Written evidence from Dr Cath Mercer on behalf of ‘Understanding Risk and Risk Reduction for STIs’ (Theme A) in the National Institute for Health Research (NIHR) funded Health Protection Research Unit (HPRU) in Blood Borne and Sexually Transmitted Infections (bbsti.hpru.nihr.ac.uk/)

1. The Health and Social Care Committee has launched an inquiry into sexual health and seeks evidence on sexual health, including recent trends, prevention, as well as the commissioning and delivery of sexual health services.

2. We would like to draw the Committee’s attention to findings from research undertaken for the National Institute for Health Research (NIHR) funded Health Protection Research Unit in Blood Borne and Sexually Transmitted Infections (bbsti.hpru.nihr.ac.uk/), specifically on Understanding Risk and Risk Reduction (http://bbsti.hpru.nihr.ac.uk/our-research/research-themes/theme-overview-understanding-risk-and-risk-reduction-sexually) which is of relevance to this inquiry.

3. What is the ‘Understanding Risk and Risk Reduction for STIs’ Research Theme in the NIHR-funded HPRU in BB and STIs?: The overarching aim of this research theme is to improve understanding and the knowledge-base of the behaviours, attitudes, and factors that influence the risk of STI and BBV acquisition and transmission in key population groups to inform the development of novel interventions and support the targeting and delivery of timely interventions to maximise patient and public health benefit. The research has focused on key priority groups identified by Public Health England (PHE), specifically: (1) people of Black Caribbean ethnicity; and (2) men who have sex with men (MSM). These are two groups that experience poor STI and BBV outcomes yet are known to access sexual health services, especially genitourinary medicine (GUM) clinics. Black Caribbean populations in England are between 12 and 20-fold more likely to acquire gonorrhoea than the general population\textsuperscript{1,2}. The reasons for the magnitude of this disparity remain unclear, and detailed and contextual information about partnership types, attitudes to risk and partner notification is urgently needed. Likewise, MSM are at considerably greater risk of acquiring HIV and other STIs and BBVs. The increasing role of HIV sero-adaptive behaviours in dense sexual networks in facilitating recent STI and other STI epidemics, including Syphilis, HCV, LGV, \textit{Shigella flexneri}, and gonococcal strains with reduced antimicrobial sensitivities, has been highlighted. Of particular concern currently is the association between recreational (club) drug use and needle sharing and sexual behaviours in MSM.

This research theme has generated much-needed evidence on how social, behavioural, and contextual factors shape risk and risk reduction capacity, with which to develop relevant and timely interventions, and health protection messaging specifically tailored to key populations, subcultures of risk, and social conditions, in addition to more generalised approaches. This has been achieved with bio-behavioural Rapid Risk Assessment System (RRAS), which entailed conducting a rapid systematic review and qualitative research to understand contextual factors and subsequently conducting a survey completed by 4,437 people attending 19 sexual health clinics across England to collect data on risk behaviours
and factors influencing them. These survey data were linked (with participant’s consent; 92% consented) to PHE’s (existing) Genitourinary Medicine Clinic Activity Dataset (GUMCAD), which routinely collects STI surveillance data. In addition to the clinic-based survey, during spring 2017, an online version of the survey was administered using gay-orientated dating websites/apps (Grindr/Scruff/Gaydar) and completed by 3,663 MSM. Currently, the findings from these quantitative and qualitative studies are being used to guide the development of interventions for risk reduction in key populations, including health promotion messaging.

4. How can the ‘Understanding Risk and Risk Reduction for STIs’ Research Theme contribute to the inquiry?: here we summarise the evidence gained to date from our research with the two exemplar populations identified: (1) people of Black Caribbean ethnicity; and (2) men who have sex with men (MSM).

4.1 Evidence on understanding risk and risk reduction for STIs among people of Black Caribbean (BC) ethnicity:

4.1.1 Understanding the burden of bacterial sexually transmitted infections and Trichomonas vaginalis among black Caribbeans in the United Kingdom: findings from a systematic review.

Publication status: in press as a peer-reviewed article with PLoS One.

Key points:
- 3,815 abstracts were identified from which 15 articles reporting quantitative data were eligible and included in the review.
- Compared to those participants identifying as White/White British (W/WB) ethnicity, the greater STI/TV risk among BC participants was partially explained by variations in socio-demographic factors, sexual behaviours, and recreational drug use.
- The prevalence of reporting early sexual debut (<16 years), concurrency, and multiple partners was higher among BC men compared to W/WB men; however, no such differences were observed for women.
- People of BC ethnicity were more likely to access sexual health services than those of W/WB ethnicity.
- Further research is needed to explore other drivers of the sustained higher STI/TV prevalence among people of BC ethnicity. Developing holistic, tailored interventions that address STI risk and target people of BC ethnicity, especially men, could enhance STI prevention.

4.1.2 A qualitative study of attitudes towards, typologies, and drivers of concurrent partnerships among people of black Caribbean ethnicity in England and their implications for STI prevention.

Publication status: in review as a peer-reviewed article with BMC Public Health.

Key points:
- Having sexual partnerships overlapping in time (‘sexual partner concurrency’), especially when condoms are not used, can facilitate STI transmission. In Britain, STI diagnoses rates and concurrent partnerships are higher among people of BC ethnicity than those from other ethnic groups.
59 people of black Caribbean ethnicity (BC) aged 15-70 years participated in 4 audio-recorded focus group discussions and 31 in-depth interviews (June 2014-December 2015) that explored attitudes towards, drivers, characteristics, and contexts of concurrent partnerships, and their implications for STI-risk among BCs in England. The resulting transcribed data were thematically analysed using Framework Analysis.

Two types of concurrency were identified in this population, labelled ‘main plus’ and ‘non-main’.

‘Main plus concurrency’ involves an individual having a main partner with whom s/he has a “relationship” with, and the individual and/or their partner secretly or explicitly have other non-main partners.

In contrast, ‘non-main concurrency’ entails having multiple, non-committed partners overlapping in time, where concurrency is usually taken as given, making disclosure to partners irrelevant.

While main partnerships were usually long-term, non-main partnerships ranged in duration from a single event through to encounters lasting several months/years.

Condomless sex was common with ex/longterm/married/cohabiting partners; whereas condoms were typically used with non-main partners. However, condom use declined with partnership duration and familiarity with partners.

Awareness of partners’ concurrency facilitated condom use, STI-testing, and partner notification. While unresolved feelings, or sharing children with ex-partners, usually facilitated main plus concurrency; non-main concurrency was common among young, and single people.

Gender norms, notions of masculinity, and sexual desires influenced concurrency. BC popular music, social media, peer pressure, and relationship norms among BCs were also perceived to encourage concurrency, especially among men.

Concurrency type, its duration, and awareness influence sexual health choices, and thus STI-risk among BCs.

Collecting these data during clinic consultations could facilitate offering partner notification methods tailored to concurrency type.

Gender-specific, culturally-sensitive interventions addressing STI-risks associated with concurrency are needed.

4.1.3 Variations in sexual mixing and in the numbers and types of partnerships reported by heterosexual sexual health clinic attendees: do these explain the elevated STI risk among Black Caribbean people?

Publication status: in review as a peer-reviewed article with BMJ Sexually Transmitted Infections.

Key points:

- We compared Black Caribbean attendees (BC; N=572, of which n=182 men) and, as the ethnic majority, White British/Irish (WBI; N=1218, of which n=426 men) attendees’ reported partnerships and mixing, in gender-stratified analyses, and used multivariable logistic regression to examine whether they independently explained differences in having acute STIs.
- We observed differences in the numbers and types of sexual partnerships reported by ethnic group.
- BC women’s reported partnerships were more likely than WBI women’s partnerships to involve age-mixing (≥5 years age-difference; 31.6% vs. 25.5% partnerships, p=0.013); BC
men’s partnerships were more often ‘uncommitted regular’ (35.4% vs. 20.7%) and less often casual (38.5% vs. 53.1%) than WBI men’s partnerships (p<0.001).

- Acute STI was higher among BC women than WBI women (OR 2.29, 95% confidence interval (CI): 1.24-4.21), with no difference among men. The ethnic difference observed was unaffected by partnerships and mixing: BC women compared with WBI women AOR: 2.31 (95% CI: 1.30-4.09) after adjusting for age and partner numbers, and 2.15 (95% CI: 1.07-4.31) after additionally adjusting for age-mixing, ethnic-mixing, and recent reported partnership type(s).
- Taking account of differences in sexual partnerships and mixing does not appear to explain behaviourally-heterosexual BC women clinic attendees’ elevated risk of acute STI diagnosis.
- Better characterisation of ‘high transmission networks’ is needed, which may facilitate targeting of these networks, thus reducing sexual health inequalities and STI transmission at population level.


Publication status: in review as a peer-reviewed article with the International Journal of STD and AIDS.9

Key points:

- Multivariable logistic regression was used to compare sexual healthcare-seeking behaviours (separately by gender) among attendees of Black Caribbean ethnicity (BC; N=627, of which n=207 men) to those of White British/Irish ethnicity (WBI; N=1411, of which n=573 men) as the ethnic majority, and among men and women within ethnic groups, controlling for potential confounders.
- BC women’s sexual health clinic attendance was more likely to be related to a recent (past 6 weeks) bacterial STI diagnosis, compared to White British/Irish (WBI) women’s attendance (AOR 3.54, 95%CI 1.45-8.64, p=0.009; no gender difference among BC attendees), while BC men were more likely than WBI men (and BC women) to attend because of a partner’s symptoms (AOR 1.82, 95%CI 1.14-2.90; AOR BC men vs BC women: 4.36, 95%CI 1.42-13.34, p=0.014).
- Among symptomatic attendees, BC women were less likely than WBI women to report first seeking care elsewhere (AOR 0.60, 95%CI 0.38-0.97, p=0.039).
- No ethnic differences, or gender differences among BC attendees, were observed in symptom duration, or reporting sex whilst symptomatic.
- Among those reporting previous bacterial STI/trichomoniasis diagnosis/es or treatment, no ethnic or gender differences in partner notification experience were observed.
- Sexual healthcare-seeking and clinic use appear similar for BC and WBI attendees, except that differences exist in reasons given for attendance, which require further investigation.
- As changes take place in service delivery, prompt clinic access must be maintained – and indeed facilitated – for those at greatest STI risk, regardless of ethnicity.
- Research is needed that further explore reasons for inter-ethnic sexual health inequalities.

4.2 Evidence on understanding risk and risk reduction for STIs among men who have sex with men (MSM):
4.2.1 Awareness of, and attitudes to, STIs among gay MSM and other MSM in England.

Publication status: in press as a peer-reviewed article with Sexual Health journal.\textsuperscript{10}

Key points:

- We recruited a diverse sample of MSM in four English cities, through social networking sites and community organisations. 61 men attended eight focus group discussions which addressed knowledge and attitudes towards 11 STIs. These were audio recorded, transcribed and analysed thematically.
- Participants demonstrated variable knowledge and awareness of STIs. No focus groups were unanimous in their ranking of fear of STIs, although HIV and HCV were considered the most ‘scary’ in all groups.
- Fear of syphilis and herpes was also considerable. In contrast, Gonorrhoea was considered a ‘rite of passage’ and was not widely feared. Other infections showed no clear patterning within or between groups.
- Participants suggested a complex range of explanations for fear of particular STIs. Participants weighed up the scary and less scary attributes depending on the extent of their knowledge and experience, their prevalence among MSM, associated stigma, transmission mechanisms, contagiousness, symptoms, severity, and the availability, effectiveness and ease of use of vaccines, treatment and/or cure.
- Participants expressed a range of nuanced fears and concerns related to individual STIs and STI testing and treatment. Understanding these fears, and how they might be mitigated, will help improve the impact of interventions promoting STI testing and treatment.

4.2.2 Do MSM test for STIs as per BASHH/BHIVA guidelines and what factors influence STI testing?

Publication status: in press as a peer-reviewed article with Sexual Health journal.\textsuperscript{11}

Key points:

- We examined if STI testing among MSM in England reflected BASHH/BHIVA guidelines of annual STI testing among all sexually-active MSM, and testing every 3 months (3m) among MSM at high STI risk (i.e., had condomless anal sex with unknown/serodifferent HIV status partner, >10 partners over 6m; recreational drug use during sex, and/or any unprotected sex with new partner(s)). We also examined factors associated with STI testing in the last 3m, particularly its association with STI knowledge and engaging in high risk behaviours.
- During spring 2017, 3663 eligible men (aged >15 and sexually-active in the last year) recruited from gay-orientated dating websites (Grindr/Scruff/Gaydar) participated in an online survey about their sexual health.
- 11 true statements about STIs were presented and respondents scored ‘1’ for each statement they knew, with those scoring <6 treated as having “low” STI knowledge. Men reporting ≥1 behaviour(s) stated above in the last 3m were treated as ‘engaging in high STI risk behaviours’.
- Multivariable regression was used to examine the association between STI testing (outcome), knowledge and engaging in high risk behaviours adjusting for known confounders: age, ethnicity, HIV status. Adjusted odds ratios (AOR) were calculated.
- In the last year, 55.4% of sexually-active MSM had tested for STIs. In the last 3m, 72.9% of men had engaged in high risk behaviours. Men who had engaged in high risk
behaviours were more likely to test for STIs in the last 3m (36.3%) than those who had not (22.0%); (AOR:1.87;95%CI:1.56-2.25;p<0.001).

- HIV+ men were also more likely to test for STIs in the last 3m than HIV-ve MSM (45.9% vs. 30.2%; AOR:1.72; 95% confidence interval (CI): 1.39-2.14;p<0.001).
- 43.3% of all MSM surveyed had low STI knowledge and these MSM were less likely to test for STIs than those with high knowledge (25.3% vs. 37.6%; AOR: 0.59; 95% CI: 0.50-0.69;p<0.001). However, 63.7% of men who had engaged in high risk behaviours had not tested for STIs in the last 3m, of which 46.1% had low STI knowledge.
- Annual STI testing among sexually-active MSM, and in last 3m among MSM reporting high risk behaviours remains well below recommended standards. However, engaging in high risk behaviours and STI knowledge independently predict STI testing.
- Efforts to increase STI testing rates among MSM should address deficits in STI knowledge, especially among men engaging in high risk behaviours.

4.2.3 Places and people: the perceptions of men who have sex with men concerning STI testing: a qualitative study

Publication status: published as a peer-reviewed article in Sexually Transmitted Infections.\textsuperscript{12}

Key points:

- Eight focus group discussions with 61 MSM in four English cities explored the experiences and views of MSM on attending clinical sexual health services and their preferences regarding service characteristics in the context of the disproportionate burden of STIs experienced by this group.
- Attending sexual health services for STI testing was described as embarrassing by some and some clinic procedures were thought to compromise confidentiality.
- Young men seeking STI testing were particularly sensitive to feelings of awkwardness and self-consciousness.
- Black and ethnic minority (BME) men were concerned about being exposed in their communities.
- The personal qualities of staff were seen as key features of sexual health services. Participants wanted staff to be friendly, professional, discreet, knowledgeable and non-judgemental.
- A range of opinion on the type of STI service men preferred was expressed with some favouring generic sexual and reproductive health clinics and others favouring specialist community-based services. There was consensus on the qualities they would like to see in healthcare staff. The knowledge, conduct and demeanour of staff could exacerbate or ameliorate unease associated with attending for STI testing.

References:


