Novel Psychoactive Treatment UK Network

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Club Drug Use Among Lesbian, Gay, Bisexual and Trans (LGBT) People

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This document has been written as part of the wider suite of clinical guidance and tools that aim to provide evidence-based knowledge to inform the management in clinical practice of harms related to the use of 'club drugs'. It is a supplement to, and should be read in conjunction with, *Guidance on the Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances* (www.neptune-clinical-guidance.co.uk).

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Contents

1. Introduction and aims of this document

UK and international evidence suggests that the prevalence of drug use, relative to that in the general population, is high among young adults, 'clubbers' (those who frequently use the night-time economy and dance venues/nightclubs) and lesbian, gay, bisexual and trans (LGBT) populations, and men who have sex with men (MSM*) in particular. This document focuses on LGBT populations and is intended to guide improved service and treatment planning. It describes patterns of club drug use among these sub-populations, as reported in the literature. It looks at the factors that may impact on the use of substances in LGBT populations and discusses drug-related and other harms associated with drug use among these populations, including high-risk sexual behaviours.

Why should service planning and development address the specific needs of LGBT populations? Given the impact of socio-economic and cultural determinants of the levels and patterns of substance use, it is no surprise that factors such as membership of minority socio-demographic groups are associated with unique patterns of substance use. Different sub-groups of the overall population often show unique patterns across a number of behaviours; substance use is no exception. These patterns provide an important context for the research evidence and for the delivery of appropriate and effective treatment.

It is also extremely important to avoid using this information to stigmatise, stereotype or pathologise LGBT populations, or to sensationalise the issue. While rates of drug use among LGBT people are higher than they are in the general population, just like general population the majority of LGBT and MSM do not use substances. Among those who do use substances, the majority do so in ways which are not associated with significant harm.

Discrimination and stigma experienced by minority groups are a key context to understand the lived experiences of such groups. The experience of health inequalities, including barriers to accessing health care, is often related to membership of particular socio-cultural groups. LGBT people are less likely than the general population to seek help from health or social care services, and are not likely to reveal their sexual identity to those providing their care.[1,2]

It is also important to remember that LGBT people are not a homogeneous population. LGBT people in the UK are diverse, with some coming from black, Asian and other minority ethnic populations and some from other minority groups, such as people with disabilities. Such intersectionality is, in itself, a complex and under-researched area and therefore beyond the scope of this document. More research is needed to inform a treatment response.

* Much of the relevant literature adopts the term 'men who have sex with men (MSM)' and this generally refers to sexual behaviour independent of sexual orientation or identity.

The limitations of this document include the fact that although it is intended to look at drug use and harms among the LGBT population, it reports in particular on gay men and other MSM, among whom the bulk of studies were conducted. Research on lesbian and bisexual women is very limited, and almost nothing has been written about trans people. It cannot be assumed that research findings and guidance relating to MSM are applicable to other groups. Moreover, although a relatively large body of evidence on drug use among MSM exists, more research is needed. Much of the evidence looks at MSM as single group, without differentiating between gay and bisexual men. Studies focusing on bisexual men in particular are scarce.

Although drug use and associated harms among MSM populations must be understood within the wider context, our understanding of that context is still limited. International studies on drug use in gay men and MSM have focused on the intersection of those behaviours that may result in specific health concerns. In particular, research has focused on increased risk of sexually transmitted infections (STIs) and blood-borne viruses (BBVs) such as HIV, where there are particular sub-cultural relationships between sexual behaviours and substance use. This focus is, of course, crucial. MSM in the UK continue to be the group most affected by HIV; rates of infection with the hepatitis C virus (HCV) among them may be on the rise and there are increasing concerns in the UK about the use of drugs in a high-risk sexual context, sometimes referred to as 'chemsex'. However, the prioritisation of this sexual context over other health concerns may reduce the breadth and completeness of our understanding of the needs of LGBT populations, and perhaps accounts for the poverty of research into substance use among other gender and sexual minorities. It may also reinforce a sex-focused and disease-focused narrative and may, in part, contribute to the lower uptake of services by MSM, by lacking a holistic approach.

In addition to the harms directly related to drug use, the LGBT population also has a disproportionate burden of other harms (psychological, social and physical), and this population is likely to be more concerned about them than about the drug ones specifically. For instance, according to the UK Household Longitudinal Study, MSM are twice as likely to be depressed or anxious compared with other men.[3] Similarly, other studies have shown that LGBT adolescents are at greater risk of depressive symptoms and suicidal ideation than are heterosexual adolescents.[4,5] A better understanding of these factors is a prerequisite for improved treatment responses, including for problems related to substance misuse.

There is increasing evidence that there are three distinct, but overlapping, areas in which MSM populations bear a disproportionate burden of ill health: sexual health (notably HIV infection), mental health, and the use of alcohol, drugs and tobacco.[6] An action plan has been developed by Public Health England (PHE) to promote the health and well-being of MSM. This action plan identifies and addresses the structural and direct determinants of sexual health, mental health and substance misuse, with the ultimate aim of reducing these specific inequalities in order to improve the health and well-being of MSM generally.[7]

2. Drug use and LGBT populations

2.1. Drug use prevalence and patterns

Overall, UK and international evidence suggests that rates of substance use are higher among LGBT groups than in the general population. Within these groups, rates of drug use are highest among MSM, although it is only a minority of gay men who use drugs. LGBT people have also been 'early adopters' of some new drug trends, such as club drugs and novel psychoactive substances (NPS).[8]

The most recent population-level data on drug use among lesbian, gay and bisexual (LGB) populations in the UK is provided by the Crime Survey for England and Wales (CSEW); a Home Office report presents combined data for adults (aged 16–59 years) from the 2011/12, 2012/13 and 2013/14 surveys (see Figures 1 and 2).[9] The relatively small number of LGB respondents in the survey suggests a need to treat the findings with caution. Nonetheless, the data suggest higher levels of drug use among LGB populations than among the general population (Figure 1). Overall, LGB adults were significantly more likely to have taken illicit drugs in the last year (28.4%) than were heterosexual adults (8.1%).

Gay and bisexual men surveyed by the CSEW were more likely to have used drugs in the last year than heterosexual men. One-third (33.0%) of the gay and bisexual men had used drugs in the last year, which was approximately three times higher than the proportion of heterosexual men who had done so (11.1%). Higher levels of use were reported by gay and bisexual men than heterosexual men for the majority of drugs

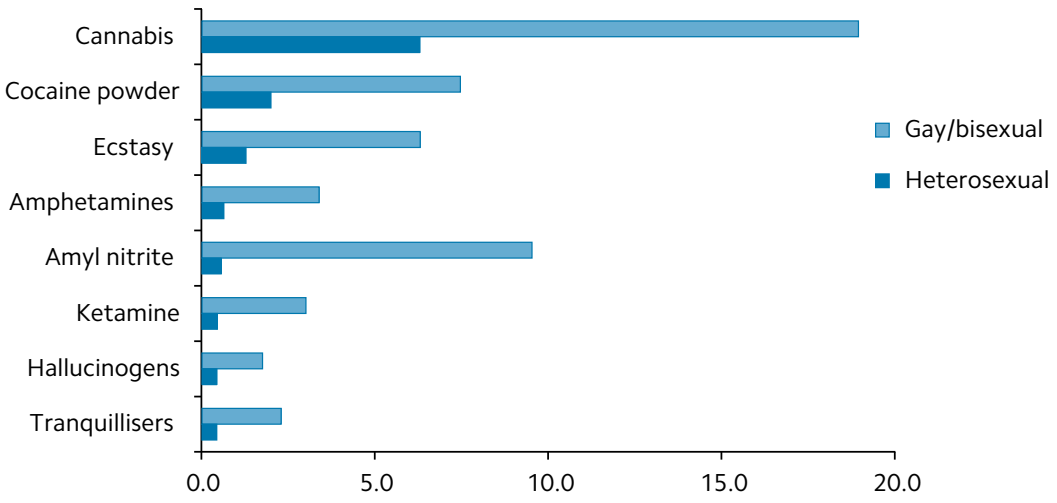

Figure 1. *Illicit drug use in the last year among adults, by drug type and sexual orientation, 2011/12 to 2013/14 combined CSEW dataset (reprinted with permission of the Home Office)*

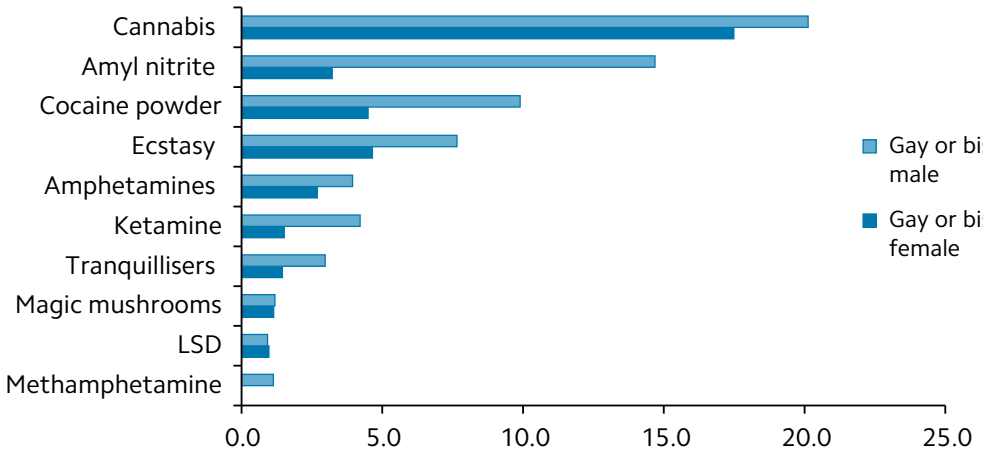

Figure 2. *Illicit drug use in the last year among gay or bisexual adults, by drug type and gender, 2011/12 to 2013/14 combined CSEW dataset (reprinted with permission of the Home Office)*

surveyed by the CSEW (with the greatest differences detected for powder cocaine, ecstasy, amphetamines, methamphetamine, cannabis, tranquillisers, ketamine and amyl nitrite).[9] Reported use of all stimulants was approximately five times higher among gay and bisexual men than among heterosexual men, with methamphetamine use around 15 times higher. The CSEW and other targeted surveys also report evidence that the use of some specific substances is concentrated among gay and bisexual men, in particular GHB/GBL[8,10–12] and methamphetamine.

According to the CSEW, drug use was similarly higher among lesbians and bisexual women (approximately four times higher) than among heterosexual women (22.9% and 5.1% respectively). However, this difference is to a great extent explained by the much higher reported levels of cannabis use in the last year (17.5% compared with 3.8%). Differences between women by sexual orientation in the use of other substances were not as large as for cannabis but, nonetheless, higher levels of use in the last year by lesbian or bisexual women were also reported for powder cocaine, ecstasy, hallucinogens, amphetamines, tranquillisers, ketamine and amyl nitrite.[9]

The CSEW did not look at drug use among trans populations and UK evidence relating to substance misuse among them is almost non-existent. Studies conducted outside the UK show that trans women have a higher prevalence of drug use than the general population.[13]

2.2. Poly-drug use, harmful use and dependent use

People who use club drugs, regardless of sexual orientation or identity, will often use more than one substance. Both simultaneous use (the use of more than one type of drug at the same time) and concurrent use (more than one type of drug being taken

within an extended period, for example in the last year) have been reported. This is true for heterosexuals as well as for LGBT people.

In the UK, data from the Gay Men's Sex Survey show that only a minority of those who used drugs used one drug only.[14] Similarly, other survey data for 2009–11 suggest that, among those who reported using at least one drug in the last month, only 38% had used one drug only.[15]

Of respondents to the National LGB Alcohol and Drug Use survey, 20% reported concomitant of use of two or more substances, including alcohol.[15] There are, for example, anecdotal reports of the use of the combination of GHB/GBL and methamphetamine among London MSM, sometimes known by users as 'G&T', in reference to GBL (often referred to as 'G') and 'Tina', one of the street names for methamphetamine. This combination (as well as others, such as mephedrone and GHB/GBL) is often used in a sexual context (sometimes referred to as 'chemsex'). Poly-drug use has been linked to high-risk sexual behaviours. A small number of studies have shown that MSM who have reported recent poly-drug use were more likely to report HIV risk behaviours than were those who took one drug only.[16,17]

The National Drug Treatment Monitoring System (NDTMS) provides some insight into problematic drug use among gay and bisexual men in England, at least among those who present to treatment. The drug-taking profiles of gay and bisexual men and of heterosexual men differed markedly. In 2013–14, a greater proportion of gay or bisexual men presented to treatment with problematic amphetamine use (32% compared with 7% of heterosexual men) and GBL use (16% compared with 0.1%). Problematic use of heroin and crack cocaine was much less prevalent among gay and bisexual men presenting to treatment. The rates for injecting opiates were the same for gay and bisexual men as for heterosexual men. However, gay and bisexual men in treatment for the misuse of non-opiate drugs were more likely to inject (16%) than were heterosexual men (3%), which may reflect the practice of injecting mephedrone or methamphetamine, sometimes referred to as 'slamming'.[6,18]

No UK data are available on dependence, but reviews of the international literature suggest that lesbian, gay and bisexual study participants were at higher risk of substance misuse and dependence than heterosexual participants.[5]

2.3. Understanding higher prevalence rates of drug use by LGBT populations and variations of drug use within these populations

A number of factors have been put forward to provide an understanding of the specific patterns of drug use and the higher prevalence of drug use among LGBT populations.

Green and Feinstein[19] have argued that the pattern of substance use among LGB people is largely consistent with social learning theory perspectives that emphasise the importance of use by peers, expectancy about drug use and triggers for use. The socio-cultural factors associated with substance misuse patterns among LGB

populations include gender and age, affiliation with gay culture, levels of 'outness', sexual minority stress and HIV status, as well as membership of particular social networks.

2.3.1. Gender effects

There are pronounced gender differences among heterosexual populations in the prevalence of drug use, with men significantly more likely to report drug use than women. These gender differences appear to be much less significant in LGB populations, however (see Figure 2, p. 4). It has been argued that among lesbian and bisexual women, female gender does not appear to be as robust a protective factor against substance misuse than it is for the heterosexual population.[19]

Green and Feinstein argue that, from a social learning perspective, the evidence on age and gender in particular suggests that substance-related expectancies and norms are somewhat different in LGB populations. This could be associated with the likelihood that LGB people do not conform to traditional norms of heavy substance use being a male and young person's activity. It is also possible that LGB people are less likely to be affected by social roles that are incompatible with heavy substance use, such as parenting.[19]

2.3.2. Age effects

There is evidence that age is a protective factor against substance use in the general population, in that rates of substance use generally decrease with age. Although research remains limited and inconclusive, the evidence suggests that age is also a protective factor among LGB individuals, but that its impact may be less pronounced than in heterosexual populations, for both men and women.[19]

2.3.3. Minority stress

The literature review by Green and Feinstein[19] supports a minority stress model, whereby a link exists between elevated rates of substance use and LGB-specific stressors, including discrimination and internalised homo-negativity.[20,21] It has been argued that stigma-related social stressors and the additional stress of discrimination towards sexual minorities may contribute to elevated rates of substance use.[19]

2.3.4. Bisexuality

Only a few studies have compared exclusively homosexual people with those who are bisexual. Their findings are mixed, with some contradictory results. It has been recently argued by some that bisexuality may be related to more problematic drug use than is the case among those who are exclusively heterosexual or homosexual. For example, two US studies reported marginally higher rates of frequent drug use among young bisexual men in comparison with young gay men[22,23] and a study of college and university students has also shown that bisexuals, especially females, were more likely

to have used illicit drugs.[24] An Australian study reported similar rates of drug use among gay men and other MSM,[25] and a US study reported no difference.[26] Higher rates of injecting by bisexual men were reported by a small number of studies.[22,27–29] More research on the relationship between bisexuality and drug use is needed.

2.3.5. HIV status as a stressor

Studies have looked at the bi-directional relationship between drug use and HIV.[30] Whereas drug use is most commonly considered as a risk factor for HIV and HIV high-risk behaviours, it has also been suggested that HIV sero-status influences patterns of drug use. The impact of living with HIV has been described as a stressor linked to drug use among MSM and it has been argued that it is reasonable to infer that HIV-positive status or unknown status is accompanied by emotional experiences, such as anxiety or depression, that may be linked to elevated rates of substance use.[19]

The link between HIV status and drug use among MSM has been well documented in a number of national and international studies,[31–35] with HIV-positive gay men and MSM more likely to use drugs than those not diagnosed with HIV. There are consistent research findings that HIV status is correlated with illicit drug use. It is also linked to the use of particular substances and the use of drugs in a sexual context.[36] Studies have shown that HIV-positive men are more likely to use drugs in a sexual context[10,37,38] than those not known to be living with HIV.[36] Studies in both the US and the UK have shown that HIV-positive men are more likely to use GHB/GBL and more likely to use it in a sexual context[10,37,38] than those not known to be infected.[36] There are also suggestions that HIV-positive MSM are more likely to report methamphetamine use than are HIV-negative MSM[33–35] and that poly-drug use is associated with HIV-positive sero-status.[23] MSM living with HIV are also more likely to inject drugs.[32]

In one study, HIV-positive MSM reported the following factors as motivations for the use of methamphetamine:

- sexual enhancement (it makes sex more pleasurable, it facilitates sexual experimentation and it makes it easier to approach sexual partners and to have sex without emotional connection);
- self-medication of negative emotional effects associated with an HIV-positive status (it helps the person to cope with the HIV diagnosis, it provides temporary escape from being HIV-positive, it makes the HIV-positive person feel better physically and to cope with the idea of death, and it helps HIV-positive men to manage the negative self-perceptions and social rejection resulting from their sero-status).[29]

In their UK study, Bourne *et al.* reported that – with the exception of alcohol, LSD, crack and heroin – all other drugs were significantly more commonly used by gay and bisexual men with diagnosed HIV than by other MSM. Methamphetamine use by MSM in particular was associated with HIV diagnosis,[32] a fact also reported by a study of London-based gay men.[31] US studies have also shown that HIV-positive MSM are more likely to report methamphetamine use than are HIV-negative MSM,[33–35] with one study reporting that the HIV incidence rate in MSM who use methamphetamine is more than double that among MSM who do not use methamphetamine.[39]

Data in the UK suggest there have been changes in the patterns of drug use among MSM, at least those living with HIV. In comparison with a previous study of recreational drug use in HIV-diagnosed MSM carried out in 2002/03,[31] a more recent study of people in HIV treatment in London suggested that there is evidence of higher use of methamphetamine in 2011/12 than approximately 10 years earlier (4% vs 10%), as well as cocaine (14% vs 23%) and a higher prevalence of injecting (1% vs 4%), but a similar prevalence of use of ketamine and amphetamine and a lower prevalence of use of MDMA. It has been argued that this reflects changing patterns of drug use in HIV-diagnosed MSM, with possible increases in methamphetamine use and injecting.[40] However, more studies are required to determine this change more accurately.

2.4. Clubbers' use of gay commercial venues

Population-level surveys of drug use such as the CSEW and targeted surveys have consistently shown that people who use the night-time economy, and nightclubs in particular, are more likely to use club drugs than the general population. This is also true for LGBT populations. As with the general population, there is a link between drug use and participation in the night-time economy, with the highest rates of drug use reported by those who attend gay and MSM-friendly clubs.[41,42]

Bourne *et al.* have shown that the use of methamphetamine, mephedrone, GHB/GBL and ketamine was associated with attendance of gay cafes, bars, pubs and clubs. Gay and bisexual men who used any or all of these substances were more frequent attenders of these venues than gay and bisexual men who used none of them.[32] Bourne *et al.* also suggest that sauna use and the use of backrooms or sex clubs were also associated with the taking of these drugs.[32]

Green and Finstein have argued that there is evidence that both a high and a low level of affiliation with gay culture and specific social activities (e.g. attendance of bar, clubs and the party circuit) are associated with higher substance use among LGB people. LGB communities have been historically centred on activities that involve drinking and drug use (e.g. bars, clubs and parties) and this could lead to social networks comprising substance users and to LGB people being more likely to encounter triggers for substance use. It has also been argued that expectancies about drinking and drug use and its perceived normality in LGB communities could increase the likelihood of individuals choosing to drink heavily or use drugs.[19]

2.5. High-risk drug use and sexual behaviours in domestic settings

Although nightclubs and other venues have been associated with drug use, there are increasing anecdotal reports that it is in private homes that the very high-risk drug-taking and sexual behaviours take place. Methamphetamine use, in particular, is reportedly associated with sex at private house parties and 'chemsex' parties,[32] where drugs are used for the facilitation of sex. These practices are discussed in detail in Section 3.3.

2.6. Geography and location

The prevalence of lifetime use of drugs among the general population is higher in the UK, France and Denmark than it is in other European countries.[43] As with the general population, there are also differences in levels and patterns of drug use among LGBT communities based on geography and location. This has been shown by surveys among MSM. For instance, the 2013 European MSM Internet Survey (EMIS)[44] reported that the UK had high levels of the use of some drugs in comparison with other parts of Europe.

Within national boundaries there are also variations based on location. There is evidence of higher levels of use in large urban centres, especially those with large gay populations, than in rural areas.[45,46] There are also variations between urban areas. For example, in the UK, a secondary analysis of 2010 data from EMIS found that men in London were more likely to report drug use in the last four weeks than were men in other parts of England.[32] It also showed higher levels of injecting among MSM in London than elsewhere in England.

There are also variations at city level. Research in the UK has shown, for example, that people who live in a particular part of a city may be more likely to use drugs than those who live in another part of the same city. Bourne *et al.* looked at drug use among MSM residents of Lambeth, Southwark and Lewisham (LSL) in London and compared them with residents of other areas of London and the UK. LSL is home to a relatively large population of MSM, and has a large commercial gay scene and night-time economy, as well as sex-on-premises venues such as saunas.[32] The study found that MSM who live within LSL were more likely to have used drugs within the past four weeks than those who lived elsewhere in London. Particularly notable were differences in cocaine, mephedrone, GHB/GBL and methamphetamine use. The data also suggest a higher level of poly-drug use among LSL respondents than others.[32]

The LSL data are an interesting example of how complex the link is between a high concentration of gay night-time economy venues and levels of drug use. In that study, the higher prevalence of use was reported by MSM who *live* in LSL rather than by MSM who *visit* venues in LSL but live elsewhere. A number of factors may be associated with these variations, including different sub-cultures within MSM populations and the availability of substances in particular locations. This also raises questions regarding whether MSM-specific drug services should be situated in similar areas (or at least services that are able to deal with an MSM population in a competent and understanding manner).

3. Risk and harm

3.1. Associations between drug use and high-risk sexual behaviours

The use of drugs in a sexual context is not new in LGB or heterosexual populations. The association between drug use and sexual behaviours is well established in the research literature, as is the evidence that recreational drug use is associated with high-risk sexual activity.[47,48]

Studies have reported links between alcohol and drug use and HIV-related sexual risk behaviour, such as unprotected (i.e. condomless) anal intercourse (UAI).[35,49] Although it is outside the remit of this document, the role of alcohol should not be forgotten. A Scottish study of gay and bisexual men has shown, for example, that alcohol was the substance most frequently associated with UAI, with more than three-quarters of respondents reporting ever being drunk during UAI, 14.4% always being drunk and 63.4% sometimes being drunk.[50]

The links between the use of drugs and sexual behaviours with a high risk of sexually transmitted infection and HIV transmission have been well documented and are complex. There is no agreement about whether the link is causal, but there is some evidence that individuals who engage in high-risk sexual activity are more likely to use recreational drugs than those who do not.[51] There is evidence that particular substances are more often implicated in high-risk sexual behaviours than others. There is also evidence that some sub-groups of MSM, and those living with HIV in particular, are more likely to use substances associated with high-risk sexual behaviours.

Stimulants, hallucinogenics and other club drugs increase sexual thoughts, intensify sexual desire, enhance and prolong the intensity of sex, enhance sensuality, improve sexual functioning and prolong sexual performance.[52,53] However, not all drugs appear to have the same pro-sexual effects and some are more often implicated in high-risk behaviours than others. Recent research on the perceived sexual effects of club drugs by gay and bisexual men has shown that although sexual effects were reported across all drugs, there were wide variations. Different drugs were reported to have different effects with regard to social, sensual and sexual enhancement, sexual interest and impotence. This suggests that users may have varying motivations for using each substance and that different levels of risk are associated with different substances.[54]

Associations with high-risk sexual behaviour have been identified in relation to a range of drugs, including ecstasy[55] and ketamine.[56] Studies have shown that GHB use is associated with increased sexual risk[57] and potential transmission of HIV, other sexually transmitted infections and blood-borne infections.[57–59] Although little is yet known about mephedrone because of its relatively recent emergence on drug scenes, there are some user reports of heightened sensuality, disinhibition, prolonged performance in males and ability to reach climax for females; users have also reported

engaging in sexual behaviours when under the influence of mephedrone that they would not have engaged in while sober.[29,53,60–63]

The drug most commonly associated with HIV high-risk behaviours is methamphetamine. Nonetheless, while some studies have suggested that its use leads to high risk behaviours,[64] others have rejected any causality.[59] Methamphetamine has an aphrodisiac effect, with increased sexual drive, decreased fatigue and loss of sexual inhibition. It may lead to increased libido, delayed ejaculation, longer intercourse duration, decreased humoral secretions[65,66] and an increase in the number of orgasms experienced.[67–70] Methamphetamine users report an increased desire for sex and greater aggressiveness during sexual activity.[71,72] Likewise, methamphetamine use is associated with a loss of sexual inhibition and subsequent risk-taking behaviour, including more sexual partners and unprotected intercourse.[67] Paradoxically, there is evidence that long-term use of methamphetamine is associated with decreased sexual functioning in some men, specifically an inability to reach full erection, delayed ejaculation and inability to reach orgasm.[68,71,73]

The relationship between methamphetamine use and unprotected sex has been well documented for a number of years among gay and bisexual men, in the US particularly.[48,74–77] Some studies have found that, compared with the use of other drugs, methamphetamine use is a particularly strong predictor of UAI among MSM.[57,78] Methamphetamine has been associated with an increased incidence of sexually transmitted infections and HIV[39,79,80] and identified as a significant co-factor associated with an increase in HIV infections.[29,37,71,74,81–86] Research has shown that a newly recognised HIV-positive status was associated with methamphetamine use (compared with non-drug users) but not with the use of other club drugs.[87] Studies have reported that men who use amphetamine are 1.5–2.9 times more likely to acquire HIV than those who do not use it.[88–92] Moreover, a relationship between increased intensity of methamphetamine use and HIV risk has also been observed.[93]

There is also evidence that methamphetamine use among MSM with an HIV diagnosis is associated with high-risk sexual behaviours. A study of MSM patients attending HIV outpatient clinics reported that methamphetamine was more strongly associated with high-HIV-risk condomless sex than were other commonly used drugs.[40]

Poly-drug use has been associated with high-risk behaviours, with research suggesting that men who report poly-drug use in the recent past are more likely to report HIV risk behaviours than men who took only one drug.[17] A UK study of patients attending HIV clinics reported a strong and consistent association between larger numbers of drugs used and higher prevalence of condomless sex, group sex and multiple new sexual partners.[40] The study also showed the impact of drug use on adherence to antiretroviral medication, with drug use independently associated with non-adherence.[40]

The role of club drugs in sexual assault has been of media interest, with GHB/GBL implicated as a facilitator of 'date rape', although a systematic review of the international evidence suggests that it is rarely identified in cases of drug-facilitated sexual assault.[94] Nonetheless, there is some research and anecdotal evidence that drugs are implicated in non-consensual sex.

As GHB/GBL is often associated with loss of consciousness, respondents in Bourne *et al.*'s study[32] of gay and bisexual men described how they felt that other men had taken advantage of them in their vulnerable state by being penetrated without their consent, or robbed. The study also reported that men who were the victims of non-consensual sex were reluctant to use the word 'rape' or 'sexual assault' and none of those taking part in the study reported them as criminal incidents; within the context of chemsex, the line regarding consent was regarded as particularly blurry.[32] Other drugs are also potentially associated with vulnerability, with study respondents reporting engaging in sexual behaviours while under the influence of stimulants, such as mephedrone, which they would not engage in while sober.[53,63]

Undoubtedly, risks of sexual assault and consent issues must be addressed by treatment interventions, taking into account that young men may be particularly vulnerable when accessing the 'chemsex' scene. Many consider this to be an increasing area of concern and this warrants further research. Personal safety should also be included in drug interventions for club drug users and in particular those engaging in chemsex.

3.2. Drug use by HIV-positive gay men and MSM

As mentioned above, there are consistent research findings that HIV status is correlated with illicit drug use. HIV status is also linked with the use of particular substances. There is evidence that methamphetamine is more likely to be used by gay men and other MSM who are living with HIV. HIV-positive MSM are more likely to report methamphetamine use than are HIV-negative MSM[33–35] and its use by this group of men may be particularly associated with high-risk behaviours. It has been argued that men living with HIV and who use methamphetamine are at increased risk of transmitting the virus because the use of this substance is associated with a number of risk factors, including behavioural disinhibition, enhanced sexual desire, low rates of condom use, high rates of sexually transmitted infections and increased desire for high-risk sexual activities.[29,74,95–97]

Studies have shown that HIV-positive MSM who use methamphetamine are significantly more likely than MSM who do not use methamphetamine (regardless of their HIV status) to engage in condomless anal sex or group sex, to have multiple sexual partners, to find sexual partners on the internet, to have sex with an injecting drug user and to be intoxicated during sex.[57,78]

3.3. Use of drugs in a sexual context: 'chemsex'

There are suggestions that among some MSM, there is a potent learned association between use of drugs (including alcohol) and sexual experiences.[29,98] Some survey respondents reported never having sex without using substances,[74] or that they could not have sex unless they were using methamphetamine.[29]

In the UK, there is increasing concern over the involvement of a minority of MSM in 'chemsex', a term used to describe sex between men that occurs under the influence of drugs immediately preceding and/or during the sexual session.[32] Drugs, or combinations of drugs, that have a common effect of facilitating feelings of sexual arousal or disinhibition are taken, notably methamphetamine, mephedrone and GHB/GBL. Sexual sessions sometimes occur over extended periods of time – they can even last for days – especially when methamphetamine is used.[32] The drugs are also reported to facilitate a high number of sexual partners over a short period, such as a weekend,[32] with service use data and an LGBT organisation suggesting an average of five sexual partners per session.[99] A chemsex party usually takes place in a private residential home and its primary function is group sexual interaction.

The types of problems associated with chemsex include high-risk sexual activities and injecting – indeed, for some people injecting appears to have become sexualised – and in particular the sharing of injecting equipment.

This combination of factors has been described as 'a perfect storm for transmission of both HIV and HCV, as well as a catalogue of ensuing mental health problems'.[100] It has been argued that chemsex should be classed as a public health priority.[101] MSM engaged in chemsex can be at increased risk of infection from blood-borne viruses, sexually transmitted infections and other diseases such as *Shigella* infection.[18]

The extent of this specific set of behaviours and the harms associated with it are still relatively unknown, although the evidence suggests that a minority of MSM are involved in chemsex. There are concerns over anecdotal evidence that many of the men who use drugs within a sexual context do not see this form of behaviour as problematic. It has been suggested that this should be taken into account in framing interventions. It is, however, important to remember that only a minority of MSM use drugs, only a minority of MSM who use drugs will use them in a sexual context, and that not all MSM who use drugs in a sexual setting do so in a problematic way.[18]

3.4. Drug use and adherence to HIV medication: drug interactions

Drug use and poly-drug use may interfere with adherence to as well as the effectiveness of antiretroviral therapy (ART).[102] Recreational drug use has consistently been linked to lower rates of HIV medication adherence,[103–105] with even lower levels among poly-drug users.[106] There is also some evidence of a dose–response relationship between the use of certain drugs and medication adherence, which suggests that bingeing or heavy use may have a particularly detrimental effect on medication adherence,[107] although this needs to be investigated further.

However, there is evidence that, for the majority, the use of recreational drugs does not affect adherence to HIV medication. Although the ASTRA study reported that recreational drug use was associated with non-adherence to ART and a lower prevalence of suppressed viral load, the majority (87%) of HIV-diagnosed MSM on ART who used recreational drugs did have a suppressed viral load, showing that

recreational drug use is not necessarily incompatible with good ART adherence. This also included the majority (83%) of those on ART who used five or more recreational drugs.[40] Issues of adherence to HIV medications in the context of club drug use by MSM is likely to become more significant if PrEP (pre-exposure prophylaxis) becomes a more prominent element of HIV prevention.

The use of drugs by HIV-positive individuals who have been prescribed antiretroviral medications is therefore a source of concern in terms of both compliance[102] and serious drug interactions.[102,105] Adverse interactions between agents commonly prescribed for HIV infection and recreational drugs may have serious clinical consequences.[108–112]

An example of a drug that interacts with ART is GHB/GBL. It lowers seizure threshold and should be used with caution in HIV-positive patients predisposed to seizure disorder (e.g. those with toxoplasmosis, cryptococcal meningitis).[105] GHB/GBL can also cause severe nausea, vomiting and gastro-intestinal irritation, which will all adversely affect absorption of the antiretroviral agent.[105]

It has been recommended that HIV-positive patients who use GHB/GBL be warned about the potential dangers of a drug interaction with protease inhibitors (especially ritonavir). The clearance of GHB is mediated partially by systemic oxidation and partially by first-pass metabolism via the CYP450 system. One case report has suggested that the inhibition of the CYP450 system by ritonavir might have explained the patient's exaggerated response to GHB. The case illustrates the adverse effects that may be seen when club drugs such as MDMA and GHB are co-administered with an antiretroviral regime, particularly protease inhibitors with CYP450-inhibitive properties[105] and possibly efavirenz.[102]

The use of ketamine also raises concerns, as its cardiovascular effects may be deleterious among patients with underlying heart disease or lipid abnormalities. As a substrate of the CYP450 system (specifically 3A4), ketamine may interact with certain antiretroviral medications, particularly the protease inhibitors with CYP450-inhibitive properties.[105] (For more information on club drug interactions with HIV medications, see the Appendix to the NEPTUNE *Guidance* document.)

3.5. Injecting risks

A minority of MSM inject club drugs (sometimes referred to in the UK MSM community as 'slamming'). The most commonly injected drugs in this context are mephedrone and methamphetamine, and there are suggestions of an increase in injecting in sex parties or 'chemsex'. [32,113]

There are a number of challenges associated with injecting among this group. It has been noted that MSM who use or inject drugs occasionally may be unaware of safer injecting practices and the availability of services, injecting equipment and risk-reduction advice.[6]

There are also risks specifically associated with the injection of the stimulant drugs mephedrone and methamphetamine, the drugs favoured in a chemsex context.

People injecting stimulants report higher levels of risk behaviours, such as sharing and reusing needles and syringes; the use of these drugs is also associated with lower levels of intervention uptake.[114] Mephedrone is associated with compulsive and frequent injecting, making its users at particular risk of the acquisition and transmission of blood-borne viruses, as well as injection site infections. In addition, the physiological risks specifically linked to the injection of mephedrone result from drug toxicity, crystallisation of the drug when diluted and syringe-flushing practices. Adverse effects include limb abscesses and vein clotting, damage and recession. This places injectors at risk of septicaemia, endocarditis, deep-vein thrombosis, abscesses and other complications.[115]

Bourne *et al.* have shown regional differences, with higher levels of 'ever' injecting among MSM in London (4.8%) than elsewhere in England (2.2%), and levels of injecting 'in the past 12 months' (2.7% and 1.1% respectively). Injecting in their survey was associated with older age and was most common among those aged 40–49 years; it was also more common among those with an HIV diagnosis.[32]

In the cross-sectional ASTRA study, which recruited participants aged 18 years or older with HIV from eight HIV outpatient clinics in the UK, injecting drug use in the previous three months was reported by 3% of all participants, of whom 6% reported sharing injecting equipment with a person of unknown HIV sero-status.[40] The authors suggested that, on the basis of a comparison with a 2002–03 study that surveyed HIV-negative and HIV-positive MSM at gyms and outpatient clinics in London,[31] injecting drug use may be increasing, although this is not possible to determine accurately because of data limitations.[40]

Among populations in structured drug treatment in England, the National Drug Treatment Monitoring system shows that gay and bisexual men in treatment for non-opiate drug use were more likely to inject (16%) than were heterosexual men (3%). However, very similar rates of injecting overall were reported by gay and bisexual men and heterosexual men.[6]

3.6. Modern technology as a facilitator of high-risk behaviours

Modern technology has been described by Bourne *et al.* as a facilitator of drug use during sex among gay men in London, or 'chemsex'.[116] Location-based, sexual networking applications (e.g. mobile phone apps) are providing men with the opportunity to source both sexual partners and drugs in their local area. 'Apps' have been described as playing a major role in the organisation of sex parties and 'chemsex', typically linked with high-risk drug use and sexual behaviours.[117]

There is anecdotal evidence that some people are using the apps to try to sell drugs, by mentioning this in their profile for example, or by direct approaches in private messages. There is also some anecdotal evidence that apps, along with bars and clubs, provide MSM with their first encounter with drugs or particular drugs (e.g. methamphetamine), where they would otherwise have been unlikely to be offered them in

their regular lives. We do not know whether this is true and no research has been carried out on the extent to which apps are influencing the source or number of sexual partners or sexual networks. It has been argued that more research is needed to improve understanding of how apps are being used and the effects on sexual health, behaviour and networks.

It has also been argued that work is needed to identify ways in which apps could be used for public health purposes, for example by providing reminders of test or clinic appointments and messages about local services, and as a data source.[118]

4. Response to drug use and treatment interventions

4.1. Drug-related interventions in sexual health services

There is increased awareness that sexual health services may provide opportunistic encounters with drug users, including those in need of drug interventions but not accessing drug treatment. Sexual health services also provide the opportunity to identify patterns of recreational drug use, explore motivations for use, and implement strategies to reduce harms related to drug use.[119]

Sexual health services, and HIV services in particular, are increasingly aware of the association between drug use and high-risk sexual behaviours.[120,121] This has been reflected in strategic developments at national policy level, ranging from, for example, the Scottish and the English Sexual Health Frameworks[120,121] to the Public Health England (PHE) action plan.[7]

At professional organisational level, there is an increasing amount of guidance aimed at clinicians. The standards of care for people living with HIV developed by the British HIV Association (BHIVA)[122] recommend screening for drug and alcohol misuse within three months of diagnosis, and annually thereafter, and that services should have appropriate referral pathways in place. The British Association for Sexual Health and HIV (BASHH) provides recommendations on screening for alcohol and recreational drug use in several of its guidance documents, including in the 2012 UK national guidelines on safer sex advice[123] and the 2013 UK national guideline for consultations requiring sexual history-taking.[124]

The BASHH position statement on 'club' (recreational) drug use, published in 2014, is intended to increase clinicians' awareness of the problem and provide information on screening, harms, interventions and referral pathways. It identifies MSM, young people, students and 'clubbers' as possible target groups to screen for potentially problematic use, and provides some proposed screening questions. It recommends that clinicians give simple safety advice and information on possible harm, including other sources of information, and that services should have agreed referral pathways into appropriate local services.[125]

Measures have also been put in place at national level to improve our understanding of the prevalence of drug use among people who use sexual health services. The forthcoming Genitourinary Medicine Clinic Activity Dataset Version 3 (GUMCAD 3) developed by Public Health England is due to include data fields on both alcohol and substance use, which should provide better evidence both nationally and at individual service level.[126] This should, for the first time, permit some estimate of the scale of the problem within this patient group.

The GUMCAD 3 tool is also a tool for use in clinical practice, in that it allows drug use to become part of routine assessment. Clinical assessment in sexual health settings represents a clear opportunity to ask about a patient's use of drugs. Winstock and Mitcheson provide insight on how to approach substance misuse problems and the strategies that can be used to engage patients in drug treatment interventions.[127]

It can be argued that all health services, including primary care, sexual health and mental health services, have a role in identifying drug use and providing users with advice and brief information, including harm-reduction advice. They should also be able to provide access to brief interventions, where changes of behaviour are wanted or needed.

The NEPTUNE document *Guidance on the Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances* provides detailed guidance on the type of interventions that must be delivered by local clinical services, including sexual health and HIV outpatient clinics.

5. Bio-psychosocial interventions for drug use in LGBT populations

5.1. Higher-intensity interventions

Some LGBT people using drugs will require higher-intensity drug-related interventions, typically provided by specialist drug services. A bio-psychosocial response to drug use provides a comprehensive model to understand the complexity of drug use and associated problems.

5.1.1. Pharmacological interventions

Pharmacological interventions for club drugs are discussed in the NEPTUNE *Guidance* document. These include medically assisted GHB/GBL detoxification, and in some cases symptomatic prescribing for substance misuse-related problems and for co-morbid mental health problems.

5.1.2. Psychosocial interventions

Evidence-based higher-intensity psychosocial interventions for the treatment of substance misuse problems include motivational interviewing, network and environmental therapies, cognitive behavioural therapy (CBT) (especially in relation to relapse prevention) and contingency management. Formal psychological treatment is likely to be effective for people with higher-severity and dependent use of novel psychoactive substances and club drugs. The intervention will be grounded in a psychological formulation, derived from a process of assessment and evaluated using formal or informal outcome measures. A distinguishing characteristic of psychological formulation is its multiple-model perspective – it integrates theory and evidence from a range of psychological models as well as biological, social/societal and cultural domains. The incorporation of this multiple-model perspective may have particular value in work with MSM populations as it explicitly incorporates culture-specific issues.

Studies have been carried out on higher-intensity interventions and findings for MSM are consistent with those for the general population, inasmuch as CBT, contingency management and motivational interviewing have shown their effectiveness in treating gay and bisexual men. Because research on women has been limited, it is not known whether this is also applicable to lesbian and bisexual women.[19] In the absence of direct evidence, there is no reason to expect that psychosocial interventions are any less effective for lesbian and bisexual women; however, adaption of any psychosocial intervention must take into consideration the socio-cultural circumstances of the individual.

Drug-related interventions alone are unlikely to be effective for people where the drug use has a strong connection to sexual behaviour unless the intervention takes

this into account. Interventions may therefore need to combine with psychosexual interventions, delivered by competent psychosexual staff. Similarly, it should not be assumed that the drug problems experienced by LGBT people are always associated with sexual behaviour – the majority are not.

Psychosocial interventions aimed at addressing drug use are discussed in Chapter 2 of the NEPTUNE *Guidance* document (www.neptune-clinical-guidance.co.uk).

5.2. Mainstream or specialist MSM services or programmes?

Shoptaw and Reback have argued that a continuum of interventions should be available to meet the needs of a 'methamphetamine-using [man who has sex with men] "where he is at" and to assess his readiness to change'. They argue that when MSM access health interventions (such as primary care, HIV treatment or mental health services), these services have a role in screening and addressing methamphetamine use and the individual's desire for substance misuse treatment. Based on the patient's response, the options available should range from HIV prevention to brief interventions and substance misuse treatment.[128]

The importance of recognising sexual orientation and sexual behaviours in substance misuse treatment has been understood for a number of years.[129] There is some evidence that gay and other MSM prefer to access specialist LGBT drug services rather than mainstream services.[99] Some have argued that gay-oriented treatment programmes may be needed to attract gay men to drug treatment[130] and to retain them in treatment.[131] Staff in such centres are more likely to be familiar with HIV risk behaviours related to drug use and likely to be perceived as credible sources for culturally appropriate HIV prevention messages.[131]

Shoptaw and Frosch have argued that there are compelling clinical reasons why MSM should receive specialised drug treatment.[131] Their rationale is based on research that has shown that some gay men believe treatment staff have a 'hidden agenda' to 'treat' the client's homosexuality rather than focus on the drug problem, that gay men and lesbians would prefer to have a homosexual counsellor and that a proportion of counsellors show homophobic attitudes.[132]

Bias of some psychotherapists working with MSM has been reported, notably in terms of their insensitivity to issues that are exclusive to LGBT populations, such as coping with discrimination, heterosexism and homophobia. Some psychologists have also been found to belittle the degree to which sexuality was an integral part of identity and relationship issues between MSM.[133] Semple *et al.* therefore recommend the development of specialised treatment programmes which address the special issues of HIV-positive MSM and that are relevant to understanding the underlying motivations of methamphetamine use among this group.[29]

Green and Feinstein,[19] on the other hand, argue that although the research remains limited and that studies have not compared LGB-specific protocols with identical protocols that lack the LGB-specific component, existing evidence has not shown long-term advantages for gay and bisexual men of MSM-specific treatment over general interventions. They argue that findings among MSM are consistent with those for the general population, inasmuch as CBT, contingency management and motivational interviewing have shown their effectiveness in treating gay and bisexual men, although it is not known whether this is also applicable to lesbian and bisexual women, as research among these women is very limited.[19] The authors argue that the limited available evidence does not suggest that LGB substance use patterns require specialised treatment protocols, especially as current forms of treatment recommend individualisation based on a person's needs. However, they add that it stands to reason that clinicians treating LGB people need to be educated about LGB culture and specific patterns of drug use in order to provide culturally competent care.[19]

We would also argue that the priority should be for evidenced-based interventions to be made available for LGBT people experiencing drug problems, in a manner that is both accessible and acceptable. In many areas this would be as part of mainstream drug treatment services; however, in some areas with high prevalence rates or specific patterns of problems (e.g. chemsex) more targeted and specific services are warranted.

Some guidance has been published in the UK by the British Psychological Association (BPS) for psychologists working therapeutically with sexual and gender minority clients[134] (as has the American Psychological Association[135]).

Recommendations for improving treatment services for LGBT people in mainstream drug services have been developed by Antidote and published in the report *Out Of Your Mind*.[99] The document contains a number of recommendations for improving treatment services for LGBT people, including sets of audit tools of the knowledge and skills that commissioners, providers at organisational level and front-line practitioners should have in place, as a minimum. The document also makes the case for commissioners and providers of services to subcontract services and work in partnership with LGBT organisations; this will not only ensure that specialist services that are needed are funded, but can also help towards skills development and capacity building for the mainstream provider.[7,99]

It can also be argued that place-based health care[136] could provide a good model, whereby treatment services are brought together in the places service users frequent rather than in separate 'silos'. This might mean, for example, co-locating substance misuse services with sexual health services, or the development of LGBT poly-clinics in high-density LGBT areas such as Soho or Vauxhall in London, Canal Street in Manchester or Edinburgh's gay triangle.

Public Health England has identified clear prompts for commissioners of alcohol and drug treatment services in order to ensure that effective and culturally competent services are in place for MSM who engage in chemsex. It also identifies models of good practice in the UK and prompts commissioners to consider the commissioning of specialist LGBT services, where appropriate and in line with local need.[7,18]

5.3. Impact of drug treatment on sexual health

There is some evidence that changes in drug-use behaviours can lead to changes in sexual behaviours, but the evidence is not consistent among all groups. It has been argued that in view of learned associations between having sex and using drugs, a substance misuse professional can help the service user, through motivational interviewing techniques, to increase insight into the link between drug use and sexual experiences.[29]

Studies have shown that drug treatment can have a major role in modifying the effects of these substances on sexual behaviour. Where drug and/or alcohol treatment is successful, the effects of the substances are of course removed.[131,137] It has also been shown that interventions can be equally important where the drug user does not achieve abstinence: drug treatment can provide interventions that can guide sexual decisions during drug use, potentially reducing harms.[131]

However, this may not always be the case. Studies on MSM using club drugs have shown that motivational interviewing for reducing high-risk sexual behaviours may be indicated when users are at risk of dependence, or of being mildly dependent, but not in more severely dependent users, among whom motivational interviewing does not seem to be effective for this purpose.[138]

A recent systematic review was conducted of the evidence on CBT for HIV risk reduction in substance-using MSM. It reported that CBT may reduce unprotected anal intercourse in this population, but it is not clear whether this is over and above mere assessment or other competing interventions.[139]

Studies looking at MSM methamphetamine users with an HIV diagnosis have shown that users may benefit from a variety of treatment approaches – including CBT, motivational enhancement therapy (MET) and self-help groups – that address the underlying motivation for drug use and the link between methamphetamine use and sexual behaviour.[29]

In addition, it has been suggested that drug treatment aimed at MSM should take into account the fact that people living with HIV may use methamphetamine and other drugs as a means to 'cognitively escape' the awareness and impact of HIV. It has been therefore argued that the substance misuse professional has a role in helping the service user to identify moods, emotions, expectancies and coping lifestyles that contribute to patterns of drug use. Strategies can be developed for self-monitoring and controlling the underlying motivations to use methamphetamine.[140]

6. Concluding remarks

In order to be effective, efficient, acceptable and equitable, any intervention must take into consideration the specific socio-cultural circumstances of the individual. In the case of LGBT populations, this will require a workforce with LGBT understanding and competence, that can make LGBT people feel safe, understood, visible and able to disclose sensitive issues.

Findings of studies on MSM suggest that drug-related interventions may need to be adapted to ensure that specific forms of high-risk behaviour, such as 'chemsex', are addressed and that treatment goals relevant to these behaviours are included. The evidence strongly suggests that harm-reduction measures and treatment interventions must tackle drug use together with sexual health and mental health, the areas where LGBT populations bear a disproportionate burden of ill health.

Lesbian, gay, bisexual and trans people are entitled to quality services provided in a safe and appropriate environment, and to good health and well-being. It is the responsibility of policy makers, commissioners and front-line health staff to meet the needs of these populations and to strive for health equality.

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