romanians may also benefit from specific targeting, given the increased likelihood of STI diagnosis among A2 GUM patients and the high proportion of Romanian women at GUM sessions for sex workers. CEE migrants are entitled to NHS services and the UK needs to ensure they are aware of sexual health services in the UK and able to access them.

Word count: 3051

Acknowledgements: We are grateful for the guidance provided by our expert and community advisory boards, and for the hard work and commitment of the fieldworkers who collected the data. We would also like to thank the staff and management at the Mortimer Market Centre and the Archway Sexual Health Clinic; the many commercial, social and educational premises that facilitated recruitment for our fieldworkers; and everyone who took part in the study. This study was supported by the MRC Sexual Health and HIV Research Strategy Committee and the North Central London Research Consortium (NoCLoR) Grant Enhancement Fund. The views expressed are those of the authors and not necessarily those of the MRC, NoCLoR or the Health Departments.

Contributors: FB, CM, CG, RM, JI, GH participated in the design of this study. AE, VP and FB were responsible for study coordination and data collection. AE conducted the statistical analysis and was the lead writer of this paper. All authors have contributed to the drafting of the manuscript and have seen and approved the final version.

Conflicts of Interest: No conflicts of interest

Funding: This study was supported by the MRC Sexual Health and HIV Research Strategy Committee and the North Central London Research Consortium (NoCLoR) Grant Enhancement Fund. The sponsor of the study had no role in study design, the collection, analysis or interpretation of the data, the writing of the report or the decision to submit the paper for publication.

Copyright licence statement: The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd to permit this

article (if accepted) to be published in STI and any other BMJPGI products and sublicences such use and exploit all subsidiary rights, as set out in our licence:

<http://group.bmj.com/products/journals/instructions-for-authors/licence-forms>.

REFERENCES

1. Burns FM, Mercer CH, Evans AR, et al. Increased attendances by people of Eastern European origin at sexual health services in London. *Sex Transm Infect.* 2009;85:75-78 doi:10.1136/sti.2007.029546 [published Online First: 3 September 2008].
2. Fenton KA, Mercer CH, Johnson AM, et al. Reported sexually transmitted disease clinic attendance and sexually transmitted infections in Britain: prevalence, risk factors, and proportionate population burden. *J Infect Dis.* 2005;191(Suppl 1):S127-S138.
3. Evans AR, Parutis V, Hart G, et al. The sexual attitudes and lifestyles of London's Eastern Europeans (SALLEE Project): design and methods. *BMC Public Health.* 2009;9:399 doi:10.1186/1471-2458-9-399 [published Online First: 30 October 2009].
4. Health Protection Agency. Sexually Transmitted Infections and Young People in the United Kingdom: 2008 report. London: Health Protection Agency 2008.
5. World Health Organisation. HIV and other STIs among MSM in the European Region. World Health Organisation 2008. www.euro.who.int (accessed 29 June 2010).
6. European Commission. Eurobarometer 66: Public Opinion in the European Union. European Commission 2007. ec.europa.eu/public_opinion (accessed 29 June 2010).
7. Hughes G, Catchpole M, Rogers PA, et al. Comparison of risk factors for four sexually transmitted infections: results from a study of attenders at three genitourinary medicine clinics in England. *Sex Transm Infect.* 2000;76:262-267.
8. Bolding G, Davis M, Hart G, et al. Heterosexual men and women who seek sex through the Internet. *Int J STD AIDS.* 2006;17:530-534.
9. Brockhoff M, Biddlecom AE. Migration, sexual behaviour and the risk of HIV in Kenya. *Int Migr Rev.* 1999;4:833-56.

10. UNAIDS, International Organisation for Migration, Duckett M. Migrants' Right to Health. Geneva: UNAIDS 2001.
11. European Centre for Disease Prevention and Control. Annual Epidemiological Report on Communicable Diseases in Europe. Stockholm: European Centre for Disease Prevention and Control 2009.
12. Likatavičius G, Klavs I, Devaux I, et al. An increase in newly diagnosed HIV cases reported among men who have sex with men in Europe, 2000-6: implications for a European public health strategy. *Sex Transm Infect.* 2008;84:499-505.
13. Mercer CH, Sutcliffe M, Johnson AM, et al. How much do delayed healthcare seeking, delayed care provision, and diversion from primary care contribute to the transmission of STIs? *Sex Transm Infect* 2007;83:400–405. doi: 10.1136/sti.2006.024554 [published Online First: 2 May 2007].
14. Home Office UK Border Agency: Accession Monitoring Report. Crown copyright 2009. www.ukba.homeoffice.gov.uk (accessed October 2009).

Figure 1a: Previous STI diagnoses reported by male SALLEE GUM respondents, by country of diagnosis

Figure 1b: Previous STIs diagnoses reported by female SALLEE GUM respondents, by country of diagnosis



