

New psychoactive
substance use
in Manchester:
Prevalence,
nature, challenges
and responses

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Executive summary

Section 1. Context

The overarching aim of the research – to explore the prevalence and nature of New Psychoactive Substance (hereafter referred to as 'NPS') use in Manchester – is outlined alongside the key objectives of the research:

- Gain a clearer understanding of the prevalence and nature of NPS use amongst targeted sub-populations in Manchester;
- Identify the harms associated with NPS use;
- Ascertain whether the needs of such sub-populations are being met, or not being met, by existing service provision;
- Identify any staff training and/or knowledge needs; and,
- Provide recommendations regarding the future development and delivery of services in Manchester.

This section also provides an overview of NPS definitions, key legislation (including the recently introduced *Psychoactive Substance Act 2016*) and a review of existing knowledge in relation to NPS prevalence, monitoring and motivations for use.

Section 2. Methodology

The research team employed a mixed-methods approach incorporating analysis of existing JSNA data, targeted surveys, interviews, focus groups and observations in city centre hot spots and headshops. The research focused on the following sub-populations: university students; clubbers; the homeless community; offenders released on license conditions; and MSM engaged in the chemsex scene.

Section 3. Findings

The first part of findings section (sections 3.1 to 3.5) is organised around the prevalence, nature and motivations of use amongst the targeted sub-populations identified in section 2. The second half of the findings section (sections 3.6 to 3.11) discusses the impact of NPS use on a range of services (section 3.6), the under reporting of NPS use and NPS related incidents (section 3.7), and reasons for the lack of engagement with services (section 3.8). Section 3.9 provides an overview of identified gaps in knowledge and training needs. Section 3.10 outlines the need and support for a local drugs information system (LDIS). Finally, section 3.11 considers the impact of the recently introduced *Psychoactive Substances Act 2016* on availability and use of a range of NPS.

Students

Using an online survey, the research targeted Manchester's student population to establish existing NPS prevalence and drug trends amongst this sub-population. Of the 134 students who completed the survey, the main NPS used was nitrous oxide with NPS users likely to be poly-drug users.

Clubbers

Over a third (788) of the 2,139 clubbers surveyed reported having 'ever tried NPS'. The most popular NPS's reported were ketamine and mephedrone. Just over a quarter (27 per cent) of NPS users reported having had a negative experience after taking NPS. Almost half (47 per cent) were poly-drug users and the concurrent 'snorting' of drugs such as ketamine, cocaine and MDMA was identified as needing a targeted harm reduction response.

Chemsex

This section focuses on the prevalence and service needs of men that have sex with men (MSM) who are engaged in chemsex. We begin by highlighting competing discourse around defining chemsex in a national and local context. Despite unequivocal praise for the recent integrated sexual health and substance use service – the REACH clinic – a number of suggestions for expanding the existing service provision are discussed which encompass debates about location, opening times, staffing, outreach and the integration of mental health and counselling support. The training needs of staff are considered.

Synthetic cannabinoid use amongst vulnerable groups

Observations in popular city centre headshops selling NPS found that over 90 percent of sales involved synthetic cannabinoids. High rates of prevalence and problematic use were established amongst homeless and offender populations. Prison was prominent in relation to onset of use whilst avoiding MDTs, supported accommodation and offender management substance use policies and self-medication were main motivations for continued use. Synthetic cannabinoids were perceived to be highly addictive both psychologically and physically (see section 3.5.3) with users reporting the rapid build-up of tolerance levels. Daily use was common with users reporting a need to use to override unpleasant withdrawal symptoms. Numerous examples of related harms are identified, including the development of mental health issues (see section 3.5.4) acquisitive crimes and violence (see section 3.5.6) and deaths attributed to use. We highlight the lack of user engagement with services and the need for more integrated mental health support (see section 3.5.5).

Taking the strain: The impact of NPS use on services within Manchester

The significant impact that NPS use is having on a range of services is illustrated. In particular, we demonstrate how the sale and use of NPS in the city centre has created a significant resourcing issue for the police and the medical service. We note how call outs for ambulances have increased sharply, as has the burden on A&E departments and supported accommodation providers.

NPS recording and monitoring

This section highlights that current recording and maintenance of routine data on NPS is flawed and likely to represent an underestimate of use. The lack of robust systems for recording NPS-related incidents was widespread among services and even in organisations that attempt to keep records their systems were inconsistent and ad hoc.

NPS use and service user engagement

This section explores the reasons why NPS users are not accessing the available support on offer. This includes NPS users' stereotypical views of services as a place for injecting heroin and crack cocaine users, the location, the lack of substitute medication and perceived lack of service provider knowledge on how to treat NPS users. The need for more bespoke NPS services and interventions are discussed in relation to the changing profile of 'problematic', dependent and injecting users.

Training and knowledge gaps

The research identified a clear need for a revised model of training around NPS for staff working in frontline services. This section illustrates existing gaps, training needs, and the need for clear guidance on best practice.

Developing a Greater Manchester Local Drug Information System (LDIS)

This section evidences a significant demand for a local drug information sharing system (LDIS). The Public Health England LDIS guidance is introduced, which we argue would provide a platform to enable frontline staff to share knowledge gained from first-hand experiences and would thus help to educate staff on developing 'good practice', provide a centralised location for information, and for sharing up to date information on new substances and 'bad batches' (see also section 4.1.2).

Impact of the Psychoactive Substances Act 2016

The research concludes that the Psychoactive Substance Act 2016 will have little impact on availability and usage of many types of NPS use reported by the targeted sub-populations (see sections 3.2 to 3.5). We conclude that the main group of NPS users affected are synthetic cannabinoid users. The findings report the rapid establishment of a street level synthetic cannabinoid market that has led to an increase in prices. This, we suggest, will most likely lead to more incidents of violence amongst users and crimes being committed to fund dependent use (as reported in section 3.5.6).

Section 4. Recommendations

The recommendations centre upon three main themes: development of resources, service development and future research.

Development of resources

The findings (see section 3.7 in particular) identified a need to increase existing NPS related knowledge amongst specialist substance use providers and a wide range of other medical and non-medical occupations. We propose three main ways of achieving this.

- The development of bespoke information sheets – brief (i.e. 2 pages) – targeted at specific services and tailored around the types of NPS use they are likely to encounter e.g. synthetic cannabinoids.
- NPS awareness training and continuous professional development (CPDs) that moves towards more practical and tailored training.
- The creation of a Local Drug Information System (LDIS), a virtual resource that facilitates the sharing of information and good practice across services.

Service Development

Section 4.2 suggests the need for more innovation in the development of intervention responses and marketing approaches that encourage service engagement. This includes outreach and 'pop-up' services (e.g. pop-up needle exchanges), and a move away from traditional responses, operating hours and locations to better accommodate newly emerging user groups. We outline the need for guidance on good practice (section 4.2.2), cultural competence (4.2.2.), treatment pathways (4.2.3), integrated service delivery (4.2.4) and a NPS user engagement strategy (4.2.5).

Future Research Agenda

The need to improve existing knowledge recording systems such as treatment data, emergency services, A&E and other medical and non-medical services is noted (section 4.3.1). This should include ongoing monitoring of the impact of the *Psychoactive Substance Act 2016* (section 4.3.4) and the establishment of an annual emerging drug trends and drug markets survey (see section 4.3.5). The relationships between NPS use and recovery journeys (see section 4.3.2), NPS use and crime and disorder, and the impact of NPS use on offender management are identified as areas of priority for future research.

Context

1.1 Aims and objectives

This research was commissioned by Manchester City Council's Community Safety Partnership Board. The overarching aim of the research was explore the prevalence and nature of New Psychoactive Substance (hereafter referred to as 'NPS') use in Manchester. The key objectives of the research were to:

- Gain a clearer understanding of the prevalence and nature of NPS use amongst targeted sub-populations in Manchester;
- Identify the harms associated with NPS use;
- Ascertain whether the needs of such sub-populations are being met, or not being met, by existing service provision;
- Identify any staff training and/or knowledge needs; and,
- Provide recommendations regarding the future development and delivery of services in Manchester.

1.2 Defining NPS

Although the term NPS is now widely used, there remains some debate as to whether we should be referring to 'New' or 'Novel' Psychoactive Substances. This is because a number of the most widely used substances (for example, nitrous oxide or mephedrone) were synthesised many years ago and as such are not new, they are simply being used in novel ways. Nevertheless, in the context of this report, we use the most widely used term which is 'New Psychoactive Substances'. The Home Office defined NPS as:

Psychoactive drugs, newly available in the UK, which are not prohibited by the United Nations Drugs Conventions but which may pose a public health threat comparable to that posed by substances listed in these conventions. (Home Office, 2014)

In the UK, NPS are often referred to as 'legal highs' within the media. This is due to the fact that these substances – which have often been specifically designed to mimic the psychoactive effects of controlled substances – have not been classed as illegal under the *Misuse of Drugs Act 1971*. By marketing themselves as 'research chemicals' or 'plant foods', and labelling themselves as 'not for human consumption', NPS can evade prosecution under the 1971 Act. However, there is now a growing consensus that the discourse needs to move away from the term 'legal' as many users, especially young people, equate 'legal' with 'safe'.

1.3 NPS legislation

NPS first started becoming popular in the UK around 2008/2009. Synthetic stimulants such as BZP (benzylpiperazine) and mephedrone, and synthetic cannabinoids such as 'Spice' (JWH-018), were among the first NPS to gain popularity. Ever since then, there have been concerns around the harms caused by NPS, with a number of deaths connected to them. These concerns have not only given rise to campaign groups such as the *Angelus Foundation*¹, but they have also led to a raft of legislative

changes. For example, synthetic cannabinoids including 'Spice', mephedrone and other cathinones, and GBL (gammabutyrolactone) are now included under the *Misuse of Drugs Act 1971*. The establishment of *Temporary Class Drug Orders* (TCDOs) in 2012 also led to raft of other NPS, such as NBOMe (25I-NBOMe) and Benzofuran (5- and 6-APB), being banned under the 1971 Act.

Despite these legislative changes it has been difficult to control the use of NPS. This has led to the introduction of what has been perceived as a 'blanket ban' of NPS in the form of the *Psychoactive Substances Act 2016*, introduced at the end of the data collection phase of this research on May 26th 2016. The 2016 Act proscribes the importation, production and supply of psychoactive substances (although alcohol, tobacco, caffeine and most medicines are exempt). Up until the 2016 Act, NPS were widely available via online sellers, headshops, newsagents and other retailers, alongside the traditional street-level drug market. With the main intention of the 2016 Act being to facilitate the closure of shops and websites that trade in NPS, it is envisaged it will reduce availability of NPS. The potential impact of the 2016 Act on NPS availability and use in Manchester constitutes a central theme of the research and is discussed in detail later in the report (see section 3.11).

Alongside these legislative developments, a range of national and international guidance documents and reports have been developed by: Public Health England (Public Health England); the Advisory Council on the Misuse of Drugs (ACMD); the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA); and the United Nations Office on Drugs and Crime (UNODC). Most notably in the context of this report, these have included the: 'Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances' (NEPTUNE, 2015); early warning advice (see, for example, the UNODC's Early Warning Advisory, the EMCDDA's Early Warning System, and the Home Office's Forensic Early Warning System Annual Reports); and recent Public Health England guidance on how to establish local drugs information systems (LDIS) (see Public Health England, 2016). We draw on these key sources at various stages throughout the report, together with national and international survey data and academic studies researching NPS prevalence, motivations for use, and perceived harms.

1.4 NPS monitoring and categorisation

International monitoring systems inform us that NPS are being produced at an unprecedented rate. Manufacturers are continually developing new chemicals to replace those that become banned, changing chemical structures to stay one step ahead of legislation. By way of example, the EMCDDA formally identified 101 new NPS in 2014 (EMCDDA, 2015). A year later, a further 75 new substances were identified (21 synthetic cannabinoids, 20 synthetic cathinones, and phenethylamines) (EMCDDA, 2016). As of December 2015, 643 NPS were registered in the UNODC Early Warning Advisory on NPS (UNODC, 2016).

While there is no agreed official list of substances that are categorised as NPS, they are most commonly grouped into five broad categories:

- Stimulants: such as piperazines (e.g. BZP), cathinones (e.g. mephedrone), benzofurans and methiopropamine;
- Sedatives: such as benzodiazepine analogues (e.g. etizolam) and new synthetic opioids;
- Hallucinogens: such as NBOMes and alpha-methyltryptamine;
- Dissociatives: such as methoxetamine; and,
- Synthetic cannabinoids: such as 5FAKB-48.

However, it is worth noting that some recent NPS do not fall into these categories. For example, in 2015, 21 substances were reported for the first time that (structurally) did not fit within any of the above mentioned groups (UNODC, 2016). In the UK alone, the Home Office's Forensic Early Warning System (FEWS) – which produces annual reports on the content of NPS that are purchased through headshops and online sellers, together with samples confiscated from clubbers, festivalgoers and prisoners – identified four new NPS (FEWS, 2015). With so many NPS available, a key aim of the research has been to establish the types of NPS that are used in Manchester, and how use may or may not differ amongst various sub-populations in the city.

1.5 NPS prevalence

Prior to outlining the research methodology and findings, it is useful to begin with a brief review of contemporary British and international research regarding NPS consumption and the motivations for use. In doing so, we begin to highlight some of the key knowledge gaps that exist in relation to the specific sub-populations that we focus on in this report.

Both the UN and EU early warning systems have consistently found that synthetic cannabinoids comprise the largest group of NPS, representing about a third of all NPS identified (EMCDDA, 2015; UNODC, 2015). However, the identification and monitoring of a substance does not necessary map on to consumption rates. The main survey of substance use is the *Crime Survey of England and Wales* (CSEW). It estimates the prevalence of NPS (when compared to traditional drugs) as very low, with only 2.8 per cent of 16 to 24 year olds, and 0.9 per cent of adults aged 16 to 59 having taken an NPS in the last year (CSEW, 2015). This equates to around 175,000 young adults aged 16 to 24 (128,000 male and 47,000 females). In contrast to these findings, the 2014 Eurobarometer survey of young people (aged 15 to 24), conducted across the European Union, found higher proportions of young people in the UK reporting past year use of at least one NPS, at 10 per cent (European Commission, 2014).

In addition to differences in estimates of usage, significant variations are also apparent when different types of NPS consumption are analysed. For example, in the 2014/15 survey (CSEW, 2015), past year use of nitrous oxide was reported by 7.6 per cent of 16 to 24 year olds, making it the second most used substance after cannabis. In contrast, the most commonly found group of NPS by customs officers or early

warning systems – synthetic cannabinoids – was reportedly used by only 0.2 per cent of 16 to 24 year olds, and only 0.1 per cent of adults aged 16 to 59 (CSEW, 2013). This very low reported rate of use of synthetic cannabinoids resulted in them being omitted from subsequent annual CSEW surveys. This type of nationally representative household survey is likely to under-estimate prevalence because it excludes a number of sub-populations who are traditionally known to have much higher than average rates of substance use, such as students living away from home, the homeless community and those in temporary or supported accommodation, and the prison population. As we go on to outline in section 3, reported use of NPS (such as nitrous oxide and synthetic cannabinoids) amongst some of these sub-populations is considerably higher than that found in the general population.

The need to drill down into NPS use amongst specific sub-populations has recently been highlighted in the annual report of HM Inspectorate of Prisons (HMIP, 2014). This report unequivocally claimed that synthetic cannabinoids had become entrenched in the prison system in England and Wales. 'Spice', as it is generically referred to, has established itself as the 'drug of choice' for prisoners, with recent estimates of prevalence suggesting that between sixty to ninety per cent of the prison population are users (Centre for Social Justice, 2015; HMIP, 2015; Ralphs *et al.*, 2016; RAPT, 2015). Furthermore, it has been argued that many of these are regular users (Baker, 2015; Centre for Social Justice, 2015; Ralphs *et al.*, 2016). These levels of consumption are remarkable given that, at the time of writing, there are over 85,000 people residing in prisons in England and Wales (Howard League for Penal Reform, 2016).

The CSEW (2015) has observed much higher levels of drug use amongst those people who report frequently going to pubs, bars and nightclubs, and among different sexualities. The use of any Class A drugs in the last year was around 10 times higher among those who visited a nightclub at least four times in the past month (19.2 per cent) compared with those who had not visited a nightclub in the past month (1.8 per cent). It also found that overall, LGBT adults were significantly more likely than heterosexual adults to have taken illicit drugs in the last year (28.4 per cent compared to 8.1 per cent). Gay and bisexual men were more likely (33 per cent) to have used drugs in the last year than heterosexual men (11 per cent). Drilling down further to look at types of drugs used, reported use of stimulants was around 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 GHB/GBL is also concentrated among gay and bisexual men (see CSEW, 2015; Halkitis & Palamar, 2006; Miotto *et al.*, 2001).

1.6 Motivations for use

In addition to establishing the prevalence of NPS use in Manchester, the research also aimed to ascertain the motivations for use. In a recent review of international research, NEPTUNE (2015) pinpoint the main motivations among recreational drug users for the consumption of all

types of NPS as: price; purity; availability; desired effects; and legal status² (see also Home Office, 2014). In a British context, the emergence of NPS use, particularly synthetic cathinones such as mephedrone, has been attributed to a growing disillusionment with the quality of illegal drugs throughout the 2000s (Carhart-Harris *et al.*, 2011; Measham *et al.*, 2010; Newcombe, 2009; Van Hout & Brennan, 2011). Legality (Measham *et al.*, 2010); curiosity (Newcombe, 2009; Norman *et al.*, 2014); preferred effects (Carhart-Harris *et al.*, 2011; Newcombe, 2009; Van Hout & Brennan, 2011; Winstock *et al.*, 2010); affordability, especially for young people with low incomes (Carhart-Harris *et al.*, 2011; Measham *et al.*, 2011b; Winstock *et al.*, 2010); and boredom (Newcombe, 2009) have also been identified as motivations for use. However, these motivations, generically attributed to *all* types of NPS, are often established in studies dominated by synthetic cathinones – most notably mephedrone – and conducted with recreational rather than a range of users, including problematic or dependent users.

An often under-explored motivation for the consumption of NPS, particularly for those subject to regular mandatory drug tests (MDTs) and wishing to avoid sanctions, is their non-detectable nature (Barratt *et al.*, 2013; Bebart *et al.*, 2012; Perrone *et al.*, 2013). It has been argued this has become a key driver for synthetic cannabinoids consumption among the UK prison population, as well as their less detectable smell when compared to natural cannabis (Home Office, 2014; Neptune, 2015; Ralphs *et al.*, 2016; RAPT, 2015; Walker, 2015). The attraction of using a psychoactive substance that evades detection will also remain an omnipresent motivation for those subject to such tests on release from custody (due to offender management license conditions), or those working in occupations where drugs tests are enforced (such as machine operatives and those working in transport industries). Another notable gap in much of the existing literature around motivations for NPS use is the area of addiction and dependency. As we outline below, to investigate this key issue, our research specifically focused on sub-populations who are traditionally known to have high rates of drug and alcohol dependency, as well as complex needs.

Research overview and methodology

2.1 Sub-populations

As we noted earlier (see section 1.5), much of the existing knowledge on the prevalence of NPS is based on data garnered from nationally representative household surveys, such as the CSEW. However, as we have already highlighted, these sources of data under-represent those very populations that have traditionally exhibited higher than average levels of substance use, such as university students, the homeless, and those in prison. Because of this, rather than attempting to undertake a comprehensive general population survey of (Greater) Manchester, this piece of research focused instead on a number of specific sub-populations within Manchester. The choice of sub-populations was informed by, not only a review of the existing literature, but also conversations with a range of frontline workers in the field. In addition to a focus on young adult recreational users of NPS, the other populations within which NPS use was identified as being particularly prevalent were: the homeless community; those in prison; those in supported accommodation; and men who have sex with men (MSM) who engage in chemsex. As a result, the research focuses on the following five sub-populations:

- university students;
- clubbers;
- those engaged in the chemsex scene;
- those in prison; and,
- the homeless community.

2.2 Mixed-methods

The research was conducted over a six-month period between January and June 2016. The research team utilised a mixed-methods approach incorporating secondary data analysis of existing data, alongside primary data collection – involving a combination of qualitative and quantitative research methods – and analysis.

2.3 Quantitative methods

In relation to the quantitative elements of the research, secondary data analysis was undertaken of 2,139 questionnaires, collected as part of a recent club drug survey in Manchester. In addition, quantitative analysis of primary data collected involved: 55 questionnaires completed by those currently engaged with the charity Homeless Link in Manchester, and 134 online surveys focused on NPS use amongst Manchester's large student population. The quantitative analysis was undertaken using *IBM-SPSS Statistics*.

2.4 Qualitative methods

The qualitative element of the research adopted a range of methods, including ethnographic observations, interviews and focus groups. Ethnographic observations

were conducted in various settings, including: city-centre headshops; homeless drop-in activity and advice centres; medical practices; and 'hot spots' for NPS use in and around the city centre (such as, Piccadilly Gardens, Urbis and Bury New Road). The research team also observed: service providers dealing with individuals under the influence of NPS; members of the public collapsed outside medical centres; dealing on the streets; and ambulance services being called to local drug services. During these ethnographic observations, the research team spoke to NPS users in an informal, ad hoc manner, leading to several impromptu focus groups and short interviews (some of which were recorded, when appropriate) in headshops, outside drop-ins and on the street.

One-to-one interviews and focus groups formed an integral part of the research as we sought to uncover the opinions of both NPS users and service providers. Interviews and focus groups with users primarily focused on the motivations for use, as well as experiences of using NPS. Furthermore, in order to better inform any new and/or existing services on how best to respond to NPS use, we primarily focused on speaking to NPS users who were not currently accessing treatment services. This allowed us to investigate their reasons and motivations for not seeking support or engaging with local service provision. In total, we conducted 53 interviews with users. Of those interviewed: 41 were adult users (aged 25 or above); 12 were young people (aged 16 to 24); and the vast majority (48) were male. Five focus groups were conducted with NPS users: at homeless day centres (n=1); homeless GP surgery drop-ins (n=2) and supported housing (n=2). In addition, to gathering the perspectives of NPS users, we also interviewed those involved in the supply of NPS: in this instance, one dealer and one headshop worker.

In order to highlight any current gaps in knowledge, training and monitoring, the research team also conducted 31 interviews with practitioners and service providers. Given the multi-faceted nature of NPS use and the challenges associated with it, these interviews encompassed the views and experiences of a wide range of professions and occupations, including: adult drug and alcohol services; sexual health clinics; chemsex services; the LGBT Foundation; needle exchange services; offender management (including prison and probation); police; PCSOs; commissioning services; supported housing providers; approved premises; homeless day centres; homeless outreach teams; young people's homeless services; young people's mental health services; young people's substance use services; GPs and other medical practice staff; and A&E consultants and nurses. In total, 86 interviews were conducted with practitioners and service providers, with each interview lasting on average between 60 and 90 minutes. All interviews were transcribed in full and analysed using *NVivo* qualitative data analysis software.

Findings

3.1 The prevalence and nature of NPS use amongst targeted user groups

Different sub-groups of the overall population often show unique patterns across a number of behaviours and substance use is no exception (see Abdulrahim *et al.*, 2016). As outlined in section 2, the research purposely focused on specific sub-populations that are commonly associated with higher than average use of alcohol and traditional illegal drugs, such as cannabis, ecstasy, crack cocaine and heroin. The findings from this research revealed significant variations in both the prevalence of NPS use and the types of NPS used across these sub-populations. These variations in prevalence were often accompanied by distinct harms and support needs. In section 3, we provide the context and evidence for our recommendations for service development and future research agendas through an analysis of the quantitative and qualitative data.

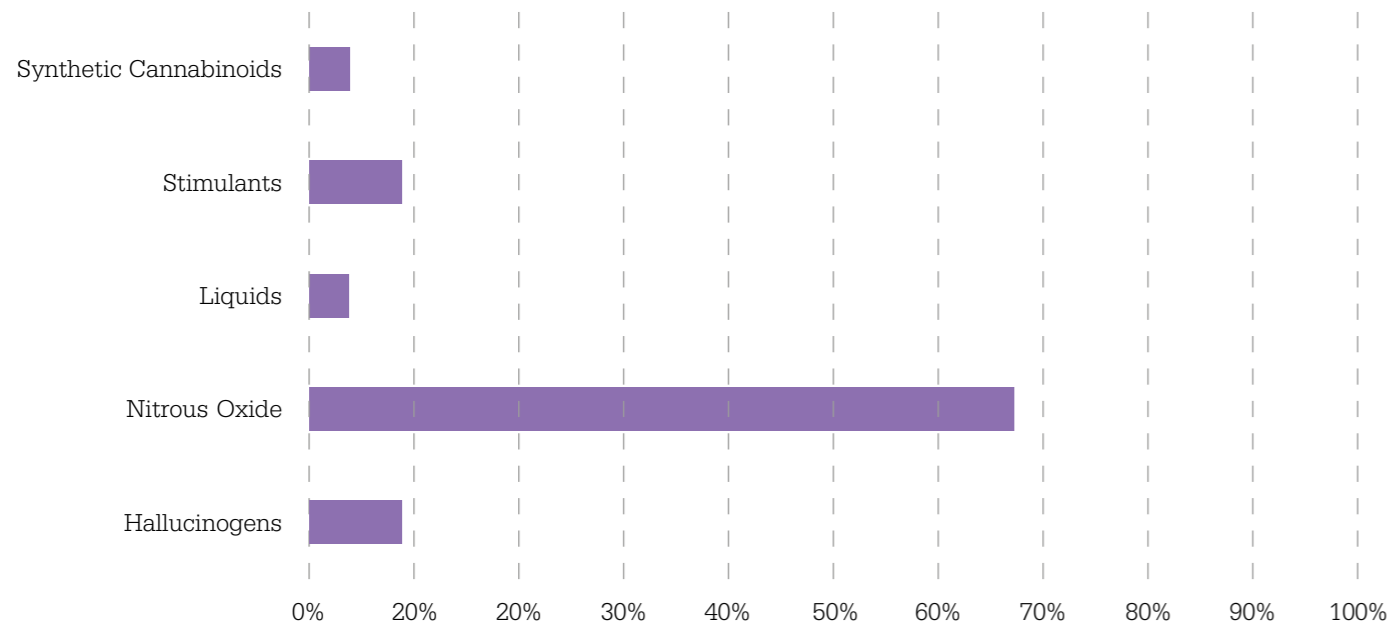
Official sources of data (such as Public Health England's JSNA support packs) highlight the relatively small number of substance misuse service clients who also report NPS use. For example, data from Public Health England (2015a) revealed that only four per cent (n=9) of young people accessing specialist substance misuse services in Manchester in 2014-15 reported NPS use (compared to five per cent nationally). Furthermore, figures from Public Health England (2015b) show that only five new treatment entrants in Manchester in 2014-15 (compared to 1,154 nationally) reported NPS use as part of their club drug use. As we go on to highlight in sections 3.2 to 3.6, the reported use of NPS amongst the sub-populations focussed on in this research is much greater than that portrayed by these official estimates.

3.2 Students

In the UK, evidence from general population studies (such as, for example, the 2014/15 CSEW), suggests that the consumption of any type of NPS in England and Wales is more prevalent among young people, particularly males (Lader, 2015). Yet, as we noted in section 1, university students living away from home are likely to be exempt from such surveys, despite having much higher rates of recreational drug use than the national average (TAB, 2015). The student population in Manchester is a particularly under-researched sub-population of substance users in the city. Manchester currently hosts over 105,000 students across four universities – Manchester University; Manchester Metropolitan University; the University of Salford; and the University of Bolton – resulting in one of the largest student populations in the UK and Europe (MIDAS, 2016). Many students are thought to be attracted to the city's thriving dance music scene and renowned club nights at venues such as Sankey's, The Warehouse Project and the Albert Hall.

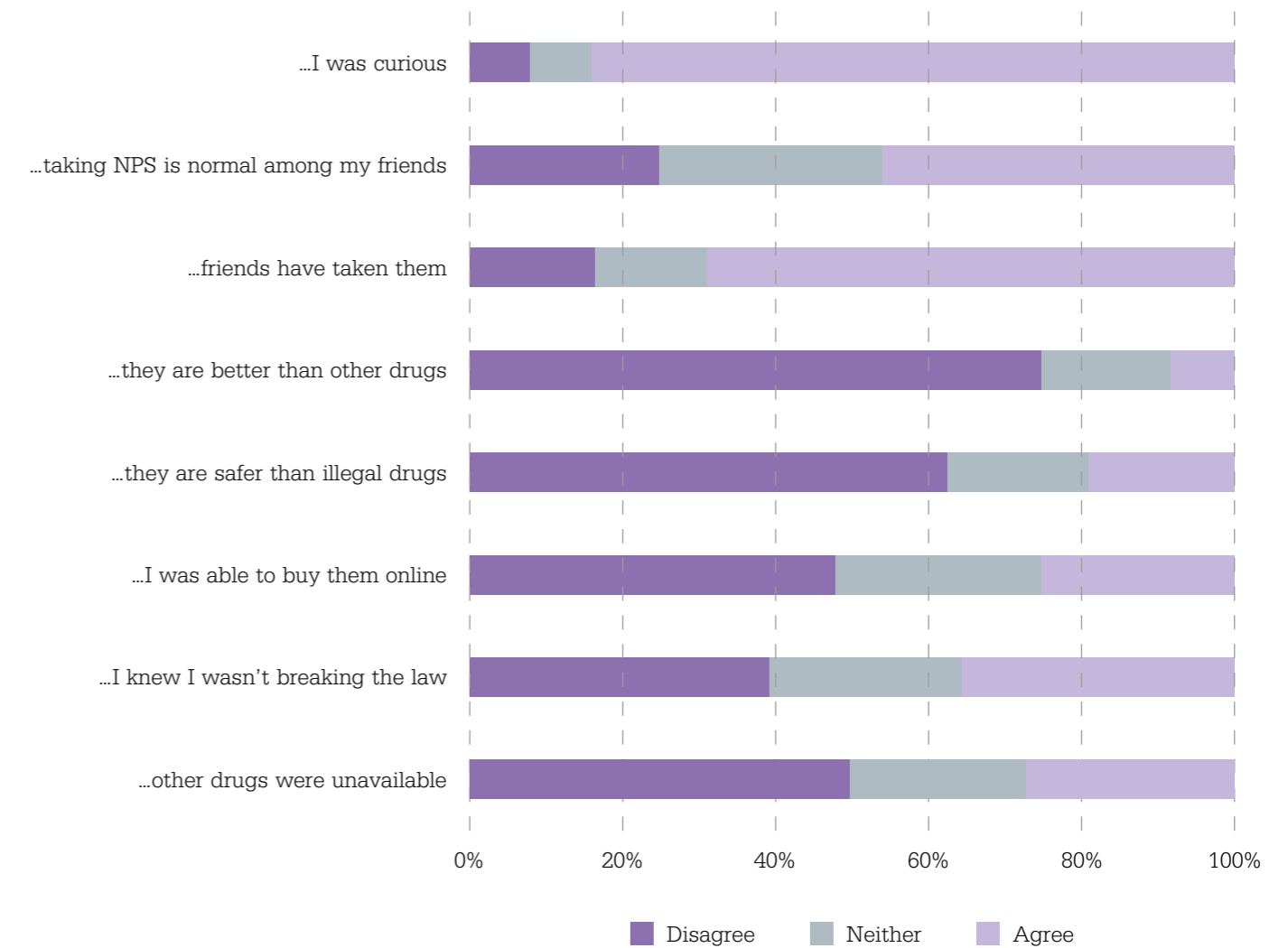
This sub-population was targeted via an online survey, with the primary aim of establishing existing NPS prevalence and drug trends amongst Manchester's student population. The survey achieved a response rate of 134. Just over a fifth of respondents were male (n=31, 23 per cent), the remainder were female (n=103, 77 per cent). The mean age of respondents was 22. In stark contrast to national estimates (see section 1.5), 40 per cent (n=53) of respondents had tried NPS in the last 12 months. As can be seen in Figure 1 below, the most common NPS was by far nitrous oxide, with over two thirds (n=36, 68 per cent) of respondents claiming to have used nitrous oxide in the last 12 months. Again, this contrasts sharply with the 2014/15 CSEW (CSEW 2015) that found that past year use of nitrous oxide was reported by only 7.6 per cent of 16 to 24 year olds.

Figure 1: In the last 12 months, have you ever taken any of the following NPS? (n=53)



In line with the poly-drug use exhibited by clubbers (see section 3.3), the survey found that, of the 36 respondents who had taken nitrous oxide in the last 12 months: 75 per cent had taken it with alcohol; 50 per cent with MDMA; 36 per cent with cocaine; and 31 per cent with cannabis. However, rather than taking NPS while clubbing, the vast majority (86 per cent) had taken nitrous oxide at a house party, with over two thirds (69 per cent) taking it in student halls. Only 44 per cent had taken nitrous oxide in a nightclub.

Figure 2: "I've taken legal highs in the past because ..." (n=48)



As shown in Figure 2 above, when it came to the reasons for taking NPS, over four fifths of the respondents had taken NPS in the past simply because they were curious, with 69 per cent having taken them because their friends had. In contrast, three quarters disagreed with the statement that NPS are better than other drugs, and 63 per cent disagreed that they are safer than illegal drugs. Interestingly, of the 81 respondents who had *never* taken any NPS, the most common reasons for not taking them were: 'too risky, you never know what's in them' (81 per cent), and 'too risky, you never know

what they'll do to you' (83 per cent). In summary then, it can be seen that the NPS use amongst the students that we surveyed was primarily recreational use of nitrous oxide at house parties or in student halls of residence. It would appear that the main drivers for use were curiosity and peer pressure. When it comes to poly-drug use, the most common substance taken with nitrous oxide was alcohol, and to a lesser extent MDMA. The theme of poly-drug use is explored in more depth in the section on clubbers, and it is to this section that this report now turns.

3.3 Clubbers, NPS and poly-drug use

In their comprehensive review of UK and international evidence, Abdulrahim *et al.* (2016) highlight how 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 MSM in particular). We focus in more detail on MSM in section 3.4. Here we outline the findings from our survey of clubbers.

The research into NPS use amongst clubbers focused on six different music nights (drum & bass, hip-hop, deep house, commercial house, techno and trance) at a club in Manchester. As outlined in section 2.3, we analysed existing survey data collected from 2,139 clubbers; the largest in-situ study of clubbers conducted in the UK. The gender split was fairly equal with 47 per cent (n=1,005) of those surveyed being male, and the remainder female. The ethnicity of the clubbers was predominantly ‘White’ (88 per cent), with the next highest categories consisting of ‘Black British’ (three per cent) and Asian (two per cent). Although the mean age of clubbers was 23, ages ranged from 15 through to 52 years of age.

Almost four-fifths (79 per cent, n=1,681) of those surveyed were current drug users, and of these, 85 per cent of males and 73 per cent of females reported having ‘ever tried NPS’. A tenth of male drug users and eight per cent of female drug users reported having ‘used NPS on the night’. The most popular NPS were from the stimulant category, ketamine and mephedrone. When compared to other drugs (i.e. non-NPS) taken on the night, ketamine was the third most popular substance, after MDMA/ecstasy and cocaine, and mephedrone was the fifth most popular drug. Just over a quarter (27 per cent) of drug users reported having used ketamine in the previous month, compared to 15 per cent of those having used mephedrone.

In relation to other NPS discussed in this report, nitrous oxide only made the top 10 substances used on the night on one of the survey nights: a techno night. In contrast, GHB was the seventh most popular substance used on the night for ‘techno’ and ‘deep house’ nights, with levels of consumption similar to ‘poppers’/amyl nitrate. Of the 1,681 clubbers that reported using drugs, five per cent claimed to have used GBL in the past month. There is a well-trodden path of substance use trends first emerging in the LGBT community, before crossing over to clubbers and more general recreational drug use (see, for example, poppers, ecstasy and ketamine). As we discuss in section 4.3.5, this suggests the need to monitor the use of GBL in the wider population, in particular, specific night time economies including LGBT bars and clubs, and the electronic dance music scene.

Of the 788 NPS users, just over a quarter (27 per cent) reported having had a negative experience after taking NPS. In comparison to traditional club drugs (such as MDMA and cocaine), NPS users typically discussed more intense and prolonged effects that could result in users being unable

to sleep for between two and seven days. Other symptoms and side effects included: high body temperature; heart palpitations; panic attacks; and hallucinations and ‘bad trips’ which often led to panic attacks, physical injuries and even hospitalisation.

‘I thought I was going to kill myself. Benzo Fury is the worst drug’. (22-year old Male)

‘I had some of that Charlie Sheen. Next thing I know I was found half asleep seeing aliens! I got taken home by the police, thought I was superman and tried to snap their handcuffs’. (24-year old Male)

The NPS that was discussed most often in relation to negative experiences was mephedrone. These experiences often centred around feelings of disorientation and confusion, as well as depression and suicidal thoughts.

‘I was hospitalised. I just span out and couldn’t move my body’. (23-year old Male)

‘I got really confused and tried to jump off the balcony’. (25-year old Male)

‘I had too much and felt suicidal’. (26-year old Male)

‘My brother stabbed himself repeatedly, [I’m] very scared of it’. (20-year old Female)

‘I took some and ended up really disorientated and crying’. (22-year old Female)

With this group of users, it appeared that such negative experiences had put some of them off using NPS, such as, mephedrone again. Yet, despite 27 per cent of users revealing bad experiences with NPS, only 10 per cent said they would ever consider seeking any form of support or information from substance user services, with many stating that drug services were for problematic users, committing crime to fund habits, such as, heroin and crack users.

Those who use club drugs often use more than one substance during a drug taking episode (see CSEW, 2015). Our survey found that almost half (47 per cent) of the 2,139 clubbers were polydrug users on the research nights, with 91 per cent of those using drugs on the night also consuming alcohol. Clubbers were asked to state their favourite drugs and alcohol combination. Interestingly, other than ketamine, no other NPS were included in the top 10 substance use combinations. These primarily included a combination of MDMA/ecstasy, cocaine, ketamine, alcohol and cannabis. The reported *past month* use of these drugs was considerably higher than national estimates of *past year* use: MDMA (48 per cent); cannabis (47 per cent); ecstasy (45 per cent); cocaine (44 per cent); and ketamine (27 per cent). The latest 2014/15 CSEW data (CSEW 2015) on *past year* use is: cannabis (16-24 year olds, 16.3 per cent, 16-59 year olds 6.7 per cent); cocaine (16-24 year olds, 4.8 per cent, 16-59 year olds 2.3 per cent); ecstasy (16-24 year olds, 5.4 per cent, 16-59 year olds 1.7 per cent); and ketamine (16-24 year olds, 1.6 per cent, 16-59 year olds 0.5 per cent).

Due to a combination of factors – including negative experiences with NPS and an increase in the quality of

cocaine and ecstasy in recent years – there is no indication at present that another drug (as we have previously seen with mephedrone) is about to appear onto the clubbing scene. Nonetheless, one emerging finding from the research was a number of clubbers reporting snorting two or more drugs together. For example, respondents reported snorting a line of cocaine and ketamine – referred to as ‘CK’ – or a line of cocaine and MDMA, or what is referred to as ‘party lines’ consisting of a mixed line of stimulant type drugs, for example, cocaine, ketamine and MDMA. There was some evidence of the use of hallucinogens such as 2CB, Brome, Nexus, with past month use reported by 3.5 per cent of the sample and a small number of clubbers also talked of using DMT and ‘Changa’, a smoking mixture containing DMT and a monoamine oxidase inhibitor (MAOI) that both potentiates and elongates the DMT experience. As with the emergence of GBL onto the recreational clubbing scene, these are emerging trends that require monitoring. It was interesting to note that several users of ‘Changa’ and DMT had reported first using it at festivals in Croatia, and ‘party lines’ were reportedly first introduced to users whilst clubbing in Berlin. The potential for drug using trends to be introduced from other countries is a reminder of the effects of globalisation and how quickly new drug trends can develop.

In summary, the research found much higher levels of NPS use amongst this group than that found in national prevalence data, with much of the NPS use accounted for by ketamine and mephedrone, demonstrating the appeal of stimulant type drugs within this subpopulation. However, given the popularity of these two drugs, and the fact that they were classified under the *Misuse of Drugs Act* in 2009 and 2010 respectively, many commentators are questioning how long they can credibly remain under the ‘NPS’ umbrella. The implications of these findings for service development and future research agendas are discussed in sections 4.2 and 4.3. We now turn attention to another targeted subpopulation of NPS users, MSM who engage in chemsex.

3.4 Chemsex

Chemsex is defined by the use of any combination of drugs that includes three specific drugs (“chems”) before or during sex by MSM (Men who have Sex with Men). These three drugs are methamphetamine (crystal/crystal meth/Tina/meth), mephedrone (meph/drone) and GHB/GBL (G/Gina). (ReShape & 56 Dean Street)

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 (Public Health England, 2014a). In particular, there is growing concern over the involvement of a minority of MSM in chemsex, a term primarily used to describe sex between men that occurs under the influence of drugs immediately preceding and/or during sexual encounters but not exclusive to MSM (Bourne *et al.*, 2014).

Although many interviewees suggested that chemsex was not a recent phenomenon – with many noting it has existed in the UK for around a decade – the profile of chemsex

has recently been raised through the Vice documentary *Chemsex* and the film *G O’clock* that both centre on London’s chemsex scene. There have subsequently been high levels of media exposure and heightened discourse that has raised awareness of what was previously an underground scene.

The health risks associated with chemsex are more severe than those associated with other scenes commonly linked to recreational substance use. Overdoses and black-outs linked to the use of GBL/GHB are common. Methamphetamine and mephedrone are also often injected (‘slammed’), thus increasing the risks of injection-related infections and blood-borne infections like HIV – Manchester has the highest rate of diagnosed HIV outside London and the South East and account for half of all residents living with HIV in Greater Manchester (Manchester City Council Health Scrutiny Committee Meeting, 2016) – and HCV. In addition, the after effects of extended periods of drug use and sex for many hours are extreme fatigue and lack of sleep, and there are concerns about non-consenting sex. There is also the risk of the transmission of STIs. In 2014, gay and bisexual men were over-represented in cases of infectious syphilis and gonorrhoea (Health Scrutiny Committee Meeting, 2016). Many of these issues can lead to: chronic depression; anxiety; weight-loss; paranoia; drug-induced psychosis; depression; and suicidal thoughts. The health care costs associated with chemsex include increased use of sexual health and HIV services, drug services and counselling services, and the potential loss of lifestyle stability (in terms of employment, debt, housing, partnerships and friendships).

Sexual health services, and HIV services in particular, are increasingly aware of the association between drug use and high-risk sexual behaviours (see Department of Health, 2013). This is now reflected in strategic developments at national policy level, for example, the current Public Health England action plan ‘Promoting the Health and Wellbeing of Gay, Bisexual and Other Men Who Have Sex With Men’ (Public Health England, 2015c). At a 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) 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 (Clutterbuck *et al.*, 2012) and the 2013 UK national guideline for consultations requiring sexual history-taking (Brook *et al.*, 2013). 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 (Sullivan *et al.*, 2014).

Having outlined how chemsex is currently defined and the level of knowledge and guidance on developing appropriate service provision at a national level, we now turn attention to the findings and discussion around how chemsex should be defined locally, and how existing services need to develop.

3.4.1 Defining chemsex in a local context

The definition at the start of section 3.4 was produced by ReShape (an activist think-tank that supports the need for new community responses to chemsex) and 56 Dean Street (the first UK GUM/HIV clinic to provide chemsex support to MSM around drug use, sexual health, and sexual wellbeing), and derived from the London chemsex scene. The stated aim of the definition is to help health workers and researchers understand differences between chemsex and other forms of recreational substance use. The definition applies specifically to MSM who are:

... disproportionately affected by HIV/STIs, and can be more likely to have a higher number of sexual partners. Chemsex is associated with some cultural drivers unique to gay men and communities that include psychosocial idiosyncrasies and new technologies (geo-sexual networking Apps) that can facilitate faster introduction to new partners, and to “Chems”. Chemsex commonly refers to sex that can sometimes last several days. There is little need for sleep or food. The heightened sexual focus enables more extreme sex, for longer, often with more partners and with less fear of STIs including HIV and HCV. Sharing injections is common. (ReShape & 56 Dean Street)

Chemsex can be defined as the use of one or more of methamphetamine, mephedrone and/or GHB/GBL in a sexual context. Other recreational drugs can also play a role in chemsex, although they are deemed to be less prevalent and secondary to the use of the three main substances. However, despite the existence of this definition, the term chemsex and what it involves (in terms of drugs used) led to much debate and confusion during the research with members of Manchester’s LGBT community and professionals working with those involved in chemsex.

‘Oh no, I don’t do that [methamphetamine, mephedrone and GHB/GBL]. ... I use Grindr, I have sex on chems ... [but] I just sniff coke and ket[amine] sometimes’. (41-year old MSM)

‘When I think of chemsex I think of meth[amphetamine], cocaine, speed, and all other alternatives and variations all working under the sort of stimulant kind of theme’. (30-year old MSM)

They [those involved in chemsex] tend to just stick to ... Mkat [Mephedrone], crystal meth[amphetamine] and coke. They might still do a bit of GHB but they’re not really interested in pills anymore or speed’. (Sexual Health Nurse)

‘I’ve had a few people that weren’t taking drugs at all, but were drinking and going out and having

unprotected sex and using drink to facilitate sex’. (Chemsex Substance Use Practitioner)

One male sex worker that was interviewed even discussed how he offered ‘chemsex light’, with the refusal to ‘slam’, and an agreement to the use of cocaine and ketamine (rather than methamphetamine, mephedrone and GHB/GBL). The evident confusion over exactly what chemsex involves led to a number of discussions about the need to define chemsex at a local level.

3.4.2 The prevalence of chemsex in Manchester

With the current [London orientated] definition of chemsex, ... if people are only self-identifying [as involved in chemsex] if they’re only taking one of those three drugs, you could potentially be missing loads of people. (LGBT Health and Wellbeing)

The exclusion of those who do not use methamphetamine, mephedrone and GHB/GBL may go some way to explaining the disparity in numbers between those accessing services in Manchester and those in London.

‘They [the REACH clinic in Manchester] have seen 30 gay men using these drugs in the last year. We see 3,000 a month’. (Chemsex Practitioner, 56 Dean St, London)

It should be acknowledged that the London clinic is well established and the REACH clinic has only recently been established and hence service uptake is expected to increase as awareness improves with increased REACH clinic marketing and the development of the chemsex awareness campaign, currently scheduled to be launched in February/March 2017. The campaign will be particularly targeted at high risk MSM (e.g. people collecting needles from needle exchanges), however, information will be available to all via a new website. The new campaign focuses on raising awareness of the potential harms, providing harm reduction advice and signposting people to appropriate services. This campaign will also help to educate and inform residents of how chemsex is defined and its parameters.

Considering the position that Manchester holds as one of the largest LGBT communities in the UK, the numbers coming through services appears low. Particularly, as recent research has suggested that Manchester (along with Brighton) has the fastest growing chemsex scene in the UK (SIGMA, 2016). One of the reasons for this disparity may be the atypical nature of the London chemsex scene. Recently published findings from a national survey of 15,000 MSM revealed a number of interesting differences (SIGMA, 2016). For example, seven per cent of survey respondents in England claimed to have used at least one of the three chemsex drugs (methamphetamine, mephedrone and GHB/GBL) in the last month. For those living in London, this figure rises to 14 per cent. In addition, those living in London were almost twice as likely (3.3 per cent) to have reported injecting drugs in the past year, compared to men living outside London (1.8 per cent). This evidence would suggest

that, when compared to Manchester, London has a larger cohort of MSM using the ‘traditional’ chemsex drugs, and a higher percentage of those ‘slamming’. We therefore suggest that, while there is clearly potential for knowledge exchange and sharing of good practice with services in London, there is a need to better establish the prevalence and nature of chemsex in Manchester.

While the scale of chemsex in Manchester appears to be much lower than that in London, a recurring theme in the interviews was the sharp escalation of the chemsex scene in Manchester. For example, all those MSM we interviewed made similar observations about the noticeable rise in references to chemsex and chemsex parties.

‘Over the last couple of years, the random sort of requests for chemsex and chemsex parties that I get [through Apps] have skyrocketed. I don’t know what can account for that spike in popularity, but it seems really, really huge now up North. Maybe that just has to do with more people accessing Apps, and Manchester becoming this sort of internationally recognized sort of queer Shangri-La that it is, more people sort of moving here and visiting here on weekends and stuff’. (34-year old MSM Sex Worker)

Interviews with professionals based in sexual health clinics also highlighted an increase in the number of MSM involved in chemsex accessing services. The wide spectrum of those involved in chemsex was also frequently observed.

‘This clinic now has quite a high proportion of gay men coming to the clinic. ... Guys who you wouldn’t even think are doing chemsex are doing chemsex. It’s become the norm’. (Sexual Health Nurse)

‘The people we see at the REACH clinic ... [are] like complete opposite ends of the spectrum. So you’ll get a youngish really vulnerable lad who’s maybe doing sex work and a number of drugs. And then you’d get a doctor. ... There’s not a typical stereotype’. (Chemsex Substance Use Practitioner)

‘I know nurses who go to [chem]sex parties [and] I know doctors who go to [chem]sex parties’. (Sexual Health Nurse)

The research, however, identified a need for a more robust measure of prevalence in a local context.³ While there are some encouraging developments – for example, the addition of questions regarding drug use and injecting behaviours in the LGBT Foundations wellbeing assessments – we discuss the need for improved data recording and data collection of substance use trends in sections 3.7 and 4.3.

3.4.3 Existing service provision

In November 2015, Public Health England produced guidance for commissioners on the commissioning and delivery of substance misuse services for MSM involved in chemsex (see Public Health England, 2015d). This guidance includes a number of prompts for commissioners around understanding the needs of the local MSM population in order to commission appropriate local services. It was evident that many of these

suggestions were already in place in Manchester, and well established ahead of this guidance. The research team attended steering group meetings at the REACH clinic, and conducted several interviews with sexual health and substance use professionals who were working with this user group, and it was clear that strategic commissioning and the integration of sexual health and substance use teams already exists. The REACH clinic is a partnership between the Hathersage Sexual and Reproductive Health Service (Central Manchester NHS Foundation Trust), where the service is currently located and the integrated drug and alcohol service, currently provided by CGL. In addition, there are clear indications of strong partnership working with the LGBT Foundation, George House Trust and other LGBT organisations.

‘I think what they [the REACH clinic] have got now is a really good basis to build on. I think it’s in a good setting [and] the staff on the ground have got understanding of it [chemsex]. ... It’s a very quick provision, so you can come in to see the drug worker, and if you need an STI screen, they’ll do that there. They’re very geared up to getting these people engaged, and that’s a massive part of the treatment’. (Senior Substance Use Practitioner)

‘It’s an ideal partnership because to address chemsex you need to go to sexual health clinics for the risk assessments and care, you need the expertise of behavioural interventions that drugs services can provide, and you need an LGBT charity for the cultural competency that goes with LGBT experiences’. (Chemsex Practitioner, 56 Dean Street)

As highlighted in the above quote, the inclusion of the LGBT Foundation on the steering group of the REACH clinic is a positive step that has helped ensure the cultural competency of the clinic. Cultural competency appears to be key when it comes to engaging those involved in chemsex into services. Indeed, one of the leading figures in the development of chemsex support suggested that, when it comes to staffing services, gay men should be employed where possible.

‘I would populate it with gay men in the beginning, just because of their [those involved in chemsex] fear of approaching services. ... Show us, you know, what you’re talking about. Give us a gay man who can talk about chemsex’. (Chemsex Practitioner, 56 Dean Street)

Most locally based professionals with experience of working with this user group suggested, however, that while representation of gay men within chemsex services is useful, other skills and expertise are equally, if not more, desirable.

‘It’s about the skill of the worker being able to engage that person. ... It should be representative [but] I certainly don’t think it needs to be staffed by just gay men’. (Chemsex Substance Use Practitioner)

‘I think it’s more about the person being open and non-judgmental and knowledgeable’. (LGBT Health and Wellbeing Service Manager)

‘It’s about your willingness to learn. I think [even] if you identify as being in the same group as the people you’re targeting, it doesn’t necessarily mean you understand

their experience. You maybe have more insight into their experience, but you won't know exactly what it's like to be them. You still need to respect the person's individual experience'. (LGBT Health and Wellbeing Service Manager)

So far, we have highlighted the importance of defining and establishing the prevalence of chemsex in a local context. We have also illustrated the need to ensure that the LGBT community are properly represented at all stages of provision, from strategic planning through to representation in services. We now turn our attention to some of the requests and suggestions that emerged through the course of the research in relation to developing existing service provision.

3.4.4 Service development

Despite considerable positivity regarding the establishment of the REACH clinic by members of the LGBT community and professionals who took part in the research, there was much discussion about the need to engage more with those involved in chemsex. For some, the discussion focused on improving the promotion of existing services. For others, the focus was on developing and expanding the services currently on offer. The following sections highlight the most frequently cited areas for development: opening times; service location; service promotion; targeted outreach; tailored service response; mental health and counselling provision; and staff development.

3.4.4.1 Extended opening hours

It was often noted that many MSM involved in chemsex are in full time employment. The REACH clinic operates on a Wednesday afternoon at the Hathersage Sexual and Reproductive Health clinic though follow-up support can also be obtained during other times in the week.

'The main thing is to make appointments available ... outside of traditional nine to five working hours. ... I can't fucking get out of work on a Wednesday at four, and a lot of other people can't'. (40-year old MSM)

'Night time would be really cool, if only because sometimes people do need a little bit of Dutch courage in order to actually access services. So you might get a lot more people who are just sort of like "Fuck, I've had a drink, I really should go to this place". So, you know, ideally 24 hours a day'. (24-year old MSM)

Whilst a 24/7 clinic is unrealistic, the REACH clinic have been responsive to feedback around opening times. It is encouraging to see that the appointment times have been moved to later in the day with the clinic now operating on Wednesday afternoons from 3pm-7pm. This enables appointments to be made outside the typical 9 to 5 working day. Furthermore, following the initial assessment at the REACH clinic, follow-up appointments can be delivered at other times during the week, either at the Hathersage Centre, CGL premises located across the city or at the LGBT-Foundation.

3.4.4.2 Service location

The need for service provision in the city centre, and specifically in the village, was consistently raised by MSM, sexual health and substance use practitioners. Pop-up clinics were also widely suggested.

'I mean the city centre is an obvious choice. In and around Canal Street, again really obvious choice'. (34-year old MSM)

'A city like Manchester should have fucking pop-up HIV testing and just general sexual health places on every fucking corner you know. Sorry, it just really annoys me'. (34-year old MSM Sex Worker)

However, despite taking on board these suggestions, the feasibility of developing these services was often questioned by service providers and ultimately, the suggested changes for service provision provided here appear to fall outside what is practical within current resources.

3.4.4.3 Service promotion

In addition to the physical location of services, the issue of how existing services, such as the REACH clinic, could better promote the services they offer was often talked about during interviews. Discussions commonly centred on what the services' promotional material should look like, and where it should be made available.

'I don't know if the LGBT foundation, or any other sort of sexual health clinics here do sort of like business card sized things that say "These are the services we provide, this is the counselling we do, these are the hours". That would be really cool. ... People can just pop in, pick it up and leave'. (34-year old MSM)

It was also noted that many MSM do not frequent the village, and as such, other popular night time economy areas should be targeted. Some of the most popular suggestions included the Northern Quarter and non-city centre areas, such as Chorlton and Didsbury.

'I just feel like that sort of [promotional] material should be everywhere'. (34-year old MSM Sex Worker)

3.4.5 Targeted outreach

In addition to suggestions of where services should be located and how they should be promoted, the need for more targeted outreach was frequently discussed. Bourne *et al.* (2014) have shown that the use of methamphetamine, mephedrone, GHB/GBL and ketamine was associated with attendance of gay cafes, bars, pubs and clubs. They also found that 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. Furthermore, they suggest that sauna use and the use of backrooms or sex clubs were also associated with the consumption of these drugs. Bars that hold fetish nights and city centre saunas frequented by MSM were identified as two key locations for outreach work. As touched on earlier,

when it comes to working in these spaces, the need for cultural competence and sensitivity was emphasised.

'I worked with [LGBT Charity in another UK city] for a while and as part of my training they had me go to some of their pop-up clinics, and like different bars. And I thought "Wow, that's really, really effective". ... [We] had to make ourselves as small, but as visible as possible, so as not to put people off, because I think people tend to get really annoyed by over-zealous sexual health practitioners, especially in social spaces'. [36-year old MSM)

'We've been doing late night outreach, ... trying to reach groups of MSM who we don't believe access our services at the moment. ... An example is we go to [a local fetish night] every four weeks. It's taken us quite a while for them to let us attend, because obviously what they don't want is a service going round shaking condoms in people's faces. ... It's quite difficult because they were saying "If you want to come in, you have to come in fetish gear", and it's not appropriate. ... We've found ways round it. We wear black t-shirts with something over the top [of them] like a body brace or something like that. ... So we're not wearing bright yellow LGBT foundation t-shirts, we blend in, but we're still visible'. (LGBT Health and Wellbeing Service Lead)

As outlined below, while discussions often focused on targeting the physical locations frequented by those involved in chemsex, they also covered the need for outreach work in virtual spaces. As highlighted at the start of this section, the use of Apps such as *Scruff*, *Growlr* and *Grindr* are central to defining what chemsex encompasses. In support of this, all MSM that we spoke to referred to the use of various Apps when discussing the chemsex scene. The centrality of Apps to the chemsex scene led many interviewees to discuss the need for a web-based presence, where services can interact and promote what they do via Apps.

'It's really important I think to have that sort of mobile accessibility. That would probably get people a lot more engaged, and at least get people more confident about their ability to get information'. (24-year old MSM Sex Worker)

'I'm not sure if the NHS operates any sexual health Apps or anything, [but] that would be really, really useful. ... A way that people could find out where their nearest clinics and testing times [are], and all that kind of stuff for different things. Just really discretely and really simply'. (34-year old Male Sex Work)

'I'm assuming that most App users are between, what, like 18 and 30. ... Addressing those people through the Apps is a good idea'. (34-year old MSM)

Once again, it was very positive to discover that some of this 'virtual' outreach and support is already happening in Manchester. Greater Manchester local authorities have commissioned and funded the LGBT Foundation to develop some innovative methods of engagement with App users.

'We've done [virtual] outreach for the past couple of years, going on Grindr and Gaydar and stuff, offering information, support and advice. In the last 12 months we've started doing late night sessions, so on a Friday night we're online

between 8 and midnight. And we are going [online] on Saturdays to try and reach a slightly different cohort of guys than we would during the earlier evening outreach. ... We've talked to a lot of guys about chemsex on those forums. I think because there's a level of anonymity, it means that people are being a lot more upfront with us, and people are being a bit braver when it comes to asking for advice as well. Because sometimes we might see people that come to clinics or face-to-face services, and only when we've seen them a few times do they tell us what they want from us. ... We've got our own profile on Grindr as well so we can send targeted messages, which is a great way of promoting services like the REACH clinic'. (LGBT Foundation Service Engagement Lead)

3.4.6 Tailored service response

It was often noted by interviewees that those involved in chemsex need a bespoke service response. Many felt that services needed to better understand the needs of those involved in chemsex, and develop their services accordingly. Not only in relation to what/how information, support and advice is provided, but also – and importantly for this group – in relation to the provision of needle exchanges.

'When you start thinking ahead to how you could actually provide a service, or set up a service, you're looking at who is your target group. What are you going to offer them? ... Safer injecting techniques, clean needles. ... You'd have counsellors there who could help support with the drug use. ... What is out there right now for some of the drugs that they're using? Nothing. Do we give anything? ... What do we give for cocaine? What do we give for crystal meth?' (Sexual Health Nurse)

'I remember seeing a few guys that just wanted some more information about injecting and the dangers, and a bit of advice. That's all they wanted, ... they just wanted a conversation with someone'. (Chemsex Substance Use Practitioner)

'We need to work differently. [...] because a lot of people probably wouldn't access a needle exchange, because they associate it with opiate drug users. There's so much stigma I think attached to using a needle exchange'. (Senior Substance Practitioner)

'I think the village needs a needle exchange, ... at the weekends in particular. Because that's the other thing isn't it. ... Needle exchange provision at the weekend is limited'. (Senior Substance Use Practitioner)

When it comes to developing services for those involved in chemsex, there are examples of good practice elsewhere in the country. For instance, 56 Dean Street in London have developed workshops and support for MSM that include: groups that explore issues such as safely using online sex Apps and sites; a group that examines 'sober-sex'; a needle exchange facility; safer injecting support; and information that specifically addresses methamphetamine and mephedrone injecting (see Public Health England, 2015d).

Before moving on to look at mental health provision, it is worth heeding a warning from a practitioner at 56 Dean Street who felt that developing services that focus too heavily on developing needle exchange provision, would be to the detriment of those involved in chemsex who do not inject.

'About 29% of our [chemsex] population are injecting, ... [yet] the ones who are not injecting are exposed to just as much risks in regard to chemsex. It's the HIV negative guy who's doing G and sniffing mephedrone, who's having sex with 15 partners who's going to catch HIV and transmit it to 30 more in the next month. That's the highest risk. ... A HIV positive man who's injecting crystal meth, who takes his medicines regularly is very low-risk for a lot of things. ... As a public health concern, [with] the transmission of disease and epidemics, that HIV positive man who's injecting is lower risk than the other'. (Chemsex Practitioner, 56 Dean Street, London)

This combination of factors associated with chemsex has been described as 'a perfect storm for transmission of both HIV and HCV, as well as a catalogue of ensuing mental health problems' (Kirby & Thornber-Dunwell, 2013).

3.4.7 Mental health and counselling

'Mental health services would be a really, really good thing to get on board'. (30-year old MSM)

Another area of service development that was frequently discussed was better integration of mental health provision into existing services. Reasons for engaging in chemsex that were highlighted by counsellors, sexual health practitioners and substance use practitioners included: to overcome intimacy issues; fear of rejection and sexual shame; to cope with stigma over HIV/HCV; to deal with problems/trauma in the past; and to overcome internalised homophobia. According to the UK Household Longitudinal Study, MSM are twice as likely to be depressed or anxious compared with other men (McFall, 2012). Similarly, other studies have shown that LGBT adolescents are at greater risk of depressive symptoms and suicidal ideation than are heterosexual adolescents (Almeida *et al.*, 2009; King *et al.*, 2008). Recent Public Health England guidance suggests that a better understanding of these factors is a prerequisite for improved treatment responses, including for problems related to substance misuse (Abdulrahim *et al.*, 2016). Therefore, we suggest that the next stage in the development of integrated service provision for LGBT and particularly MSM, should incorporate counselling, including relationship counselling, and mental health support. The integration of mental health provision was often called for during interviews with a range of professionals working with this population.

'Drug use in general can be a way to self-medicate. ... There might be some significant overlap with people who access mental health services and people who have regular chemsex'. (34-year old MSM Sex Worker)

'For many, I think there is a deep rooted reason around stigma, shame, identity, even internalised homophobia,

that their use of drugs and involvement in chemsex is masking'. (LGBT Counsellor)

'The most extreme client that I had was a client that presented at generic drugs services. ... He was just chemsex all week, day and night. ... [And] his mental health, ... [he was] suicidal every week. ... Then he got sectioned a few times. ... He had HIV, and now he's in Strangeways'. (Chemsex Substance Use Practitioner)

Central and North West London NHS Foundation Trust have established a 'Club Drug Clinic' that provides a service tailored to the needs of club drug users. The clinic is a prime example of how a number of key services have been integrated together. For example, the clinic offers medically assisted withdrawal from substances including GHB/GBL. It also prescribes medication to help manage the side effects of coming off stimulants such as mephedrone and other substances. Specialist addiction doctors and psychologists, nurses and counsellors provide advice and support, as do peer mentors who have experienced and overcome similar problems. On-site sexual health screening and support is available, along with liaison and referral for mental and physical health problems (including bladder and kidney problems, and HIV and other blood-borne viruses). The clinic works in close partnership with 'Antidote', a LGBT drug and alcohol service (see Public Health England, 2015d). This provides a model for the development of services in Manchester.

3.4.8 Staff development

Interviewees identified a number of training issues for staff, including risk of overdose, cultural competency and contraindicated substances. Overdosing is a particular risk associated with the use of GHB/GBL. There is a fine line between the correct amount needed to get the desired effects and overdosing. Overdosing is common if doses are not carefully measured, or if they are taken consecutively two quickly (usually within two hours).

'We are seeing on average six people each weekend with suspected overdose on G [GHB/GBL] at one hospital, St Thomas's, alone in London'. (Chemsex Practitioner, 56 Dean Street)

Added to this, taking GHB/GBL with other depressant drugs (such as alcohol, tranquilisers or ketamine) can lead to unconsciousness and comas. There is a clear need to ensure that frontline staff are educated about chemsex and properly trained in how to deal with overdoses related to chemsex drugs, such as, GBL/GHB and crystal methamphetamine. More generally, though, there is a need to ensure substance use practitioners are culturally competent and knowledgeable in relation to this user group.

'Everyone's aware of chemsex now a little bit, but you need someone that knows what they're talking about in the services for those people that do present, ... otherwise you'll just lose them very quickly. The same way you'd lose anyone that presented to any service that didn't know what they're talking about'. (Senior Substance Use Practitioner)

In addition, the need for both users and frontline practitioners to be aware of how particular drugs interact with specific medications was highlighted repeatedly in the interviews. In particular, the risk of overdose and death may depend on the type of HIV medication prescribed.

'GHB/GBL can also cause severe nausea, vomiting and gastro-intestinal irritation, which will all adversely affect absorption of the antiretroviral agent'. (Chemsex Clinic Practitioner)

'I think people forget that some of the other drugs, the recreational drugs, have an effect and can compromise the antiretroviral treatments. But also, they can enhance them and exacerbate them, turn them into more of a poison, either the antiretrovirals or the drug itself, the recreational drug. ... So it can weaken the HIV drugs, which is not good, or it can double or treble the strength of it, which is not good either'. (Sexual Health Nurse)

A consideration of other prescribed medications, such as anti-depressants, is also essential due to the potential to cause 'serotonin syndrome' when mixed with illegal drugs such as MDMA. There is a need to ensure that frontline staff – GPs, emergency medical staff, and sexual health and substance use practitioners – are all aware of the chemsex scene, drug interactions and contraindications, and the potential for increased toxicity. Drug use and poly-drug use may interfere with adherence to, as well as the effectiveness of antiretroviral therapy (ART) (Antoniou & Tseng, 2002). Recreational drug use has consistently been linked to lower rates of HIV medication adherence (Halkitis *et al.*, 2005; Haubrich *et al.*, 1999; Romanelli *et al.*, 2003), with even lower levels among poly-drug users. 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 (Braithwaite *et al.*, 2005), although this needs to be investigated further. Issues of adherence to HIV medications in the context of club drug use by MSM are 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 (Antoniou & Tseng, 2002) and serious drug interactions (Antoniou & Tseng, 2002; Romanelli *et al.*, 2003). Adverse interactions between agents commonly prescribed for HIV infection and recreational drugs may also have serious clinical consequences (Connor, 2004; Pacifici *et al.* 2001a, 2001b; Harrington *et al.* 1999; Henry and Hill, 1998). For example, GHB/GBL is known to interact with ART by lowering the seizure threshold and should be used with caution in HIV-positive patients predisposed to seizure disorder (e.g. those with toxoplasmosis, cryptococcal meningitis) (Romanelli *et al.*, 2003). It has been recommended that HIV-positive patients who use GHB/GBL be warned about the potential dangers of drug interaction with protease inhibitors (especially ritonavir). Other drugs, such as MDMA and ketamine, are also known to interact with ART (Romanelli *et al.*, 2003).

In summary, the research identified a number of specific user needs, areas for potential service development and staff training needs that are specific to the chemsex scene. We now turn our attention to another group of NPS, synthetic cannabinoids.

3.5 Synthetic cannabinoid use amongst vulnerable groups

'I want people to realize what it's doing, know what I mean? Like, what it's like. It's killing us all, we're slowly getting killed'. (18-year old Homeless Female)

Synthetic cannabinoids were first detected in the UK and other European countries towards the end of 2008. They are produced with manufactured chemicals that create similar effects to delta-9 tetrahydrocannabinol (THC), the active ingredient in cannabis. These powdered chemicals are mixed with solvents and added to dried herbs or plant matter, or increasingly sold in powder form. In 2014, 30 new synthetic cannabinoids were identified, bringing the total number reported to the EU Early Warning System to 134 (EMCDDA, 2015). Synthetic cannabinoids are the largest group of substances monitored by the EMCDDA, reflecting the rapid pace in which manufacturers can produce and supply new cannabinoids in order to circumvent drug laws. In 2013, over 21,000 seizures were reported, comprising more than 40% of the total number of seizures for NPS (EMCDDA, 2015).

We begin this section with an overview of the findings from a survey coordinated by *Homeless Link* in partnership with: MASH (Manchester Action on Street Health); the Booth Centre; Lifeshare; Justlife; Barnabus; and Salford Loaves and Fishes. The survey involved 53 respondents who were engaged with various homeless services in Manchester. Of those that were surveyed, just over two thirds were male (68 per cent, n=36) and 32 per cent were female (n=17). The ages of those surveyed ranged from 17 to 49, with an average age of 30. Just over half (53 per cent, n=28) were classed as sleeping rough on the streets; 13 per cent (n=7) were housed in their own tenancy; 11 per cent (n=6) were housed in a hostel/supported accommodation; nine per cent were housed in temporary accommodation (e.g. a Bed and Breakfast); six per cent (n=3) were housed in emergency accommodation; and four per cent (n=2) were sofa surfing.

The vast majority of rough sleepers (93 per cent, n=26) had taken NPS in the 12 months prior to the survey, compared to less than two thirds (64%, n=16) of non-rough sleepers (see Figure 3 p26). In addition, of the 42 respondents who had taken NPS in the 12 months prior to the survey, only a tenth (n=4) had taken just NPS. The majority (81 per cent, n=34) had taken between one and three other drugs in addition to NPS (see Figure 4 p26). These drugs were primarily Cocaine, Cannabis and Crack (see Figure 5 p26).

Of those who had taken NPS in the past 12 months (n=42), 64 per cent (n=27) had taken them every day, and 14% (n=6) had taken them five or six days a week. Interestingly, a

higher proportion of rough sleepers had taken NPS at least five days a week than non-rough sleepers (85 per cent compared to 69 per cent).

The high levels of synthetic cannabinoid use reported in the homeless survey were confirmed by the qualitative interviews conducted with practitioners working with this user group and members of the homeless community who estimated this figure to be even higher.

'The whole of the city centre, there's a problem now in Manchester City centre. It's the worst I've ever known it really'. (Homeless Outreach Worker)

'Huge problem. I think for a good six months, it's been coming and getting worse and worse. People use it daily in this building, especially Spice'. (Supported Housing Manager)

Figure 3: In the last 12 months, have you taken any of the following? (n=53)

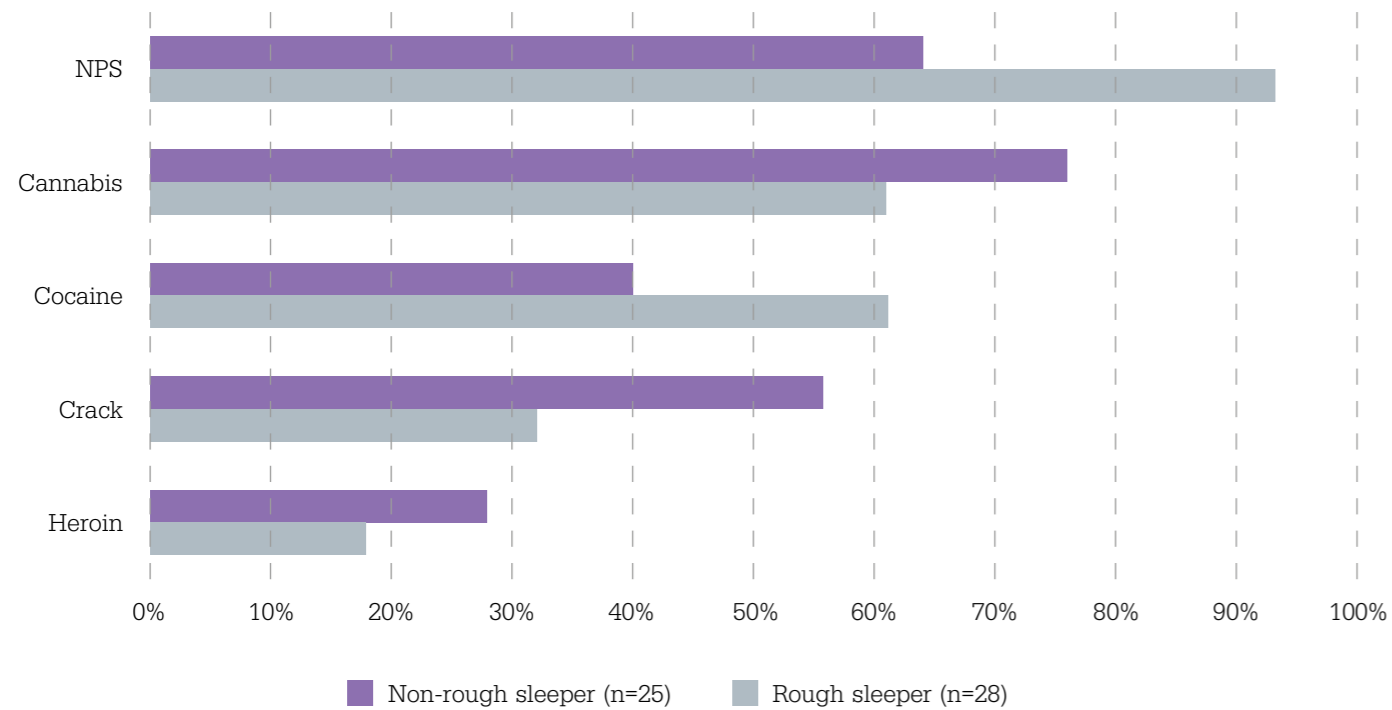


Figure 4: Number of drugs taken in addition to NPS in last 12 months (n=42)

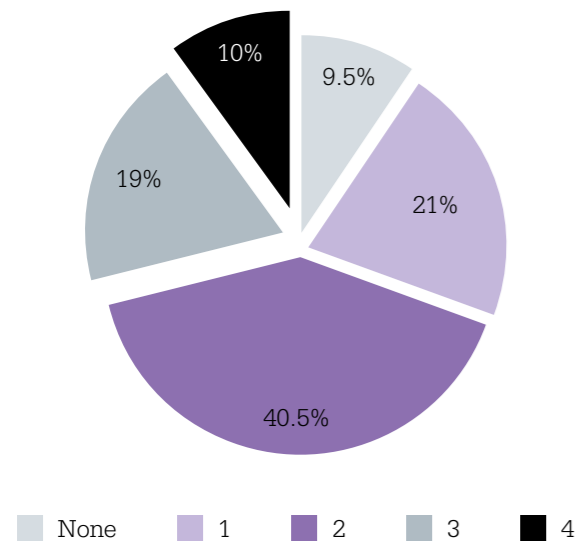
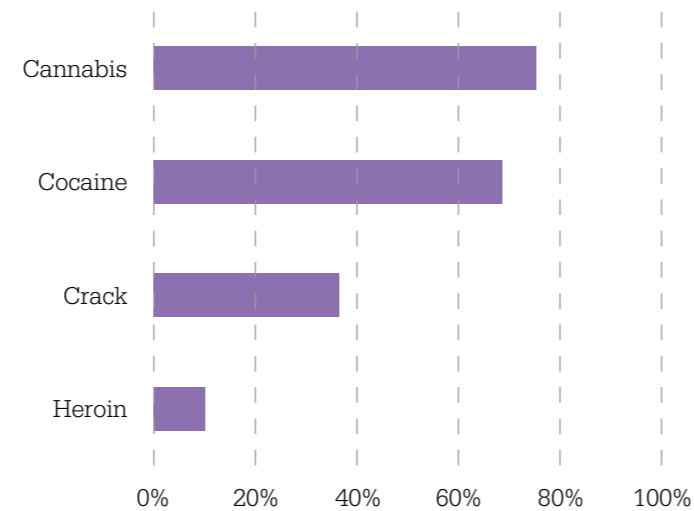


Figure 5: Drugs taken in addition to NPS in last 12 months (n=42)



'I've probably got about 40 clients on my caseload at the minute who are street homeless. Of them I'd say about 95 per cent of them take Spice'. (Support Worker for Young Street Homeless)

'You'd be surprised how many people. ... I'd say 99 per cent of them are Spice heads'. (Young Person's Homeless Support Worker)

'It's everywhere, it's absolutely everywhere. ... It's really rife [amongst Manchester's homeless community]'. (23-year old Male, Street Homeless)

'Every single person I know smokes it'. (Male, late 20s, Homeless GP Drop-in)

'When I used to be homeless, everybody was smoking it'. (21-year old Female, Ex-Homeless)

3.5.1 Motivations and onset of synthetic cannabinoid use

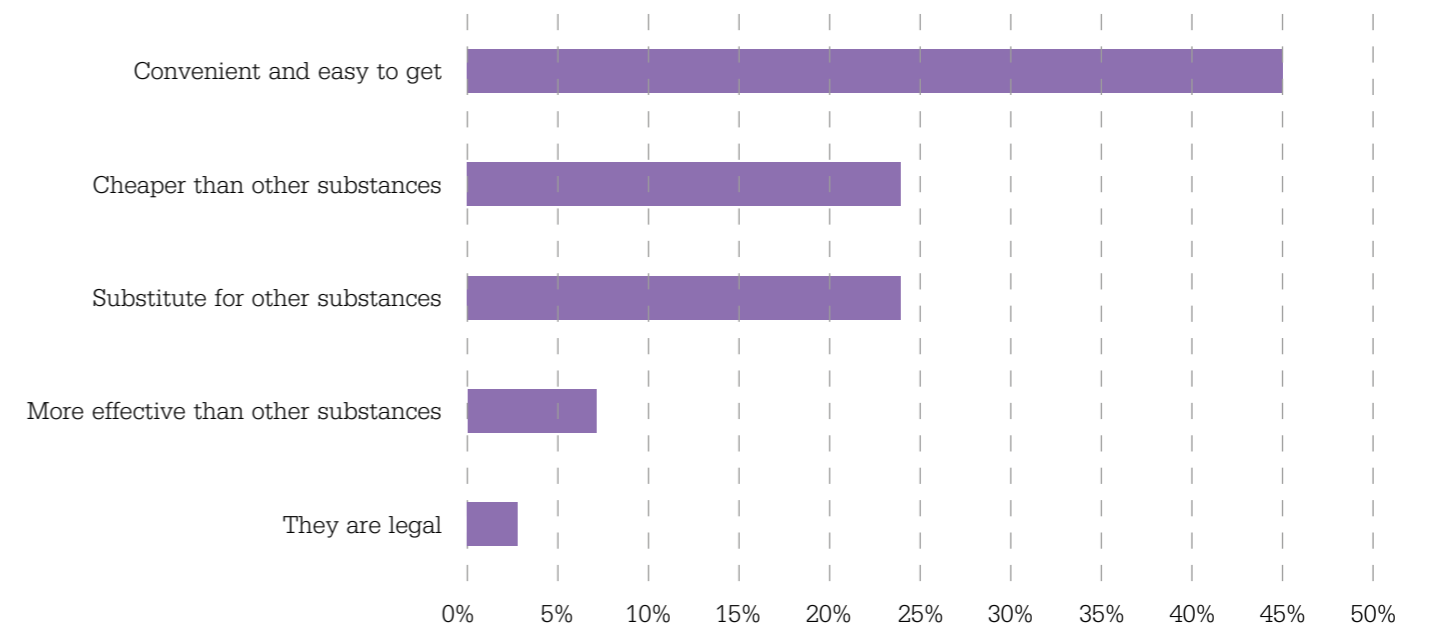
Our current understanding of NPS consumption and the motivations for use is largely taken from: national and international studies of recreational drug using populations (see Winstock, 2011; Measham *et al.*, 2011a; Measham & Moore, 2009; Wood *et al.*, 2012a, 2012b); online surveys (see Carhart-Harris *et al.*, 2011; Global Drug Survey, 2015); household surveys (see Home Office, 2012); or research with young people (see Castellanos *et al.*, 2011; Champion *et al.* 2016; European Commission 2011, 2014). In this section of the report, we turn our attention towards user groups – the homeless and offender populations – who are absent

in conventional research and whose substance use ought not be defined as recreational. In doing so, we document how one particular group of NPS – synthetic cannabinoids – is widely used amongst this sub-population. We describe the primary motivations for the consumption of synthetic cannabinoids in this setting and the impact consumption has upon users' health.

For many of the survey respondents (see Figure 6 p27), the primary reason for using NPS in the preceding 12 months did not appear to be as a result of them being legal (3 per cent, n=1) or more effective than other drugs (7 per cent, n=2). Rather, it was simply because they were convenient and easily accessible (45 per cent, n=13). With this in mind, it is unsurprising that over ninety per cent of those who had used NPS in the preceding 12 months had bought them from a headshop (93 per cent, n=37) and/or newsagent (60 per cent, n=24). Only six (15 per cent) had bought them from a street dealer.

Recent annual Inspectorate of Prisons Reports have highlighted the Spice⁴ epidemic that has spread across the England and Wales prison estate. The prison system is churning out Spice users at an alarming rate. It is estimated that as many as 60 to 90 percent of the 90,000 prison population are regular users, equating to between 54,000 to 81,000 prisoners using Spice at any one time (RAPt 2015). In our research amongst Manchester's homeless community and buyers of synthetic cannabis in city centre headshops, many users who report daily use, dependency and a range of mental and physical health concerns (that we discuss later in sections 3.5.3 and 3.5.4) recounted first being introduced to Spice in custody.

Figure 6: In the last 12 months, what is your main reason for using NPS? (n=42)



I first tried it in Forest Bank'. (23-year old Male, Homeless)
I tried it when I was in prison, and then I've smoked it since then'. (24-year old Male, Homeless)

I chose to use this [Spice] while I was in prison. If I didn't go to prison I wouldn't be on this legal high stuff'. (Male, mid-20's, Synthetic Cannabinoid user, interviewed in City Centre Headshop)

On release from custody many offenders will find themselves living in approved premises, supported housing or in emergency access accommodation. A zero tolerance policy to substance use is often employed that includes drug tests, breathalysers for alcohol use and room searches. The non-detectability of Spice is a key motivation for use in these settings with users often reporting no distinct smell in comparison to the strong, pungent smell of 'skunk' which makes up over 80 per cent of the existing UK cannabis market (Home Office, 2015). Alcohol can also easily be detected on the breath of users.

Most other people we spoke to in the homeless community had first started using synthetic cannabinoids after becoming homeless, due to its high prevalence within the community.

I first started using when I started hanging around with homeless and that'. (18-year old Female, Homeless)

In recent years we have seen the introduction of legislation prohibiting drinking in public places, especially the city centre where most homeless people cluster. Synthetic cannabinoids, unlike skunk cannabis, can be smoked quite openly and blatantly in the presence of Police and PCSOs because it does not have a detectable smell, making it a preferred choice for those spending time in public places, such as Piccadilly Gardens.

City centre spaces also typically host the majority of local outlets that sell NPS. Until the recently introduced *Psychoactive Substances Act 2016*, many headshops and newsagents sold synthetic cannabinoids for £10 per 1 to 1.5gram pack. Many also offered deals, such as, three packs (between 3 and 4.5 grams) for £20. In comparison, a typical £20 deal of skunk cannabis contains 1.2 to 1.5 grams. In addition, due to the potency of synthetic cannabinoids – often reported to be 50 to 100 times stronger than skunk cannabis – a much smaller amount is required per 'joint', making synthetic cannabinoids particularly appealing for economically disadvantaged groups including vulnerable young people, the homeless community and recently released offenders.

When speaking to users in approved premises who were under license conditions and practitioners who worked with them, the same reasons synthetic cannabinoids are popular in custody – their non-detectability in Mandatory Drug Tests coupled with the addictive qualities we discuss in section 3.5.3 (see Ralphs *et al.*, 2016) – were discussed as key factors in the continued use of NPS beyond the prison environment. The following member of staff from an approved premises describes a typical drug testing scenario and how some NPS are not detectable.

'For instance, this morning [when I came on shift] it was handed over to me that somebody was under the influence of something last night. ... So we got him down [from his room] and drug tested him. Our drug tests show cannabis, benzo's, amphetamines, methamphetamines, opiates and cocaine. ... While I was actually testing him this morning, he was clearly under the influence of something, he could hardly sit up in his chair, he was slurring his speech, he was sort of falling forward asleep and then falling sideways asleep. [But] he come back negative for everything, which would probably indicate that he's been using legal highs'. (Approved Premises Staff)

As we highlight in sections 3.6, 3.7 and 3.9, our findings suggest that the consumption of synthetic cannabinoids presents particular problems for the offender population and the management of them, both within and beyond the prison environment. As we discuss in section 4.3, further research is required to understand the impact of NPS in local approved premises and custodial settings. We now turn our attention to the reported problematic use of synthetic cannabinoids amongst vulnerable users.

Case Study 1: Jade⁵

Jade is an 18-year old girl who describes herself as having had "a bad childhood", running away from home on several occasions and spending periods of time in care. Since the age of 17, she has been surviving as a 'rough sleeper' on the periphery of Manchester's homeless community and it is through her contact with the homeless that she was introduced to Spice. Initially she smoked it because it made her "feel warm", helping her to sleep and temporarily forget her problems. However, she admits she quickly became addicted, getting into a pattern of "sleep, wake up, joint, sleep, wake up, joint – that was it". At one point she was being hospitalised 3 or 4 times a week, sometimes even twice in the same night, having been found "passed out on the street". Jade is aware of the dangers of Spice, both to herself and to the homeless community as a whole "It's slowly killing us" she says, "It's slowly killing me in my head". She wants to stop using but finds withdrawal symptoms difficult to deal with – "you're shaking, you got a headache, you got a bellyache, you can't sleep, you're proper wide-awake, it's horrible, it's really horrible". During one withdrawal episode she got so 'rattled' she physically assaulted a 13-year old boy, something which she regrets and claims is totally out of character. To fund her addiction she admits to having stolen from her family and has resorted to prostitution to pay off 'debts'.

Unsure as to what services were available to her, Jade has sought help but this has so far proved unsuccessful. She originally approached ADS but was told she was too young. She now has an appointment with 42nd Street but this has been a long time coming; "I've been waiting since I was 16 for all this counselling stuff, now

I'm nearly 19 and it's only just coming through". The supported housing scheme in which she currently has a place is actually increasing her likelihood of using because "everyone there smokes Spice – literally I cannot get away from Spice there". Jade relates how those in the homeless community, who used to "stick by each other", are now attacking and stealing from one another – "like battering someone to get spice, they'll just batter him because he's got spice, and rob it off him". Having seen numerous assaults and even witnessed someone die on the street, Jade has to live with the fear of being attacked and of dying. As she says – "I've had a lot of bad experiences. It's horrible. Spice has made my life hell really".

3.5.2 New psychoactive substances, same old problematic users

'It [Spice] has replaced a lot of other drugs. I've had three and a half, four years homeless on the street and a lot of my friends have given up heroin and crack addictions, and they now smoke the Spice. I'm the same. I've given up an alcohol, crack and heroin habit and I just smoke Spice. I give up cannabis as well'. (Male, mid 20's, Supported Housing)

The research identified that the highest prevalence and problematic use of NPS – primarily synthetic cannabinoids, referred to generically as Spice – is amongst the same vulnerable groups that have traditionally been associated with problematic Class A substance use. Indeed, many dependent users of synthetic cannabinoids referred to past problematic use of other substances, typically heroin and crack cocaine. The highest levels of reported problematic NPS use in Manchester centered on the homeless community, and those recently released from prison and living in supported housing or approved premises.

Evidence of the health harms associated with synthetic cannabinoid use within general population samples has recently emerged from several countries. Their consumption has been linked to a wide range of negative physical and mental health effects, including: addiction; aggression; agitation; muscle spasms; 'fitting'; seizures; depression; hallucinations; paranoia; psychosis; self-harm; and suicidal thoughts (Barratt *et al.*, 2013; Bebart *et al.*, 2012; Castellanos *et al.*, 2011; Every-Palmer 2011; Harris & Brown, 2013; Hurst *et al.*, 2011; Thomas *et al.*, 2012; Van der Veer 2011; Zimmerman *et al.*, 2009). A further compounding issue is that many users report that the effects are variable and unpredictable, even when using the same brand of synthetic cannabinoid (see Castellanos *et al.* 2011). While this body of research has usefully highlighted the harmful physical and mental health effects of synthetic cannabinoid use, they were undertaken with general population users. To date, there is a dearth of in-depth research exploring how synthetic cannabinoids affect more vulnerable groups in society, such as those in the homeless community; a group

that has traditionally exhibited higher than average levels of substance use dependency and mental health needs (see Homeless Link, 2014).

The *Homeless Link's 2014 Health Audit* revealed that 66 per cent of the 2,500 homeless people surveyed reported they were recovering from a drug (39 per cent) or alcohol (27 percent) problem. The audit also found that poor mental health was a significant contributing factor to substance use with 80% of those surveyed reporting at least one mental health issue, and almost all of these reporting the use of drugs and/or alcohol as a coping strategy (Homeless Link, 2014).

'They'll just have a really strong joint ... to help them sleep and just block it out really, block out life's traumas'. (Homeless Day Centre Manager)

Although prevalence and dependence is very high amongst the homeless population in Manchester, the UK's prison population has similarly high levels of drug dependency and poor mental health. The Prison Reform Trust (2016) estimate around three-quarters of UK prisoners have pre-existing mental health problems with many suffering from two or more mental health conditions, and around 20 per cent having four or five major mental health disorders. Indeed, past research has estimated that levels of psychiatric disorders among the male prison population are 14 times greater than in the general population (Singleton *et al.*, 1998). The widespread use of synthetic cannabinoids in prisons has recently been connected to an increase in suicides and incidents of self-harm (Prisons & Probations Ombudsman 2015; Ministry of Justice 2016a).

By focusing on the homeless community, and those recently released from prison and living in supported housing or approved premises, this section aims to increase our knowledge and understanding of synthetic cannabinoids amongst a group that has traditionally exhibited higher than average levels of substance use dependency and mental health needs. We begin this section by exploring the links between NPS use and addiction.

Case Study 2: John

John is a 39-year old male. He is an intelligent, articulate and well-educated individual, self-employed and running his own small company. He has a wide experience and knowledge of drug use having started experimenting when he was 14 years old. For over 10 years, he says he was addicted to heroin and crack but has been free of these for two years, although recently he has been a sporadic user of NPS, particularly synthetic cathinones. Despite describing himself as an ex-heroin and crack addict, he is of the opinion that 'traditional' drugs are 'safer' because their effects are better understood and there are treatments available that help alleviate the symptoms of withdrawal.

3.5.3 The new heroin? Addiction, tolerance and dependence

‘People need to understand the stuff. Understand what it is, and how readily available it is. How easy it is to become addicted to it’. (24-year old Male user)

Emerging evidence has suggested that synthetic cannabinoids are highly addictive and have the potential to lead to drug dependency. Addiction to Spice has recently been identified as a key reason for the high levels of consumption in prisons, with some prisoners describing how their patterns of use were habitual ‘... like a crack addiction’ (RAPt 2015: 4). Furthermore, Baker (2015) reported that 20 per cent of his sample of male prisoners perceived themselves to be addicted to synthetic cannabinoids.

In line with the findings of Every-Palmer (2011) and Zimmerman *et al.* (2009), synthetic cannabinoids were perceived to be more psychologically and physically addictive than other substances. Throughout the research, many drug dependent users of Spice with considerable lifetime experience of heroin, crack cocaine, and a range of other recreational drugs consistently referred to Spice as being more addictive, and resulting in more acute withdrawals than other substances they had been dependent on. Indeed, ex-dependent heroin and crack users unanimously referred to Spice as the most addictive substance, with the most acute withdrawals and ‘rattle’, that they had ever taken.

‘If it can overpower methadone and stop your withdrawal from methadone, it shows you that it’s a powerful fucking drug’. (35-year old Male, ex-heroin user, Approved Premises)

‘I was addicted, very addicted, I was bad. It was hard to get out of, really hard. It’s the hardest thing I’ve ever had to do. ... Spice is definitely the most addictive [substance]’. (27-year old Male, ex-Heroin and Crack User, Approved Premises)

‘Crack heads and heroin addicts have come off crack and heroin to smoke Spice, and now they can’t stop smoking Spice’. (18-year old Male, Supported Housing)

‘I was smoking it for about 12 months, 18 months. I used to smoke all day every day, and I used to spew up all the time. I lost a lot of weight. I looked like a crack-head, like a full on crack-head. ... I could just feel my body completely like spewing up pure green chemicals. It was just like toxic waste.’ (24-year old Male, Homeless)

‘I’m addicted to Annihilation [a synthetic cannabinoid], I’ll go through a gram a day, it’s stronger than any other drug I’ve ever taken. [INT: When you say you’re addicted, what do you mean?] I get sick, sweaty, hot and cold shivers, as soon as I wake up. If I have some, say midnight, as soon as you wake up in the morning, straight away, I’ve got to have it, to sort me right out [INT: How does the addictiveness compare to other drugs?] I’m an ex-heroin user and the feelings are the same, you get no sleep, hot and cold sweats, spewing up, diarrhea, it’s horrible.’ (30-year old Male, Homeless)

Many staff who work closely with users of synthetic cannabinoids also drew parallels with heroin or crack:

‘I see this drug as almost a comparison to heroin, in the way of it’s affecting people’. (Supported Housing Staff)

‘Some are aligning it to heroin withdrawals, so the flu like symptoms, the stomach cramps, the sweating, the irritability’. (Homeless Day Centre Manager)

Yet despite the strength of synthetic cannabinoids – often stated to be 50 to 100 times stronger than even ‘skunk’ forms of cannabis – many Spice users reported building up high levels of tolerance, with some reportedly using up to between five and eight grams a day.

‘I first started at half a gram [a day], and I’d probably get about 30 spliffs out of it in prison. ... [Now with] the tolerance, I’m up to smoking seven grams’. (Male, 20’s, Supported Housing)

‘When I started smoking it, I only had to put a little bit in it. ... [But] by the time I was coming off it, I was putting half a gram in a spliff’. (23-year old Male, Young People’s drop in, ex-Spice user)

As we discuss in section 3.5.6, finding the funds to pay for their daily consumption of synthetic cannabinoids led many users to commit crime. Indeed, as users’ tolerance increased, many found themselves spending up to £50 a day; an amount that they would have previously used to fund a heroin or crack addiction. The recent doubling in price of synthetic cannabinoids, as a result of the implementation of the *Psychoactive Substances Act* (see section 3.11), will no doubt lead to an increase in the types of criminality we outline in section 3.5.6. Alternatively, given the increase in price we may see a shift to other drugs such as heroin amongst this user group and the possibility of a new generation of young heroin users emerging.

Daily use was common with many users reporting using to prevent unpleasant side effects which they attributed to withdrawal symptoms. These typically included: problems with sleep; excessive sweats; loss of appetite; hallucinations and paranoia; severe stomach cramps; diarrhoea; and vomiting.

‘I have problems sleeping if I don’t smoke it. I can’t sleep at all. ... you’re proper wide-awake, do you know what I mean? Like real wide eyes, it’s horrible, it’s really horrible’. (18-year old, Rough Sleeper)

‘You get no sleep. Hot and cold sweats, spewing up, you’ve got diarrhoea’. (30-year old Male, Homeless)

‘It’s horrible. Hallucinations, stomach cramps, shits, being sick, can’t eat nothing, paranoia, everything’. (35-year old Male, Approved Premises)

‘Stomach cramps, puking, sweating and hardly sleeping’. (Male, late 20’s, Homeless GP Surgery Drop-in)

‘Always sick blood. It’s just because you’ve got nothing else in your stomach, that’s all it is, your stomach lining’. (18-year old Male, Supported Housing Focus Group)

‘I’ve bent over like that, and literally, my body just shut down. I couldn’t move. I could only move my eyes for about half an hour’. (22-year old Male, Supported Housing Focus Group)

‘It messes with your cognitive functions and like your motor skills, actually moving’. (Male, 20’s, Supported Housing)

For many users, the quick build-up of tolerance, coupled with the acute effects of withdrawal symptoms, led quickly to dependency. Indeed, the need to use to feel well, and the cravings to use, were comparable to the narratives of heroin and crack users.

‘It just rules your life. If you’ve not got your Spice, bollocks to everything else. Food, what’s in the fridge, nothing matters in the world’. (Male, 20’s, Supported Housing)

An interestingly finding to emerge from the *Homeless Link* Survey is that, when those who had taken NPS in the preceding 12 months were asked to identify what single area NPS had negatively impacted upon the most, just over a quarter (27 per cent, n=9) identified relationships. Only 24 per cent (n=8) identified their physical health. This is in direct contrast with the evidence from the qualitative interviews here, with users repeatedly emphasising the highly addictive nature of NPS (primarily synthetic cannabinoids) and the impact they have upon their physical health. Bearing in mind the fact that around four fifths (79 per cent, n=33) of those who had used NPS in the preceding 12 months claimed to be using NPS at least 5 days a week, combined with the qualitative findings we report in sections 3.5.3, 3.5.4 and 3.5.6, it is noteworthy that only around half of the NPS users (51 per cent, n=20) perceived themselves as having a drug problem. Moreover, of those who self-identified as having a drug problem, nearly two thirds (65 per cent, n=13) were not receiving any type of support/treatment to help them with their drug problems, despite wanting the help. We discuss the reasons for lack of service engagement in section 3.8.

Bearing in mind the addiction and dependence outlined above, it is perhaps unsurprising that deaths involving NPS often make the headlines, heightening the public’s perception of NPS as potentially life threatening. However, official statistics on drug deaths present a different picture. Between 2004 and 2013, there were 76 deaths involving any NPS not controlled under the *Misuse of Drugs Act* (ONS 2016). While in recent years NPS-related fatalities have increased – with a rise from seven NPS-related deaths in 2011 to 18 in 2014 (ONS 2016) – over the same period, there were more than 100 times as many deaths involving heroin or morphine (7,748) and more than 20 times as many deaths involving cocaine (1,752) (ONS, 2016). In contrast to national NPS-related deaths statistics, the research revealed many examples of NPS-related deaths perceived to involve synthetic cannabinoids, with almost all users within the homeless and supported housing communities able to recount at least one person they had known whose death they attributed to synthetic cannabinoid use.

‘I’ve seen two people die off it ... from having a fit through Spice, and them not being able to come out the fit’. (Male, mid 20’s, Homeless day centre drop-in, Synthetic Cannabinoid Dealer)

‘I’ve had people die in my house on it [synthetic cannabinoids]’. (Male, 20’s, Homeless GP surgery drop-in)

‘I’ve seen three people die off this stuff’. (Male interviewed in a City Centre Headshop)

‘I’ve actually seen someone die. Police were zapping him, trying to get him back to life’. (18-year old Female, Homeless)

‘My mate died in front of me on it’. (23-year old Male, Homeless)

‘I watched about five people die off that [Vertex]’. (18-year old Male, Supported Housing Focus Group)

3.5.4 ‘It’s mad, proper crazy’: NPS use and mental health

‘I think mental health problems and NPS usage go hand in hand, definitely. If you haven’t got mental health problems then you probably will do after smoking spice’. (Homeless Charity Coordinator)

There is currently only limited international research (Barratt *et al.*, 2013; Bebarta *et al.*, 2012; Castellanos *et al.*, 2011; Every-Palmer 2011; Harris & Brown, 2012; Hurst *et al.*, 2011; Thomas *et al.*, 2012; Van der Veer 2011; Zimmerman *et al.*, 2009) on the negative impact of synthetic cannabinoid use on users’ mental health. However, given that high levels of substance use dependency, mental health illnesses and dual diagnosis are prevalent amongst those in the homeless community and the adult prison population, the high levels of synthetic cannabinoid use reported in this research within these groups is particularly concerning. A Home Office review of NPS identified a range of negative psychopharmacological effects associated with synthetic cannabinoids including anxiety, severe depression, self-harm, paranoia and psychosis (Home Office, 2014). Our findings support this, with users attributing a variety of mental health effects to their use of synthetic cannabinoids.

‘As soon as you become addicted to it, your brain goes completely fucked’. (24-year old Male, Rough sleeper, Young people’s homeless drop-in)

‘I started hearing voices. ... I thought I could send messages and that through my own mind without speaking, it was horrible, ... I went off my head’. (30-year old Male, Homeless)

‘Anxiety, depression, anger. ... I don’t think I had anxiety before smoking Spice me, I really don’t’. (22-year old Male, Supported Housing Focus Group)

‘Heavy bouts of psychosis and depression, crippling depression. ... It’s mad, proper crazy, like a whole different dimension’. (Male, mid 20’s, Supported Housing)

‘After about half an hour [after using], that’s what you’re left with, just a real acute does of paranoia’. (Male, late 30s, ex-user of ‘Spice’ and weekly user of ‘Ice’n’berg’)

‘You may as well just get a syringe of paranoia and whack it in your vein. That’s what I felt like after a couple of drags of Spice’. (Male, late 30s, city centre headshop)

Those users we interviewed that disclosed existing mental health problems prior to using synthetic cannabinoids, consistently acknowledged that their use of synthetic cannabinoids intensified these issues.

I've got mental health problems anyway, previous to the Spice, but the Spice has amplified them'. (24-year old Male, Homeless)

I've got paranoia and anxiety [anyway] but it [Spice] makes it a lot worse'. (22-year old Male, Supported Housing Focus Group)

Recent reports from the Inspectorate of Prisons for England and Wales (HMIP 2014, 2015) and the Ministry of Justice (2016b) have all linked the rise in self-harm and suicides in custodial settings with an increase in the consumption of synthetic cannabinoids. Our findings provide further support for this association. Users often described episodes of self-harming or suicidal thoughts after consuming synthetic cannabinoids.

I've had a few episodes where I've hurt myself, self-harmed and that'. (24-year old Male, Rough Sleeper, Young people's homeless drop-in)

I slashed all my arms because of it'. (30-year old Male, Homeless)

I could feel my head going. I was getting quite concerned. I was self-harming'. (27-year old Male, Approved Premises)

If you don't have a spliff of it [Spice], it can make you think in your head that you want to commit suicide. ... I've gone to jump off bridges and everything'. (Female, 20s, Young people's homeless drop-in)

Really vivid thoughts, suicidal thoughts'. (Male, 20's, Supported Housing)

It is important to note that many of the people we interviewed are living in conditions that are likely to lead to poor mental health or to exacerbate existing mental health conditions. The same can be said for those using synthetic cannabinoids in custodial settings. Nevertheless, as we noted earlier, some international studies have started to evidence the capability of synthetic cannabinoids to initiate mental health issues in otherwise healthy young adults (see Castellanos *et al.*, 2011).

Case Study 3: Tom

Tom is a 24-year old male. He is currently homeless and sleeping rough in Manchester. He is addicted to synthetic cannabinoids, having started smoking it three years ago whilst in prison, "because it ... helped me to get to sleep in there". He claims to suffer from numerous mental health problems; PTSD, anxiety, severe depression and possible Asperger syndrome, which, he says, he "had previous to the Spice, but the Spice has kind of amplified them". Tom has sought help to come off the substance but says there is nothing available, "they don't know what to do with you ... so you get passed round from pillar to post in circles".

3.5.5 Mental health support needs

Despite the high usage rates, the evidence of chronic addiction and dependency, and the negative physical and mental health effects of synthetic cannabinoid use, only a small minority of those we interviewed were engaged with any kind of mental health or substance use treatment services. This finding was supported by the survey of individuals engaged with Homeless Link (see section 3.5). Out of the 33 respondents who claimed to have used NPS at least five days a week for the previous 12 months, only seven were receiving support/treatment to help them with their substance use.

Bearing in mind the negative impact of synthetic cannabinoid use described above, it is concerning very few of the users that we interviewed for this research were accessing any form of support or treatment at the time they were interviewed. As we illustrate below, several had tried but waiting times had deterred them from accessing support. These experiences had put others off from trying to access support. However, the difficulty in accessing mental health support services is not restricted to those with problematic substance use. Indeed, the recent *Mental Health Lightning Review* from the Children's Commissioner (2016) found that many young people are unable to access the mental health services and support they need. Nonetheless, as highlighted in the previous section, given the high levels of substance use dependency, mental health illnesses and dual diagnosis amongst those in the homeless community, the inability of this particular group to access timely mental health support is particularly concerning.

I'm suffering from PTSD, anxiety, depression, severe depression and I'm still waiting for a full mental health assessment. I've been waiting for a couple of years [now]'. (24-year old Male, Homeless)

I'm waiting for referrals, all these referrals! I've got an appointment on the 11th, and I'm like "Yes!" because I've been waiting ages for it. I've been waiting since I was 16 ... and I'm 19 soon and it's only just coming through'. (18-year old Female, Rough Sleeper)

The length of time it takes to access mental health support services in Manchester was also commented on by a number of practitioners and staff from substance use support agencies.

[INT: Do you send people to [mental health support agency]?] *No, because it takes 6 months to get on the waiting list'. (Support worker for Young Homeless)*

The waiting list is months and months long. ... The waiting list at [mental health support agency] is fairly prohibiting'. (City Centre GP)

The difficulties around accessing mental health provision for NPS users is exacerbated by mental health services' apparent reluctance to engage with those NPS users who are exhibiting mental health problems as a result of their substance use.

'Mental health look at it as a drug problem and not a mental health problem. ... Patients are presenting with mental health symptoms as a result of drug misuse, ... and then you get this half an hour assessment and told to go on your way to drugs services. I think that's the depressing thing that will emerge. There will be people with loads of mental health problems as a consequence of this [NPS], and no one will see it as their role'. (City Centre GP)

'The homeless mental health team that comes here, that is commissioned, ... If you've got diagnosed with schizophrenia and starting to use substances, fine. But if you're one of these young people, ... the classic individual who had a diagnosis of ADHD during childhood, and been lobbed from services, [but is] now taking legal highs, you don't get a mental health service, nobody is interested'. (City Centre GP)

These comments are at odds with information we received from out-patient psychiatry, community mental health teams and acute home treatment teams who were consistent in stating that they will not reject a service user due to their substance misuse alone. In light of the disparity of stakeholder's views in relation to the current level of mental health service support for substance users, we suggest a review of existing channels of communication and referral pathways (for further discussion see sections 4.2.3, 4.2.4 and 4.2.5).

In consideration of the findings presented here in relation to drug dependency and perceived addiction, mental and physical health effects, and several deaths that were widely attributed to synthetic cannabinoids, we suggest a need for improved recording, greater public health surveillance and awareness, targeted public health messaging and service innovation (see sections 4.1 and 4.2).

3.5.6 Scary Spice? The relationship between synthetic cannabinoid use, crime and disorder

I got a lad inside and he got [into] £200 debt. And this lad had two kids in his pad with two razorbldes, and obviously if someone's going to go for your face, you hold your hands up. I got to see his arms, all his arms and all his face, he's got a cut from his eye right down to his chin, for £200 worth of Spice'. (18-year old Male, Supported Housing Focus Group)

Since 2012, Her Majesty's Inspectorate of Prisons annual reports (HMIP 2014, 2015) have consistently identified a causal link between NPS consumption and an unprecedented increase in serious assaults in adult male prisons.

'The increase in the use of new psychoactive substances was a significant factor in the increase in violent incidents in many prisons – either directly as a result of prisoners being under the influence of these drugs or in increased bullying due to drug debts'. (HMIP, 2015: 34)

In addition, the Ministry of Justice recorded a 36 per cent increase (from 3,640 to 4,963 incidents) in violence against staff between 2015 and 2016, which they primarily attribute to NPS use (Ministry of Justice, 2016b).

Although research is now starting to further investigate the relationship between NPS use and violence within adult prisons (see, for example, Ralphs *et al.*, 2016), there is currently a gap in existing knowledge regarding the relationship between NPS use and offending behaviour in the community. Does NPS use lead to increased levels of violence and/or criminal behavior, such as robbery or acquisitive crime? The findings from this research would suggest that it does, particularly in relation to the use of synthetic cannabinoids and the homeless community in Manchester. The incidents recounted to the research team included: violent behaviour and physical assaults; sexual assault and sexual exploitation; and robbery and acquisitive crime. Each of these will now be discussed in turn.

Users of synthetic cannabinoids often recalled witnessing changes in personality that they attributed solely to problematic NPS use. Furthermore, a range of staff from services and agencies that are in daily contact with regular users of synthetic cannabinoids repeatedly discussed seeing users' personalities change from passive to aggressive as a result of their NPS use.

'A lot of people have been turning more violent and aggressive. ... I know plenty of people who have lost their temper through it'. (Male, 20's, Homeless GP Surgery Drop-in)

'One particular client, he really changed, ... made some awful threats to staff. ... And he wasn't like that normally. I think he used spice for about five to six weeks, and in that period he just really changed his personality'. (Supported Housing Manager)

'We get people who previously were really passive ending up being aggressive'. (Young Homeless Support Worker)

'People can get very aggressive on it. I don't know if you saw the lad shouting in the centre earlier. Generally he can be alright, but he isn't when he's smoked Spice, he can become quite shouty and quite aggressive'. (Homeless Day Centre Manager)

In addition to the changes in personality, many of those interviewed also discussed how quickly they, or users they knew, would get aggressive and violent if they were unable to obtain any synthetic cannabinoids. This ranged from threats against shop staff who sold NPS through to violent confrontations between users. Indeed, the research team witnessed several violent incidents whilst attending city centre drop-ins.

'You see them all here now, very personable, polite. Just wait until they don't get what they want or we are out of stock and they switch instantly. You can see it in their eyes, they become all aggressive'. (City Centre Headshop Staff)

'If you don't give them [other users] one joint, then 'bham' straight in your face for no reason'. (18-year old Female, Homeless GP surgery drop-in)

'They'll be just sat there, literally won't have even know the guy, and they'll just batter him because he's got Spice, and rob it off him'. (18-year old Female, Homeless)

'If they've not got it, they'll stab you for it, they'll batter you for it'. (Male, 20's, Homeless day centre drop-in)

'They're slashing people up. That's how far people are willing to go for Spice. ... I've seen a man get stabbed in the neck over a bit of Spice'. (27-year old Male, Approved Premises)

'We [the homeless community] used to stick by each other, we used to be literally like "If someone messes with you, you got to mess with all of us". ... And now, [we're] literally lifting each other for the Spice'. (18-year old Female, Homeless)

'People do things [now] that they would never have done, ... like rob off your friends. ... And you know you're leaving him sweating tonight because you're taking it. But I need it, either he's sweating or I'm sweating'. (22-year old Male, Supported Housing Focus Group)

'I get robbed every single night from Spice, my money and everything, it's horrible, it's really horrible'. (18 year old Female, Homeless)

Case Study 4: Jake

Jake is a 23-year old male and currently homeless. His first 'legal high' was Salvia, which he took whilst in the detox wing of HMP Manchester. He had previously been a heavy user of cannabis but on leaving prison he started using Spice because it was easy to obtain and half the price of cannabis.

Jake believes he became addicted to Spice in the course of a single day and after smoking only 2 grams of the substance. He reports that on the following day he suffered significant withdrawal symptoms; nausea, stomach cramps, sweats and cravings. Within 4 days he had progressed to consuming over half an ounce of Spice a day. The drug turned him into a violent person – "if I didn't have 3 grams for my breakfast, someone's getting hurt... and I'm not that sort of person, I'm not a violent person usually".

Comparing Spice to cannabis, Jake says Spice is "1000 times stronger" and, while a "spliff of bud chills you out, a spliff of Spice knocks you out, ... like being hit by a truck". He used the drug for around 18 months and says he believes some of the chemicals accumulated in his system. He found that over time he began vomiting 'green chemicals' whenever he smoked it. He claims he managed to wean himself off Spice by locking himself away for 3 days and smoking weed to help cope with the withdrawal symptoms, although he admits he still has a mental craving for the substance. According to Jake, the way to stop people getting into legal highs is to legalise cannabis. He states that until that happens, there will continue to be "people dying and dying and dying".

In addition to the violence outlined above, interviewees also discussed the risk of sexual assault faced by young homeless females whilst under the influence of synthetic cannabinoids. Some female interviewees also discussed how they exchanged sexual services to fund their use.

'Once you've had Spice, that's it, you're vulnerable, because you can't move, you can't do nothing. Especially for a girl. Especially in town, with all them dirty bastards in town. I know a few guys who have already done it, took advantage of a girl, spiced her up bad'. (Male, 20's, Homeless day centre drop-in)

'I've got to prostitute myself tonight because I owe people a lot of money, a lot of money'. (18-year old Female, Homeless GP surgery drop-in)

'I've slept with people through it, I had to'. (18-year old Female, Homeless)

With regard to how users fund their daily use of synthetic cannabinoids, users and staff from a range of services and agencies talked of users committing a variety of acquisitive crimes and anti-social behavior in the form of begging.

'The majority of people [users] have to commit crimes, the others sit down and beg.' (Male, 20's, Homeless GP surgery drop-in)

'Begging is a huge thing, that's how a lot of people fund it'. (Supported Housing Manager)

'They [users] are going and stealing DVDs, games, whatever. [Then] going into various places, pubs, getting money for it, and then going and getting the product'. (City Centre Police Officer)

[INT: So are people committing crime the same way they would have done with heroin?] *Yeah, yeah. A lot, a lot. Shoplifting, car theft, robbing all sorts. I've seen people do all sorts'. (35-year old Male, Homeless, ex-heroin user)*

In addition to the acquisitive crime that often characterises the behaviour of those addicted to Class A substances, there were frequent accounts of homeless users stealing from each other. As highlighted above, although these incidents are often violent, perhaps more devastating for the homeless community itself is the fact that dependent homeless users now appear to be breaking unspoken codes that have traditionally existed within the homeless community.

homeless community in Manchester, with specific concerns raised around the vulnerability and safeguarding of a small number of young female homeless users. We now turn our attention to the impact that synthetic cannabinoids and other NPS are having on a range of supported accommodation, including emergency shelter, hostels, bed and breakfast, supported housing and approved premises.

3.6 Taking the strain: The impact of NPS use on services within Manchester

'Look at the cost of NPS. If you did ... the costs all the way through from the various different interventions it would be thousands, absolutely thousands of pounds, ... from one person'. (Prison and Probation Worker)

This section highlights the impact that the high prevalence of NPS is having on services and agencies within Manchester. In particular, it illustrates the perspectives of those policing in the city centre, working for the ambulance service and in A&E departments, along with a whole range of services/agencies that currently find themselves working with NPS users – including, for example, prisons, probation, day centres, hostels, supported housing and approved premises.

Throughout the research, staff that we interviewed were keen to highlight the problems that NPS use is causing within their service/agency. Problems that are exacerbated by the physical effects of NPS, such as fitting, respiratory problems, vomiting, losing control of bowel functions, etc. (see section 3.5.3 on effects). In many interviews, staff recalled occasions where several users would be experiencing these type of effects concurrently, thus stretching resources to the limit. This was particular a concern during the night when staffing levels were often reduced.

'I manage a large homeless hostel for offenders and the level of legal high use is very high. ... It causes us all sort of issues'. (Supported Housing Manager)

'It does have an impact because you have to heavily staff various parts of the service. Like the garden for example. Whenever them doors are open for a smoke break we always have to make sure its heavily staffed out there ... [because] people just randomly collapse'. (Day Centre Manager)

'It [NPS] causes massive problems. ... It's stretching our resources because we're a really small team ... and a lot of the time when someone presents and their under the influence [of NPS], we have to drop all the other stuff and do that. I mean, we're overworked as it is'. (Young People's Street Homeless Practitioner)

'When we've got somebody who's using Spice, they'll often go outside to use it, and because it has such a fast hit, we'll often find them collapsed outside the building. It generally takes two staff members to bring them back into the building, maintain observation, so it takes a lot of staff time, [especially] if you've got quite a few people using in one day'. (Supported Housing Manager)

'You've either hardly got anyone using it [NPS], or loads. Because they all group together, and they all seem to go "Ooh, maybe try this" and then you've got, say five people, you're having to deal with. ... It's very time consuming, ... it's hard work'. (Residential Social Worker)

Staff working in supported accommodation would also often report cases of residents becoming violent, with staff often attributing residents' behaviour to the effects of NPS (see section 3.5.6). Indeed, the propensity of synthetic cannabinoids to make users unpredictable, aggressive and violent was reported to such an extent that some services and agencies had to withdraw previously offered support.

'There's a load of support workers who wouldn't work with anyone at [substance use service] because of them smoking Spice and the risk of them turning violent for no reason whatsoever'. (Homeless Outreach Volunteer)

'Quite a few people are scared to go out and do the outreach work with them [NPS users]. I know I am. That's why I stopped doing it. I just can't risk it because. ... I mean I've got two friends who have been assaulted and it could have been me on those nights'. (Ex-Homeless Outreach Volunteer)

'We used to do street kitchens on Piccadilly Gardens, [and] one of the reasons we stopped doing that was because of how violent it started getting. ... There was one incident where a woman was knocked unconscious, and a guy ... was about to jump on her head. It was pretty scary, and we all had to stop him obviously. After that we never did another one, we didn't have enough people for that type of thing'. (Homeless Charities Coordinator)

We now turn our attention to the other main sector where the high prevalence of NPS use, and synthetic cannabinoids in particular, is having a detrimental impact: the emergency services. The sale and use of NPS in the city centre has created a significant resourcing issue for the police and the health service, especially the ambulance service and hospital A&E departments. In terms of policing, there was a general consensus among those we interviewed that NPS-related incidents in Manchester city centre have increased considerably in the last year or two.

'It's dealing with the associated ASB that comes with it, the crime that comes with it, the health implications and dealing with people who have collapsed, who are suffering an episode'. (City Centre Police Officer)

'I would say in the last two years there has been a three or four-fold increase in the number of incidents related to NPS that we see each week'. (City Centre PCSO)

'I'm just going to use one street as an example. ... In this specific street, in the entire year, 12 months from 1st April 2013 to 31st March 2014, we had 14 incidents. The following 12 months from the 1st April 2014 to the 31st March 2015 we had 99. The following 12 months [1st April 2015 to the 31st March 2016] we had 295. ... 99 per cent of them are to do with NPS and the issues that are coming, stemming from them'. (City Centre Police Officer)

The negative effects recounted by users, and staff from the range of services/agencies that currently find themselves working with NPS users, invariably led to instances where ambulances were called and users were taken to A&E. As with the increased number of NPS-related incidents that the police find themselves dealing with, call outs for ambulances have also increased sharply recently, as has the burden on A&E departments.

'I used to go to hospital about three times a week [as a result of NPS use], and that sounds stupid, but three times a week'. (18-year old Female, Homeless GP Surgery Drop-in)

'There's a lot of times I've been hospitalised. ... I'd be smoking it with people, and I'd wake up in an ambulance on my own. I'd be told I'd been found on my own in a street passed out'. (18-year old Female, Rough Sleeper)

'I've had to call ambulance services a lot more now than I used to, say two years ago. ... I have to do it weekly now, I would say once a week'. (Homeless Outreach Worker)

'We've had to call more ambulances in the last six months than we have in over 20 years of the centre being open'. (Homeless Day Centre Manager)

'Anyone who works in A&E that I speak to, they're like "It's a massive, massive issue". We [the police] just have to stick them in an ambulance, but they are dealing with it at the treatment end'. (City Centre Police Officer)

Yet despite being fully aware of the resource implications of repeatedly calling out ambulances, for many frontline staff, it is the severity of the harmful effects of NPS, combined with the unpredictable nature of these effects (see sections 3.5.3 and 3.5.4), that results in them calling for an ambulance.

'I think with NPS ... we need to be cautious. I don't like taking up ambulance time because you know they've got finite resources, but it [NPS] is an unpredictable drug. So, for example, I think when people fit, there is guidance by the NHS that you wait a certain amount of time, ... but if someone is fitting and on the NPS, I'm not comfortable waiting any time at all because of the unpredictability. ... Which in a way is unfortunate because it's a drain on the NHS resources'. (Approved Premises Manager)

It is important to note here that the resourcing impact of NPS use is not just effecting the police, ambulance services and A&E departments. As we outlined in section 3.5.4, the research uncovered numerous associations between the use of synthetic cannabinoids and mental health issues. The fact that 'nobody saw it coming' highlights the need for a closer monitoring of emerging drug trends, as the following interviewee explains.

'I think there needs to be reviews annually, at least in terms of what the picture is, so that we can keep on top of stuff and so that staff can stay informed and that users can stay informed and services can stay informed. And ultimately, as well, to save lives through prevention, but also to best commission future services to best meet needs. And not only just the needs of the actual users themselves, but also

families, communities, kids and whatever, because we're going to see wider and wider impacts there'. (Prison and Probation Practitioner)

As we discuss in sections 4.1 and 4.3, there is potential to minimise future unexpected burdens on health and criminal justice budgets through the establishment of a (Greater) Manchester annual substance use survey and a local drug information system, which combined, would help to identify emerging substance use trends.

3.7 NPS recording and monitoring

'In terms of tracking something like Spice, it can be very difficult'. (A & E Nurse)

So far, we have provided clear evidence from a number of sources of the prevalence of NPS use amongst specific sub-populations in Manchester (see sections 3.2, 3.3, 3.4 and 3.5). We have also documented above, the impact that NPS use is having on services within Manchester, such as day centres, housing providers, the police and other emergency services. Yet despite this unequivocal evidence of the prevalence and impact of NPS in Manchester, the existing level of quantifiable data to support this is lacking. In this section, we turn our attention to the limitations of existing forms of data collection regarding NPS, and the need to devise a more robust evidence base.

According to Corkery (2013), relevant and regularly updated data are needed from a range of sources (including, for example, emergency departments, ambulance services and GP surgeries) to inform how we work within the rapidly changing NPS environment, and how we can best respond to the issues engendered by problematic NPS use. However, there was recognition that the current recording and maintenance of routine data about NPS is flawed.

'Overdoses. There is a box to tick for heroin/opioids and for alcohol but NPS? No, I don't think there is'. (A & E Nurse)

'It only occurred to me the other week that we don't actually record the information, we don't code it [NPS use], ... it's something we're not doing'. (City Centre GP)

'We are very bad at recording data, we need to improve on this. It would be so much easier if we were electronic but we are not, we still use paper, so unfortunately any kind of audit here is a nightmare because you have to pull out the notes and go through the notes. ... [But] again there's the problem that the doctor might not be recording it properly, the patient might not know what they have taken, or they might not want to tell us'. (MRI Acute Emergency Consultant)

'The police have been slow on the uptake really. ... We don't have a closing code for legal highs ... because it will be that legal highs have caused something else. So it will get recorded under that something else, as opposed to the legal high'. (City Centre Police Officer)

The lack of robust systems for recording NPS-related incidents was not restricted to medical and criminal justice

services. Many services did not systematically record NPS use or incidents, and even where we found organisations that did, these systems were inconsistent and ad hoc with staff themselves admitting a need for improvement. Added to this was the fact that some users, for a range of reasons, chose to not disclose their NPS use.

'I don't know how much it's getting recorded. Plus, people aren't admitting when they're on Spice either now ... because the hostels won't let you in with it, and people won't give you referrals to housing ... job workshops and stuff while you're still smoking it. So people just pretend they're drunk or they're taking something else'. (Homeless Outreach Worker)

'That's the one thing we need to kind of keep on top of really. ... We do [currently] do it, it's just the frequency of how we do it. And you can see how chaotic it is, by the time you walk from one end of the hall to the other, you have ten things to do. So yeah, it's just something we need to be more proactive about, making sure we record [NPS]'. (Day Centre Manager)

As the above quote illustrates, many staff are working in chaotic environments. This was something we witnessed on numerous occasions during research fieldwork to drop-ins, GP surgeries, day centres and a range of supported accommodation providers. These chaotic conditions are intensified when dealing with an NPS-related emergency involving psychosis, fitting, overdose, or respiratory problems. Hence, whilst we advocate the need for improved NPS recording systems, we recognise the necessity to do so in a way that does not cause additional burden and strain on frontline staff that are already working to full capacity and dealing with emergencies.

'Everyone knows what you're supposed to do, and how it would be handy to have [NPS-related] information recorded, but actually trying to get that to be the priority of people who make decisions about what goes on their systems, ... it's a job of work that people haven't got the time to do'. (DAAT Manager)

'Data recording is always an issue, especially here because this department is very busy. If you introduce any kind of new recording you know everyone is very reluctant to do it because there's so much paperwork to do all the time'. (MRI Acute Emergency Consultant)

With this in mind, it is clear that the development of more robust recording systems in consultation with frontline staff are required, with careful consideration being given to how this will fit in with their day-to-day roles, and any other data recording and monitoring that they have to conduct. This offers a particular challenge for police and medical services.

Nevertheless, the research did find some evidence of existing monitoring of NPS prevalence and incidents that offer positive signs that developing more accurate data collection is possible. For example, a number of supported accommodation providers and third sector organisations working with the street homeless discussed how they currently monitor NPS-related incidents.

'If we have to send for an ambulance, we've got to do an incident report'. (Young People's Street Homeless Support Worker)

'We've got an incident and near miss form, which we complete. The person that is immediately involved, a member of staff, ... they'll complete the incident and near miss form, which is then passed to me, and I need to complete my bit within 10 days. And I give an account of how we've responded to that situation, so "Did we deal with it appropriately and have we learned from that?" And then I send it off ... to a health and safety hub, and they'll monitor incidents'. (Approved Premises Manager)

As we discuss in section 3.4, despite the claim by SIGMA that outside of London the fastest growing chemsex scenes are in Manchester and Brighton, existing prevalence data on the use of NPS as part of chemsex amongst the LGBT population in Manchester does not exist. However, it is worth noting that, as a result of a recent effort to improve monitoring through the LGBT Foundation, the recording of NPS is improving with the development of substance use screening in sexual health clinics.

'We've started to change the way we monitor things, and we've started to ask more about drugs and alcohol as part of all of our services really. ... We routinely ask the person if they've injected drugs in the past 12 months, and then we ask during the assessment about use of chems during sex. And all of that data is being collected and evaluated by someone at Public Health England'. (LGBT Foundation Manager)

There are also signs that better local identification of substance use, such as chemsex, will be available shortly as 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 (Sullivan, 2015).

The under-reporting of NPS use also extends to the National Drug Treatment Monitoring System (NDTMS). Our research revealed that even when users are accessing services there are problems with the existing recording systems. For example, NDTMS receives data for adults and young people who are accessing structured planned treatment interventions i.e. Tier 3 interventions. However, because of the focus on Tier 3 interventions, the system currently omits data from those treatment providers who deliver non-structured low threshold interventions.

'I've had a few people [involved in chemsex] over the last few weeks, where they've come in, I've spent an hour with them, but we've not gone through the assessment because they've not actually wanted to access structured appointments and support. They're just coming in for a little bit of advice [INT: How would that be recorded?] I don't think that's being recorded'. (Substance Use Practitioner)

‘A lot of what we do with young people around NPS use is not Tier 3 level intervention so it does not get recorded on the NDTMS data’. (Young People’s Substance Use Team)

It was specifically noted how the structure of the TOPs form, particularly questions on offending behaviour, are difficult to align with chemsex user profiles.

‘The TOPs form is completely not a tool to be using in a Chemsex clinic at all. ... The questions on there are not relevant to that group. ... all the [NDTMS] data is wrong’. (Chemsex Substance Use Practitioner)

Substance use practitioners also highlighted a further limitation with the NDTMS data recording system that centred around the current structure of the TOPs forms (Treatment Outcome Profile). Within the core data set, services record drug one, two and three (i.e. primary, secondary and tertiary substance used), defined as:

The substance that brought the client into treatment at the point of triage/initial assessment, even if they are no longer actively using this substance. If a client presents with more than one substance the agency is responsible for clinically deciding which substance is primary.

As we discuss further in sections 3.8, many users of synthetic cannabinoids have previous history of alcohol, heroin and crack dependency. As such, for those who do engage in treatment, the existing approach of recording that includes listing a substance, even if that substance is not been actively used, ultimately results in the under-recording of NPS use on the TOPs forms. This problem is further compounded by polydrug use, particularly when polydrug repertoires include a number of different NPS. This causes specific difficulties in correctly recording the main types of NPS that are commonly used. This is a particular problem amongst the chemsex user group.

‘On the TOPs form, it states your heroin, crack, amphetamines, cannabis, and at the bottom is ‘other’, and then you’ve got the NPS. But if somebody is using three ‘other’ drugs, you can only record one of them. I get that with the chemsex cohort, because they use methamphetamine, mephedrone and GBL. I put the methamphetamine under ‘amphetamine’, but it is in the drop-down box under ‘other’. But if I use that for methamphetamine I couldn’t put mephedrone. So I put methamphetamine under ‘amphetamines’, I put the mephedrone in the ‘other’, but then I can’t put GBL. So I think there probably is a missing data issue’. (Substance Misuse Practitioner working with MSM)

We conclude that in the absence of any immediate signs of changes to the NDTMS TOPs forms, routine data collection on NPS use outside of the NDTMS ‘other’ category is required as current assessment and recording tools do not sufficiently monitor the issue.

It must be remembered, though, that alongside the problems with official data recording systems outlined above, there coexists the problem of non-disclosure of NPS use by users. As highlighted in section 3.8, there is a general lack of

reporting of health issues to GPs or treatment services – mainly due to a (mis)perception they do not have anything to offer. There was also an overall reluctance amongst NPS users to disclose NPS use due to the risk of it impacting negatively upon license conditions and housing tenancy agreements.

Case Study 5: Dr X

Dr X is an acute consultant in the Accident and Emergency Department of a Manchester hospital. He tells of numerous problems that the medical services experience in trying to deal with the effects of NPS. Acute patients may present with serious overdose/withdrawal symptoms but are unwilling to disclose what they have taken as they are afraid of the possible legal or social consequences; “They are worried it will get to their GPs, it will get to their parents, it will get to their work, it will get to social services, they won’t get social accommodation, or it will go on the computer and be there for years”. This not only makes treating them more complicated, but it also hampers the collection of accurate data on the situation, which, he says, is already a problematic process.

He noted that the current system does not allow for recording specific NPS data as, for these types of patients, it only has general categories of ‘intoxication’ and ‘collapsed’. Dr X recognises the importance of accurate data, but admits that more detailed recording would put additional stress on a busy department already “plagued by paperwork”. Case records are still largely paper-based and he believes a fully computerised system would alleviate many problems related to workload and information retrieval.

Dr X tells of the difficulties his department experiences in referring patients on to other health services. For example, he explains that ‘substance use’ and ‘mental health’ are completely separate services that “don’t talk to each other”, so a patient presenting with severe symptoms of psychosis, or ‘spicephrenia’ as medical slang has dubbed this condition, can be refused by both services as they are assessed as being more relevant to the other. This results in the excessive and inappropriate use of acute medical resources and essentially unsuitable treatment of the patient.

A further problem outlined by Dr X, with regard to the effects of NPS, is that of staff training. In large hospital departments, with a high staff turnover and high number of trainees, keeping all relevant personnel up to date is very difficult. The symptoms of NPS withdrawal or overdose can be non-specific and relate to numerous other medical problems, so without proper awareness, staff can fail to monitor or treat patients appropriately. Better knowledge of other services and the creation of a ‘substance misuse pathway’ would, he believes, greatly assist in improving the overall level of help available to these patients.

of under reporting currently exists across a range of services. As sections 3.5.3 and 3.5.4 have illustrated, many users are experiencing a range of physical and mental health issues and report addictiveness and dependency, yet their service needs are not being met due to client perceptions of what services can offer. Furthermore, we have illustrated here that even when users do engage with treatment services or criminal justice and health agencies, their NPS use is often unrecorded. Having noted the lack of user engagement with treatment services and the subsequent under reporting of NPS use, the following sections explore another key focus of the research – the reasons why users are reluctant to engage with services.

3.8 NPS use and service user engagement

‘There are people who we’re seeing on the streets a lot, young people particularly, who aren’t accessing city centre projects and they’re not accessing Lifeshare, they’re not going to the Booth Centre, they’re just staying on the streets, and begging for money for Spice. ... They’re not engaging with any services at all’. (Homeless Case Manager at City Centre Medical Practice)

As the above quote above illustrates, there was an acknowledgement that many NPS users are not accessing the available support on offer. Indeed, throughout the research, we found a clear lack of engagement with treatment services by many regular NPS users. This was despite the acknowledgement by many users that their use of synthetic cannabinoids was causing them a range of problems (as outlined in sections 3.5.3, 3.5.4 and 3.5.6.). While in section 3.5.5 we highlighted the unmet mental health needs of many users and the need for a more integrated mental health and substance use response, in this section we focus on the reasons provided by users and frontline staff for the lack of engagement with the local substance use treatment services.

3.8.1 ‘It ain’t crack or smack’: The reasons why NPS users are not engaging with services

Despite often raising concerns regarding their NPS use (see sections 3.5.3 and 3.5.4 on effects), many users of synthetic cannabinoids that we encountered did not perceive their drug of choice as serious enough to warrant seeking support from either a GP or treatment services.

‘I can’t go to somebody and say “I’m addicted to Spice”. ... [They’ll say] “Well Spice is legal so what are you worried about?”’ (Male, early 40s, Synthetic Cannabinoid User Interviewed in City Centre Headshop)

The stereotypical views that services are just a place for injecting heroin and crack cocaine users provided further evidence for the need for services to better promote what services and support around NPS use they can offer. We came across many young NPS users in particular who viewed treatment services as a place for heroin and crack users or a place to obtain clean needles.

‘Why would I want to go to a place with druggies?’ (Male, early 20s, Homeless)

‘Do you know what they’re for, them drugs services? To give new needles, and I don’t use needles, so why do I need to go there?’ (Synthetic Cannabinoid User, Supported Housing Focus Group 2)

These views were further supported by professionals working with this user group. They discussed how the stigma that is associated with treatment services often acts a barrier to engagement amongst NPS users.

‘The services that are already set up, they [NPS users] think they’re for the heroin users. They don’t feel like it is for NPS’. (Supported Housing Staff, Focus Group)

Moreover, several professionals that we interviewed seemed to hold similar outdated understanding and knowledge of what treatment services offer and what substances they work with.

‘They’re addicted to NPS, so why would they go to somewhere that deals with class A drugs. ... They don’t want to be defined as that kind of drug user’. (Supported Housing Manager)

This separation of their use of NPS and the problematic use of traditional drugs such as heroin and crack cocaine is an interesting finding. Not least because of the many similarities that users recounted between regular, dependent use of synthetic cannabinoids and traditional problematic drugs such as heroin and crack cocaine (see sections 3.5.3 and 3.5.6). Despite the clear parallels around physical and mental addiction, including acute withdrawals and users reporting committing a range of acquisitive crimes to fund their usage, the fact that many NPS users distanced themselves from the traditional profile of a problematic drug user in need of treatment is significant. Added to this, for many users, it was the perception that treatment services lacked the knowledge base to work with NPS users that deterred them from engaging with services.

‘They’ve got nothing to help you because they don’t know what’s in it. ... They don’t know anything, they’re fucking shit’. (Supported Housing Focus Group)

‘I was in A&E because I was on Vertex Space Cadet ... [and] they didn’t know nothing about it ... [and] they didn’t even know where to send me to’. (24-year old Male, rough sleeper, Lifeshare)

‘They [treatment services] don’t know much about it. All they know is you need to stop it’. (24-year old Male, Homeless)

[INT: Have you gone to the GP?] No, because they don’t have anything to help you for it. ... I’ve heard it off other people coming here [doctors], rattling off of Spice and they’ve not got no help’. (30-year old Male, Homeless)

[INT: If you wanted to get off it in the future, would you go to a drug service for help?] No, because I know they don’t really know much about it so I’d probably think “Well you’re just wasting my time as much as I’m wasting yours”. (Male, 20s, UMVP)

The perception that treatment services do not know how to deal with NPS users was further supported by frontline workers, and was often raised during interviews.

[Treatment service name] *don't know* [how to deal with Spice] *and they're the biggest drug service*'. (Support Worker for Young Street Homeless Project)

I'm not entirely sure how much faith I have in any of those services in these issues. ... I don't think there are currently any agencies that would offer practical help'. (Homeless Outreach Worker)

If I go see mental health, mental health says "Oh I don't need to see you, he didn't take that drug with intention of harming himself, he went out and had a good night", and even if they present with signs, clinical signs and symptoms of depression they say "As long as he's taking those drugs I can't assess him". So we are just passing the buck all the time'. (A&E Consultant)

Added to this is the problem that, even where appropriate support services do exist, a number of the users and professionals we interviewed were seemingly unaware of what services and support are available to NPS users in Manchester.

I don't know who's available, and what's available'. (30-year old Male, Homeless)

It's hard to know who to refer to at the moment with Spice. ... There's no one you could directly refer anyone that uses Spice to. Who do you refer to? What can people access? We don't know'. (Supported Housing Manager)

It is a concern that many of the staff we came across who work in services where these hard to engage users with complex needs are presenting have such negative views of existing substance use provision. If these negative views on what is available to NPS users are being inadvertently projected onto this hard to engage user group, by professionals that they trust, then it clearly makes the likelihood of users engaging with services even more remote.

3.8.2 New substances = new needs = new services?

In section 3.4.4 we discussed the need for specialist intervention around chemsex. Likewise, when discussing synthetic cannabinoid use, there were similar suggestions raised during the research. These included relocating NPS support away from traditional treatment services, due to stereotypes and fear of stigmatisation, through to the development of a specialist service and bespoke NPS interventions, including synthetic cannabinoid detox provision and NPS-focused staff who would develop expertise and hold a caseload of synthetic cannabinoid users. We commence this section with a focus on the debates around the need for synthetic cannabinoid specific treatment provision and how that provision might look.

3.8.2.1 'What's on offer that's going to make people come in?'

One of the most frequently cited factors when it came to non-engagement was the perception that treatment services lacked the offer of substitute medication. The lack of a substitute prescription was particularly cited as an issue by users who had previously engaged with services for heroin addictions. These users would compare the treatment offer for heroin with what they perceived to be on offer for Spice.

'What's on offer that's going to make people come in? What's out there to substitute Spice, treatment wise? ... Going into treatment as a heroin user, I know I'm not going to rattle every day [but] for Spice, there's not any of these things, so why am I going to get treatment?' (Male late 30s, Ex-heroin user, current NPS user)

'What is there to substitute my Spice? ... There's a vacuum, there's nothing there for me.' (40-year old Male, User of 'Ice'n'Berg')

'A chemical of some sort [to substitute NPS use] is going to get me to treatment because that's what I know'. (Male, late 30s, Ex-service user for heroin and crack, interviewed purchasing NPS in a City Centre Headshop)

'There's nothing there to get off it. ... You can prescribe a heroin addict with Subbie [Subutex], ... but there's nothing out there [to prescribe to NPS users]'. (23-year old Male, Homeless, Synthetic Cannabinoid User)

Interestingly, the lack of any substitute medication to replace synthetic cannabinoid dependency was also cited as a barrier to treatment engagement by professionals working with this user group.

'For other drugs there's a clear route. If someone's using heroin or crack, it's very easy for me because there's a nice route which I can go down, generally by prescribing alternatives. But [with NPS] there's no clear route. ... It's generally just to motivate them, to ask people to think about their use of legal highs and things like that. ... I don't have any route really for someone who is just using legal highs'. (Homeless Outreach Worker)

3.8.2.2 'There needs to be something that's specific for NPS'

There is an ongoing debate regarding how much services need to adapt when working with NPS users. As we noted in section 1, most – although by no means all – NPS have been developed to mimic the effect of traditional substances and fall within traditional broad categories such as stimulants, hallucinogens, dissociatives and depressants. It is argued by many that the same harm reduction advice, motivational interviewing techniques and psychosocial interventions, identification of triggers and so forth can be applied regardless of the substance involved. While this may hold true for some types of NPS, the case of synthetic cannabinoids seems to be an exception. Despite synthetic cannabinoids being designed to work on the same receptors

agonists (CB1 and CB2) as the active ingredient in cannabis – delta-9 tetrahydrocannabinol (THC) – the effects bear little resemblance to those associated with cannabis. We have already outlined the impact of synthetic cannabinoids on the mental and physical health of users (see sections 3.5.3 and 3.5.4). These wide-ranging effects go beyond the symptoms and harms that the typical cannabis user would present to services with. Indeed, many of the effects discussed by synthetic cannabinoid users are more in line with the physical effects of heroin or psychological effects of crack cocaine. Added to this, is the reported aggression it bestows in users. Because of this, many users and stakeholders have called for a specific intervention to be developed to serve the particular needs of dependent synthetic cannabinoid users.

'I also think [we need] some kind of specialist service for people who are using Spice. ... Because it's not heroin, it's not crack, it's not cannabis, it's a drug on its own, and people who are using it need to talk about how they feel when they're using it, and the withdrawals, and have that support that's maybe linked into like recovery, to look at the reason why they're addicted to things'. (Supported Housing Manager)

'It's quite hard at the moment because they [users] are approaching drugs services and there's not a lot out there to help people through Spice addiction. ... There needs to be something that's specific for NPS'. (Supported Housing Worker)

'People are going to need something to come off it, that's what I say. Because it's not going to go away this, this drug, legal high'. (30-year old Male, Homeless Synthetic Cannabinoid User)

Despite the acute withdrawal symptoms, we came across a handful of users who had managed to cease using synthetic cannabinoids without any support from services. For all but one, they had relied on smoking as much skunk cannabis as they could get hold of and locking themselves away in a room with basic provisions.

[INT: If you wanted to get off it, where would you go to, would you go to the doctors or services?] *Just lock myself in my room and keep myself away from it. All you can do*'. (Daily Synthetic Cannabinoid User, Interviewed in City Centre Headshop)

However, it is important to note that not everybody wishing to address their synthetic cannabinoid use is in the position of being able to 'lock themselves away', as this young street homeless male observes.

'You need to be in a position to detox. You need a roof over your head for starters. You're going to be hot, cold, sweating, you're sick, you shit yourself, ... you can't control fuck all, you can't control your bodily functions'. (24-year old Male, Homeless)

In addition to the physical symptoms experienced by those users trying to cease their synthetic cannabinoid use, some users also discussed a deterioration in their mental health when they stopped using.

'Longest I've been without it? A couple of days and I ended up going mad'. (Male, early 20s, Synthetic Cannabinoid User, Interviewed in City Centre Headshop)

In summary, the views presented here of synthetic cannabinoid users and stakeholders would suggest that services should consider the development of a community based synthetic cannabinoid intervention that included detoxification support. However, subsequent discussion with current integrated drugs and alcohol service providers CGL uncovered existing provision for NPS users, including synthetic cannabinoid use. This provision included extended brief interventions of six to nine sessions for moderate users through to interventions for users with severe dependency, including a range of medication to assist with withdrawal. GCL are also based across a number of different community venues (e.g. libraries). Once again then, we found the need for improved marketing and awareness raising of the existing offer to both users and stakeholders. We stress that this also needs to incorporate a clear referral pathway that includes appropriate and accessible mental health provision (see also sections 4.2.3 and 4.2.4).

3.8.3 The changing profile of injecting users

There are currently clear signs that suggest that an unprecedented change is occurring, whereby some of the 'traditionally' most marginalised and vulnerable user groups in society, who may previously have been introduced to heroin – either whilst serving custodial sentences, or as a result of living on the streets – are currently being introduced to synthetic cannabinoids instead. The result of this change is that, compared to their 1980s, 1990s and 2000s counterparts, the problematic drug use of these groups is now much less likely to be intravenous heroin use. Alongside this, both local and national figures have illustrated a change in the 'make-up' of users of needle exchanges, with approximately two-thirds of those accessing needle exchanges being users of image and performance enhancing drugs (such as steroids) rather than heroin. Furthermore, the emergent chemsex scene and the 'slamming' of crystal methamphetamine and mephedrone has introduced another new user of needle exchanges into the mix. As we discussed in section 3.4, this change in the profile of injecting substance users' needs to be reflected in the provision of needle exchanges and safe injecting information. As we discuss in more detail in sections 3.4 and 4.2, these changes in drug using patterns at both the local and national clearly warrant consideration when it comes to the development of future service delivery within Manchester.

3.8.4 Integrating mental health support and substance use services

'Mental health won't deal with them until they've addressed their substance misuse'. (Homeless Day Centre Manager)

'We can't get a dual diagnosis because they [the mental health services] are saying it's drug-induced psychosis, and they [the substance use services] have to deal with

the drug problem before they [the mental health services] deal with the mental health problem'. (Young People's Substance Use Practitioner)

As these quotes illustrate, one issue that consistently featured in our interviews with both NPS users and a broad range of professionals was in relation to the current level of mental health support available to users of NPS. There was a commonly held view that substance use and mental health teams need to be much more integrated to enable them to better address the many problems and issues (see sections 3.4.7 and 3.5.4) that arise from the problematic use of NPS, in particular synthetic cannabinoids and those substances associated with the chemsex scene.

'Mental health services just do mental health, and drugs services just do drugs don't they? And we know that this individual [the user] lies in the middle'. (City Centre Medical Practice Homeless Case Manager)

'The problem with mental health and substance misuse is, because of the way services are, the first thing they've got to do is reduce substance misuse before they'll do mental health work. But they're both hand in hand'. (Support Worker, Young Homeless)

'I would like to see mental health services work in partnership with substance misuse services, to kind of have a single point of entry'. (City Centre GP)

'Substance use and mental health have become completely separate services and unfortunately [they] don't talk to each other. ... We see this often, ... they haven't got any kind of links or anything, and it's unfortunate because we should be working hand in hand'. (A&E Consultant)

While the findings of this research suggest a need to review current mental health provision for users of NPS, with a view to more integrated mental health and substance use service delivery, as we outlined in section 3.4.7 there was also an identified need for the integration of mental health and counselling support into the current sexual health service support for MSM involved in chemsex. However, the Mental Health Improvement Programme is clear and encouraging evidence that commissioners are seeking to improve and transform the current offer. As we discuss later in the report (see section 4.2.3), we suggest the necessity to convey to stakeholders the new service provision and treatment pathways that the recent commissioning of new substance use and mental health service providers (CGL and the Greater Manchester West Mental Health NHS Foundation Trust). This represents a significant stage in an ongoing process to ensure Manchester's Mental Health and Social Care Trust is stronger and more sustainable and to improve mental health services in Manchester by bringing them more closely together with other health and community services. Furthermore, there was some emerging evidence that recent commissioning to address these concerns was already having a positive effect. During the latter stages of data collection (April 2016), the newly commissioned Manchester integrated alcohol and drug service, delivered by service providers Change, Grow, Live (CGL), was introduced. At the time of writing, this has already led to a number of positive developments between CGL and the Dual Diagnosis Liaison

Service who are part of the Manchester Mental Health Social Care Trust (MMHSCT). A central remit of the Dual Diagnosis Liaison Service is to facilitate mental health and substance misuse services working in a more integrated way. Although the new integrated alcohol and drug service providers were only recently in post, the new structure had already led to positive signs in the development of an improved model of joint working between mental health and substance misuse services. Incorporated in to this is an ongoing programme of Dual Diagnosis Liaison Service led training to 80 CGL staff that focuses on (i) mental health services information and pathways (ii) CBT for psychosis, anxiety, depression (iii) CBT and schema based work for personality disorder and (iv) risk and crisis. The Dual Diagnosis Liaison Service and CGL have also conducted a review of dual diagnosis pathways. This comprises the development of revised guidance on impatient Dual Diagnosis Referrals to the Manchester integrated alcohol and drug service. These care pathways clearly illustrate the pathway of a CGL client into MMHSCT and the pathway of a MMHSCT client into CGL's integrated alcohol and drug service. Other noteworthy developments in partnership working have included the encouragement of MMHSCT and CGL staff to attend each other's meetings and visit bases in order to facilitate more awareness and strengthen the integrated drugs and alcohol and mental health trust working partnership.

Nevertheless, the regular reporting of mental health concerns linked to NPS that cut across vulnerable groups using synthetic cannabinoids, students, clubbers and chemsex users suggests that the potential need for further innovation and efficiency in the use of resources to address the mental health implications of NPS use. The reports of lengthy waiting times for assessments are something to monitor and review. The Dual Diagnosis Liaison Service is currently staffed by two clinical nurses and presently operates as a non-urgent service with appointment dates within 28 days. Existing guidance incorporates quarterly reviews of mental health service response and appointment times. We suggest that the commissioning of new mental health service providers (Greater Manchester West Mental Health NHS Foundation Trust) that commences in January 2017 offers an ideal opportunity to review appointment times and existing dual diagnosis staff provision.

3.9 Training and knowledge

The research identified a clear training need for frontline staff working with NPS users. Indeed, the lack of routine training around NPS amongst some services was particularly surprising. This training need was further evidenced by many of the staff we interviewed during the course of the research actually asking the research team for information and training.

'I was offered one training course about a month ago ... but that's all really. ... I think there needs to be an ongoing training programme offered to agencies'. (Homeless Outreach Worker)

'[INT: Have police officers received training on how to deal with NPS?] No, there is no training. ... I'll honestly hand on

heart say, I don't know where we as an organisation are with education [around NPS]'. (City Centre Police Officer)

It was particularly concerning to learn that GPs and A&E staff also lacked training and knowledge in relation to how to deal with patients that present with NPS use.

'[INT: Do you get any specific training around NPS?] No, no you don't. As a new starter, I found myself explaining what Spice and NPS and these sorts of legal highs were to some of the staff, much more experienced staff than myself. And that's just through having taken an interest in certain documentaries, and then coming across it a few times myself at the A&E now. ... [Although] there's mandatory training that you have to go through [and] some of that includes overdose training, it is kind of the general signs and symptoms, usually of heroin or alcohol overdoses'. (A&E Nurse)

'If they [the tenant] look under the influence [of NPS] we need medical advice before they can [receive their medication] and normally the only medical advice available is the NHS advice telephone line. [But] they really struggle to make decisions because it's such an unpredictable drug, so they'll ... pass it to a nurse, who will pass it a doctor, and you can be talking hours before you get a response. ... A lot of doctors, once it eventually gets to a doctor, will feel confident enough to say "Yes it's safe" or "It's not safe" to take [the medication], ... but some doctors won't feel confident or willing to make a decision and they'll say "Tell them to present to A&E" or "You take him to A&E". We've had a couple of occasions where they've said "Ring an ambulance"'. (Approved Premises Manager)

In addition to this lack of training for key frontline staff, where training around NPS actually *had* been delivered, the research uncovered some clear signs of frustration amongst staff from those agencies and organisations who work with NPS users on a daily basis.

'[Treatment service name] came over here and delivered some legal high training, and there was nothing new that they was telling us that I'd not already told them'. (Young People's Street Homeless Project Worker)

'We have had training on it last year but to be honest I didn't rate it'. (Supported Housing Manager)

It appeared from the interviews we conducted with frontline staff that, when it comes to training around NPS, what they want are practical tips and good practice on how to respond in emergency situations, rather than simply generic overviews of NPS.

'We had some legal highs training ... but it was very much more about the background and how legal highs came about and head shops and stuff like that. ... We're still trying to sort some training really to say to staff what's good practice, what we can do, what things you need to look out for, work with harm reduction, that's the kind of thing we need'. (Supported Housing Manager, 2)

As highlighted in the above quote, it is clear that training needs to move beyond the basic introduction to NPS and

focus more on answering the questions that these frontline staff are asking, such as 'At what stage should we call out an ambulance?' Furthermore, it is clear that any training should include clear guidance on what is current best practice when it comes to working with NPS users.

'What is the best evidence base for what our approach should be for people that are using this stuff? ... That's sort of what I'm looking for. We can upskill staff, and we can make them aware and that sort of thing, but their ability to do something about it, to intervene and make a difference. That's the bit that I really want to see'. (Probation Manager)

As we have illustrated, keeping up to date with the emerging drug trends and how best to respond, clearly presented a number of challenges for a range of professions and service providers. The production of short, two page key information guides was also requested by many practitioners and supported accommodation staff that we interviewed.

'Just signs and symptoms, the things that we can do in terms of treatment, the withdrawal side of things, things to look out for'. (A&E Nurse)

'[I'd like an] idiots guide, 2-pages'. (Senior Probation Officer)

However, when it comes to actually highlighting best practice, or raising awareness of emerging trends and developing appropriate training materials, we suggest that frontline staff working in day centres, hostels, supported housing, approved premises and prisons have much to offer. The research team found many examples of knowledge and expertise amongst these frontline staff because of the high volume of NPS users and incidents that they are dealing with on a daily basis. This knowledge has the potential to be shared and utilised more widely, including by substance use workers and medical staff (e.g. GPs, emergency services and A&E doctors and nurses). For example, it was typical for substance use practitioners (in both adult and young people's services) to note that they only have one or two NPS users on their caseloads. In contrast, as we evidence throughout the report, many of the agencies and organisations who are in daily contact with users have accumulated a wealth of experience.

'It's just one of the recognisable signs [of NPS]. ... If they're coming in frothing at the mouth, you know for a fact [they've taken it]'. (Lifeshare Support Worker)

'One of the things that I found quite helpful when dealing with people on Spice was just to sit them up, give them some water and just say "Look", try and just make them focus on where they are and who they are and the fact that they're going to be okay'. (Homeless Worker)

'We've learnt loads. We've learnt not to react too fast to it because people can come out of it within 5-10 minutes, so we've learnt to observe people when they're under the influence of it, just make them safe. We tend to lay them on their side as well in case they do vomit, and then just keep regular checks on them. ... Then if we do become concerned, or they don't seem to be coming out of it, then we'll contact the ambulance'. (Supported Housing Manager)

There is an obvious need for this firsthand experience and learning to be shared as best practice. We strongly believe that the knowledge that frontline staff have accumulated should be used to inform and develop better training for those who find themselves working with NPS users, including medical staff (e.g. paramedics, A&E doctors and nurses). As we outline in more detail in section 4.1, we propose the setting up of a local drug information system as outlined in recent Public Health England guidance (see Public Health England 2016a; Linnell, 2013). Not only will this help to facilitate this knowledge exchange, it will also go some way to making staff in frontline services feel less isolated and more confident when it comes to dealing with NPS.

3.10 Developing a Greater Manchester local drug information System (LDIS)

I think for all the boroughs in Greater Manchester to come together and have a strategy in terms of managing our drug services to feel equipped in dealing with the problem. I think there's a bit of fear of the unknown for drug services in terms of managing it so basically something that will increase confidence for people that are working with individuals to feel that they are armed to address the issue and it not being this unknown kind of panic'. (Homeless Day Centre Manager)

As the previous section has highlighted, professionals working with these user groups identified gaps in knowledge, isolation, and a lack of clarity regarding best practice and referral pathways. Others expressed concerns that they were unsure if they were doing the right thing when dealing with somebody under the influence of NPS. In particular, a lack of clear guidance and pathways were discussed. In January 2016, Public Health England produced detailed guidance for local authorities, including systems and approaches for establishing a local drug information system (hereafter referred to as 'LDIS'). As we go to recommend in section 4.1, we believe that the establishment of a LDIS that uses consistent and efficient processes for sharing and assessing information, and issuing warnings where necessary, can help ensure good, effective information quickly reaches the right people (Public Health England, 2016).

The establishment of a LDIS, to facilitate the sharing of information on NPS within and between services through a more formal network, would help to overcome many of the concerns we have identified in the preceding section. During the course of the research we learnt of many ways that frontline staff have developed skills in how to deal with users of NPS (see section 3.9). A central function of a LDIS is to inform professionals and frontline staff. Establishing a LDIS would facilitate the sharing of this type of shared learning that would serve to increase staff knowledge and competency across a range of professions that we note are affected by NPS use (see section 3.6). As section 3.7 illustrates, there is a clear need to improve local recording and intelligence and a LDIS would provide a hub to share and develop this evidence base. This in turn, will enable a more effective response.

The establishment of a LDIS would facilitate the early identification, risk assessment and appropriate response to NPS, or other drug related trends or concerns (e.g. adulterated drugs, bad or strong batches etc.). In section 3.5.3, we highlighted that interviewees attributed several deaths to NPS use, particular synthetic cannabinoid use. The systematic approach to information gathering used in the LDIS model also has the potential to assist with drug-related death reviews (Public Health England, 2016). During the course of the research, we encountered significant demand and support for a Greater Manchester LDIS.

'Yeah, that'd be brilliant, I'd love to be involved with it'. (Supported Housing Manager)

'I think that would be a very good idea. ... You spend all your time dealing with it as opposed to thinking "Right, hang on, let's just stop and think who else is affected by this. Right, well let's look at pulling in health, let's have a steering group to collate everything and you know, share everything"'. (City Centre Police Officer)

'We need an early warning system like Salford have got'. (Homeless Day Centre Staff)

As the above quote alludes to, Salford DAAT have developed an Early Warning System (EWS) that provides an information sharing protocol for NPS that facilitates the raising of awareness to newly identified substances associated with local incidents (e.g. non-fatal and fatal intoxication cases in the region). The interviews with professionals included several very positive accounts from those who were already involved in the existing LDIS that has been implemented by Mike Linnell and Mark Knight for Salford DAAT. A range of stakeholders commented on how the Salford EWS, a pioneer model that the recent Public Health England guidance draws heavily upon, had helped them to assess local intelligence and to issue appropriate public health alerts on new/novel, potent, adulterated or contaminated drugs.

The Salford system has also provided a central location to provide specific information on different types of NPS and NPS legislation, including an often mentioned simplified guide to the recent *Psychoactive Substances Act*.

'One of the good things about the early warning system has been that, ... when Mike linked in to Drug Watch, as he's been writing stuff for that, that's been posted on our early warning system. And then I know that the medical team in treatment service have been using those to brief the staff, so I would like to think there's a high level of awareness within our treatment services, because of that early warning system'. (Salford DAAT Manager)

In addition to Salford, during the course of the research we became aware that Bury had recently introduced its own LDIS whilst a similar review of NPS prevalence and provision in Tameside by Liverpool John Moores University Centre for Public Health has also recently recommended the establishment of a LDIS. With the Greater Manchester Devolution on the horizon we therefore recommend (see section 4.1) that the establishment of a LDIS is implemented

as a Greater Manchester LDIS rather than solely serving Manchester. This suggestion had the support of many stakeholders we interviewed.

'It just doesn't make any sense not to have that [a LDIS] for Greater Manchester linked to an early warning system'. (DAAT Manager)

'I think early warning systems are great networks for people to get the right information written in a concise way. ... I think there should be regional early warning systems in place'. (Homeless Day Centre Manager)

The LDIS model proposed by Mike Linnell for Public Health England pulls together elements from the Salford model and other areas and is intended to complement existing Public Health England protocols used to assess intelligence, issue briefings and alerts. It is intended to respond to immediate risk, to be a low-cost, low-maintenance and multidisciplinary system that uses existing local expertise and resources (Public Health England, 2016). The Public Health England guidance sets out an ambition for an England-wide network of local systems that operate in a consistent and complementary way. We propose that Greater Manchester has an opportunity to be at the forefront and champion of this ambition by developing a LDIS that incorporates the 10 Greater Manchester boroughs.

Prior to outlining our full set of recommendations, we first turn our attention to the impact of the recently introduced *Psychoactive Substances Act*.

3.11 Impact of the Psychoactive Substances Act 2016

During the course of this research – 26th May 2016 – the *Psychoactive Substances Act 2016* was introduced. The Act represents the most significant legislative change in NPS focused UK drug policy since the banning of mephedrone and related synthetic cathinones in March 2010 and the subsequent introduction of temporary class drug orders (TCDOs) in 2012. In summary, the *Psychoactive Substances Act* makes it an offence to produce or supply any psychoactive substance, if the substance is likely to be used for its psychoactive effects. The only exemptions from the Act are those substances already controlled by the 1971 *Misuse of Drugs Act*, nicotine, alcohol, caffeine and medicinal products. Possession of a psychoactive substance is not an offence (except in a custodial institution), but possession with intent to supply, importing or exporting a psychoactive substance are all offences. In essence, the *Psychoactive Substances Act* aims to shut down all UK-based shops and websites that trade in psychoactive substances.

3.11.1 What impact is the Act likely to have in a local context?

The Act was devised with the intention to reduce overall availability of NPS, and ultimately use. However, evidence from Ireland and Poland (that both introduced a blanket NPS ban in 2010) suggests that such legislation does not in

fact reduce prevalence. Rather, the blanket ban has simply shifted the trade in NPS to the illegal drug market and the unregulated online market (European Commission 2014). In the case of mephedrone, that was banned in the UK in 2010, the ban simply shifted the market to the illegal drug market, resulting in the price increasing from £10 to £20 per gram (DrugScope Street Drug Survey 2011), while having a negligible impact on prevalence. For example, research conducted in two 'gay friendly' London clubs in 2013 found that mephedrone was still reported as the drug of choice with 60 per cent of survey respondents reporting using it on the night (Moore *et al.*, 2013).

In our survey of clubbers (see section 3.3), we asked about their motivations for using NPS. The top three responses were because they were cheaper (24 per cent), available online and in shops (19 per cent) and because they were not illegal to be in possession of them (15 per cent). If we take the example of mephedrone in 2010, we witnessed a doubling in price from an average of £10 per gram to £20 per gram. Early indications from users in Manchester are that synthetic cannabinoids have already doubled in price since the Act was introduced. This anticipated hike in prices coupled with the reduction in availability of some NPS from headshops and online sellers, we believe will lead to a decrease in the use of some NPS that mimic the effects of cocaine, amphetamines and ketamine and MDMA. However, the main NPS used in our survey of clubbers – ketamine (2009), mephedrone (2010) – have long since been controlled under the Misuses of Drugs Act. The high reported levels of past month use of these drugs is clear indication that they continue to be widely available on the illegal market. A similar picture exists with the other NPS associated with chemsex. In addition to the use of ketamine and mephedrone, the use of crystal methamphetamine and GHB/GBL are the other main drugs in this scene. Crystal methamphetamine has been a Class A drug since 2007 and will therefore not be affected by the Act. Both types of 'G' (GBL and GHB) can be used legitimately as industrial solvent and paint stripper-type chemicals. Since GHB was classified as a Class C substance in 2009, GBL has largely taken over, as it is more readily available to purchase as an industrial cleaner. In summary, it is envisaged that the use and availability of the most popular used NPS amongst students (nitrous oxide) and clubbers (ketamine and mephedrone) and MSM (ketamine, mephedrone, crystal methamphetamine and GBL) will not be affected by the *Psychoactive Substances Act*. We now turn attention to the impact of the Act on the availability and use of synthetic cannabinoids.

From our observations in headshops in Manchester city centre, it quickly became clear that the dominant NPS sold are synthetic cannabinoids. Over 90 per cent of the sales we witnessed were synthetic cannabinoids. Only a very small number of purchases of stimulants (such as 'Gocaine' and 'Ice'n'Berg') were observed. Similarly, out of the 129 NPS packages seized by staff from room searches at an approved premises in Manchester, 96 per cent (n=124) were synthetic cannabinoids. With this in mind, the remainder of this section will focus on the likely impact of the *Psychoactive Substances Act* on the synthetic cannabinoid market in Manchester.

In section 3.5, we outlined how 93 per cent of users in the *Homeless Link* Survey reported purchasing synthetic cannabinoids from city centre headshops. In addition, almost half (45 per cent) stated that the fact that they were convenient to purchase as the main reason for use, with almost a quarter (24 per cent) stating the fact that they were cheaper than other substances as their main reason for use. Taking these homeless survey findings into account, it might sensibly be assumed that the *Psychoactive Substances Act* will have a tangible impact on the prevalence of synthetic cannabinoids. Yet, contrary to this assumption, the homeless NPS users that we interviewed confirmed that there was an already established street level synthetic cannabinoids market in areas of the city centre where NPS users were known to congregate (such as around Piccadilly Gardens), and they all predicted that this market would increase following the implementation of the Act.

'It won't make it harder to get because you'll just get it off the streets.' (Male, mid 20's, Homeless, City Centre GP Surgery Drop-in)

The early indications are that these predictions hold true. For example, street dealers are operating close to headshops that, as a result of the Act, appear to have stopped selling synthetic cannabinoids and other NPS.

'You've got ten dealers in the [Piccadilly] gardens, just sitting there in the gardens.' (Male, mid 20's, Homeless Day Centre Drop-in)

Added to this, all of the homeless NPS users interviewed felt that the *Psychoactive Substances Act* will simply push the synthetic cannabinoids market underground, as was found to be the case in Ireland and Poland. Thus potentially increasing social and health harms amongst an already vulnerable population.

'It's not going to go away, ... it's going to go underground, to the crime world now.' (30-year old Male, Homeless, City Centre GP Surgery Drop-in)

'You're going to push it underground and criminalise it. ... Instead of scoring crack and heroin, they're now scoring Spice.' (26-year old Male, Supported Housing)

Since the implementation date for the Act was first mooted (originally April 6th 2016), the more entrepreneurial users we interviewed talked of planning to take advantage of online retailers and headshops promoting bulk purchases or BOGOF offers, and of others stockpiling synthetic cannabinoids in anticipation for a hike in demand on the street.

When it comes to availability, we predict that while stockpiles last, supply and ultimately usage will continue as normal. However, as stocks dwindle and availability reduces, we predict that prices will increase. As was the case when mephedrone was banned in 2010, prices of synthetic cannabinoids have already started to increase with users reportedly paying twice as much for street deals compared to previous purchases from headshops and newsagents/shops.

'They've put it up to a tanner a gram now.' (Female, early 20's, Homeless Day Centre Drop-in)

'Within a week [of the Act] the prices have already gone up.' (Male, mid 20's, Homeless Day Centre Drop-in)

If, and when, the ban does eventually lead to reduced availability, it is likely to impact upon dependent synthetic cannabinoids users in a number of key interrelated ways. Firstly, it will most likely lead to more incidents of robbery and violence amongst users (as outlined in section 3.5.6) as they pursue increasingly scarcer supplies synthetic cannabinoids.

'When it gets banned, there's going to be like groups of people, mobs of people getting about. They know you've got it in your pockets, [and] they're going to kick your head in.' (Male, early 20's, Homeless, City Centre GP Surgery Drop-in)

'Everyone's going to be twatting each other.' (18-year old Female, Homeless)

'It will get a lot, lot worse. People are going to get sliced and stabbed up.' (Male, mid 20's, Homeless Day Centre Drop-in)

Already these predictions seem to have materialised to some degree.

'In town now, they're all robbing each other, because they can't get it so easily no more.' (Male, mid 20's, Homeless Day Centre Drop-in)

Secondly, a shift from headshops to street level dealing will almost certainly lead to poorer quality deals as a street level gram can range from 0.5g to 0.8g. This coupled with the price hike mentioned above is likely to lead to more acquisitive crime being committed to fund regular and dependent use.

Thirdly, health concerns have been raised in relation to locally made synthetic cannabinoids. For example, 'Annihilation' was widely reported to be made on the premises of a Manchester headshop. In contrast to the branded packaging associated with NPS purchased in headshops and online, this product came in a clear snap-bag with basic labelling. During the course of the research, this particular brand was repeatedly cited as being more addictive and having much more negative effects than other available synthetic cannabinoids:

'That Annihilation stuff is even worse, ... absolutely disgusting, blows your head off something rotten. I wouldn't even smoke it when I was smoking Spice.' (Male, early 20's, Young people's homeless drop-in)

'I'm addicted to Annihilation, and when I have it, my head goes, I don't know what I'm doing, I don't know where I am. ... It's that strong, I get sick and sweaty and hot and cold shivers.' (30-year old Male, Homeless Drop-in, Urban Village)

It is highly likely that street level products are being cut with unknown ingredients that may cause further harm.

This is not only so dealers can increase their profit margins but also to ensure users become increasingly addicted. For example, there is already a rumour going around the homeless community in Manchester that street level synthetic cannabinoids are being mixed with crack cocaine to get users addicted.

'It's worse now, because they make it themselves, they make it powerful. They're putting white [crack] with it as well.' (Male, mid 20's, Homeless Day Centre Drop-in)

'They're mixing white [crack] in with the Spice so it gets you addicted to it, so you keep going back for it more and more.' (Female, late 20's, Homeless Day Centre Drop-in)

In summary then, the purpose of the *Psychoactive Substances Act* is to shut down all UK-based shops and websites that trade in psychoactive substances, with the resulting outcome being a reduction in overall availability and subsequent use of NPS. While the blanket ban may make purchasing NPS harder for occasional recreational NPS users (such as young people), for those dependent and entrenched users there was clear evidence from this research that the ban would have only a limited impact on prevalence rates. For example, as soon as the Act came into force on May 26th, both users and frontline staff working with the homeless community reported clear signs of a flourishing street level market for synthetic cannabinoids. Almost immediately, dealers appeared on the streets – often close to headshops that had previously been well-known sellers of synthetic cannabinoids and other NPS – making continued access to synthetic cannabinoids easy for users. Nonetheless, there are concerns that the incorporation of the synthetic cannabinoid market into the illegal street market will have a number of negative outcomes, including: an increase in violent altercations and robbery amongst homeless users due to increased prices and reduced availability; more acquisitive crime to fund existing habits; along with the potential for additional harms to users as a result of adulteration and/or modifications to the chemical structure of these substances. This developing synthetic cannabinoid street market clearly needs careful monitoring.

For other NPS user groups, such as students, clubbers and men who have sex with men (MSM), many of the popular types of NPS they use – such as mephedrone, crystal methamphetamine and GHB/GBL – are already established on the illegal market, or in the case of nitrous oxide fall outside the Act (due to its legitimate use as a food agent). As such, it is envisaged that the *Psychoactive Substances Act* will have only a negligible impact on these groups of users.

Recommendations

In this final section, we outline a number of recommendations that we believe will assist in addressing the issues raised in this report. The following recommendations are organised into three main themes:

- The development of resources;
- Service development; and,
- Future research agendas.

These recommendations have been developed in line with the good practice prompts outlined in Public Health England's JSNA support pack for 2015-16 (Public Health England, 2014b), which outlines key principles that local areas should reflect upon when developing an integrated alcohol and drugs prevention, treatment and recovery system. Whilst we endeavored to take on board all of the feedback we received from research participants, we acknowledge and are mindful of the constraints of the existing public health budget. Therefore, the recommendations that follow are based around what we believe is tangible within the constraints of existing resources and commissioning frameworks as opposed to 'blue sky thinking'.

4.1 Development of resources

As we illustrated in section 3.9, the research identified a clear need to increase existing NPS-related knowledge among specialist substance use providers and a wide range of other medical and non-medical occupations (ranging from GPs, emergency services staff, supported accommodation workers and criminal justice services). We propose three main ways of achieving this: the development of bespoke information sheets; NPS training and continuous professional development (CPDs); and a virtual resource to facilitate the sharing of information and good practice across services.

4.1.1 NPS briefing information sheets

The development of brief (i.e. 2-page) information sheets targeted at specific services and tailored around the types of NPS use they are likely to encounter. For example, synthetic cannabinoid information for prisons, offender management services, supported housing and approved premises and briefing information sheets on the three main substances associated with chemsex.

4.1.2 Drug alerts and local drug information system (LDIS)

In line with section 1.2.4 of Public Health England's JSNA guidance on sharing information with partners about NPS through local networks (Public Health England, 2014b), we recommend the development of a local drug information system (LDIS) and online user and information sharing forum similar to the local Salford DAAT model. This would provide a centralised, coordinated resource where NPS-related intelligence, information and good practice responses can be

obtained. In January 2016, Public Health England published guidance on how to establish local drug information systems which we propose should be adhered to (see Public Health England, 2016). Within Greater Manchester, similar systems have recently been launched (Bury) or proposed (Tameside). With Greater Manchester Devolution on the horizon, we propose that this initiative is established Greater Manchester-wide rather than restricted to Manchester.

This LDIS would also support the provision of evidence-based resources and materials for appropriate professionals and services, including for example, Public Health England NEPTUNE clinical guidelines, European monitoring data and academic research reports, together with the aforementioned bespoke information sheets and information on local NPS training and events. The LDIS would also provide a platform for disseminating information on emerging trends, 'bad batches', good practice and advice on NPS and other emerging substance use trends within and between services. The resource would not be limited to NPS e.g. it has the capacity to cover other emerging drug trends around polydrug use and performance and image enhancing drugs (PIEDs).

We propose that the research team convene a one-day 'NPS awareness day' that, in addition to reporting on the key research findings to invited stakeholders, will act as a launch pad for the LDIS.

4.1.3 NPS training

We have identified training development need for practitioners that moves beyond existing NPS awareness training, which tends to be too basic and too broad. This is not to dismiss the existing need for training that includes, for example: information on definitions; types of NPS; popular brand names; drug effects; legislation; potential harms; and general harm reduction responses. Rather, we advocate that training should also recognise the particular issues that different sectors are facing and the knowledge gaps that currently exist. For example, interviews with acute A&E consultants and nurses identified knowledge gaps and competency in relation to the identification of overdose or intoxication from synthetic cannabinoids and GBL/GHB. While those professionals working in a range of housing provision (from care homes to supported accommodation and approved premises) highlighted the need for more practical information on how to respond to users when they are having a bad experience, such as fitting, anxiety attacks or respiratory problems. In particular, there was much confusion regarding when to call for an ambulance.

As we outline below in section 4.2, we propose a holistic treatment provision for NPS users. This requires staff from mental health and substance use services to be trained to ensure that they are equipped and feel competent in dealing with the mental health and substance use issues that commonly co-exist within the user groups we focused on. This would minimise the issue identified in section 3.5.5 of NPS users being passed back and forth between substance use and mental health services.

4.2 Service development

4.2.1 Innovation in service delivery

Our findings suggest the need for more innovation in developing intervention responses and marketing approaches to encourage service user engagement. There is a need for specialised service responses for client groups not traditionally accessing drug treatment. This should include, where appropriate, a move away from traditional operating hours and locations, towards outreach and ‘pop-up’ services. For example, ‘pop-up’ needle exchanges to accommodate new groups of users (such as crystal methamphetamine and PIED users), as well as NPS/club drug clinics and a modified outreach/street triage model to target homeless populations. Furthermore, a consistent response to the problematic use of synthetic cannabinoids may include a community detox model and innovation in mental health support. Psychological therapy for example, requires engagement and commitment from the service user. Often, this is inconsistent with chaotic lifestyles and therefore, traditional models of engagement may need adaptation to serve the mental health needs of homeless populations. In line with the 2015 five-year plan for Greater Manchester Combined Authorities (see Warren, 2016), we propose that the improvements to existing service provision, including innovations to delivery models, should be developed through the prioritisation of greater efficiency coupled with the development of improved communication and collaboration across public-sector services.

4.2.2 Models of good practice

We recommend the establishment of models of good practice regarding the treatment of users of synthetic cannabinoids and drugs associated with the chemsex scene. This should include: advice on synthetic cannabinoids detox; appropriateness of prescribing medications (i.e. potential for interactions or toxicity with NPS); harm reduction; and if and how responses to these types of NPS use may differ to traditional substances. This should also include guidance on the importance of cultural competency when working with specific sub-populations of users (e.g. MSM; hostel clients and those at risk of homelessness).

4.2.3 Improved NPS treatment pathways

The lack of clarity around referral pathways we identified in section 3.8 necessitates a review of existing partnership working, to ensure better care pathways and the facilitation of inter-agency communication between mental health and substance misuse services and, in the case of chemsex users, sexual health services. In section 3.8.4 we highlighted how the Dual Diagnosis Liaison Service and CGL have conducted a review of dual diagnosis pathways. This comprises the development of revised guidance on impatient Dual Diagnosis Referrals to the Manchester integrated alcohol and drug service. Whilst this is clearly a positive development, we suggest that this should include the establishment of

clear NPS treatment pathways that are developed through effective working alliances and collaborative partnerships with emergency services, criminal justice agencies, housing providers, and third sector organisations (e.g. Lifeshare; Booth Centre; LGBT Foundation, COR, Homeless Link), thus facilitating clear referral routes and shared learning. This should also include better marketing of what services currently offer when supporting specific NPS users. The recently updated 2016 NICE guidance on coexisting severe mental illness and substance misuse (NICE 2016, see in particular section 1.4) provides timely best practice advice on partnership working between specialist services, health, social care and other support services and commissioners.

In section 3.5.6, we outlined a range of crimes linked to the use of synthetic cannabinoids, yet because these drugs are not detected by existing drug tests targeted at users of opioids and (crack) cocaine, these users are not likely to be referred to appropriate services via the criminal justice system. In consideration of section 1.5 of current Public Health England JSNA guidance (Public Health England, 2014b), we propose a review of existing criminal justice pathways into treatment for users of synthetic cannabinoids and other NPS. Furthermore, we suggest engagement with local Offender Management Services and community rehabilitation organisations to develop appropriate interventions for offenders subject to statutory supervision in the community or on release from prison.

4.2.4 Integrated service delivery

Over the last two years, the Mental Health Improvement Programme (MHIP) has undertaken a wide range of public engagement activity to inform plans to improve mental health services across the city. The Mental Health Improvement Programme has acknowledged that having a number of different organisations contracted separately to provide mental health services in Manchester has led to fragmentation and a lack of joined-up care. A central aim of the programme is to create a better system in the future that provides co-ordinated care to individuals with mental health support needs. The evidence presented in this report adds support for the need for the improvement programme. Section 5.14 of the Public Health England JSNA guidance (Public Health England, 2014b) highlights the need for protocols and pathways to support service users who have both alcohol and drug misuse and mental health problems, including those in crisis. A key theme arising from the findings was the challenge of managing clients with complex needs, in particular, dual diagnosis, and providing appropriate and effective support around their use of NPS. A broad spectrum of professionals were keen to stress that it is imperative service users with co-existing mental health and substance use problems are viewed and treated holistically. Despite the existence of a dual diagnosis team and dedicated support for young people with mental health issues, there was evidence of a need for more integration of substance use and mental health for NPS users (see sections 3.4.7, 3.5.4, 3.5.5 and 3.8.4). The findings present clear evidence of a need for improved clinical and psychosocial responses regarding the use of NPS, in particular, synthetic

cannabinoids amongst vulnerable groups (young people, homeless and offender populations) to address the range of mental health issues attributed to the consumption of synthetic cannabinoids. The issues regarding access that have been identified are beginning to be addressed as part of the Mental Health Improvement Programme that includes service integration and the recent recommissioning of integrated alcohol and drug and mental health services. The recent announcement that Greater Manchester West Mental Health NHS Foundation Trust will take responsibility for Manchester Mental Health and Social Care Trust services from January 2017 provides a timely opportunity for these concerns to be addressed.

The establishment of the *REACH clinic* to address the emergent chemsex scene provides one example of existing good practice, innovation and integrated service delivery. Our findings suggest that continued collaboration between key services should be encouraged and supported, incorporating a wider range of services and organisations that come into contact with users, or potential users, of NPS. In relation to the *REACH clinic*, as we outlined in section 3.4, there is scope for expansion and development of the service to incorporate mental, as well as sexual health services, and to expand to the three other sexual health centres in Manchester. An expansion of opening hours and a focus on developing partnership working and clear pathways is necessary to further increase engagement with the much larger numbers of users estimated to be involved in chemsex in the region. The recent establishment (1st July 2016) of a single integrated sexual health service for Manchester provides an ideal opportunity to review how support for people who engage in chemsex is provided and to develop referral pathways e.g. from spoke clinics.

4.2.5 NPS user engagement strategy

The Public Health England JSNA guidance on needs assessment (see section 1.2, Public Health England, 2014b) highlights the requirement to establish the levels of drug treatment penetration by dependent users. In section 3.5, we noted that there is a sub-population who describe their consumption of synthetic cannabinoids as ‘dependent’ or ‘addictive’, yet they are not engaging with services. As we outlined in section 3.8, in addition to establishing clear referral pathways, there is a need for clear information and signposting about what substance use services can offer NPS users. It is essential to develop a local communication campaign to dispel NPS misconceptions and design targeted campaigns to encourage service uptake among high-risk groups (i.e. the homeless, offenders and MSM engaged in chemsex).

These should be developed in tandem with a strategy that recognises that the lack of engagement with drug services by NPS users is often due to the services’ perceived client group, location, stigma, and what intervention they can offer. How this might be addressed needs further consultation. We propose a number of models, including a more integrated centralised service allowing users to access a range of services without being labelled as ‘drug users’. As we

highlighted in section 3.4, there are several London-based examples of good practice that could be drawn on, such as the ‘Club Drug Clinic’ developed by the Central and North West London NHS Foundation Trust which incorporates the needs of chemsex users, but also the wider LGBT, student and clubbing populations.

4.3 Future research agendas

4.3.1 Developing monitoring and recording systems

The research uncovered much higher levels of (problematic) use of NPS – especially synthetic cannabinoid use – than existing data sources currently demonstrate. In section 3.6, we highlighted how NPS use has considerable impact on a number of services including: city centre police; the ambulance service; A&E departments; GPs; sexual health clinics; supported accommodation providers; offender management services (especially approved premises); and the prison service. However, recording of NPS use and incidents is inconsistent and patchy. A review of existing data sources and monitoring tools used by all agencies working with NPS users is recommended to improve existing systems, and in particular, to develop codes for recording NPS incidents more accurately.

4.3.2 The impact of NPS use on recovery journeys

Building recovery is central to all drug and alcohol strategies at a local and national level. In section 3.5 we noted how many synthetic cannabinoid users reported being ‘ex-heroin addicts’ or dependent on other drugs and/or alcohol. They often discussed past engagement with treatment services. However, despite disclosing a range of mental and physical health problems and perceived addiction to synthetic cannabinoids, they were no longer accessing treatment services. Further exploration is necessary to establish the impact that some types of NPS use are having on recovery journeys – both in custodial settings and the community. For example, are people who might previously have become abstinent now switching to NPS use instead? It is important that services highlight the potential harms that NPS use can lead to and are aware of the potential that NPS use can have on individuals’ recovery journeys.

4.3.3 The impact of NPS use on crime and disorder and offender management

The research uncovered that many of the more problematic users of NPS were first introduced to it in custodial settings (adult prison or young offender institutes) and many were using NPS to avoid MDTs in emergency housing, supported housing and approved premises, or to comply with their offender management license conditions. It was evident

that continued use beyond the prison estate was causing problems for offender management, approved premises and other forms of supported housing provision in the city. We therefore propose the need to further consider the impact of NPS use is having in custody (including within the female secure estate) and on release in the community, for example, in approved premises, supported housing or hostels. In particular, what impact do MDTs and other license conditions have on motivations for use?

We suggest further research is required to explore the role of the prison system and the impact of NPS use amongst the offending population that where possible, includes local prisons (e.g. Forest Bank, HMP Manchester and HMP Styal) and the Greater Manchester Probation Service and Youth Offending Teams. We also propose further exploration of the links between NPS addiction/dependency and offending behaviours to fund use. This should also explore the relationship between NPS use, violence and victimisation.

4.3.4 Monitoring of the impact of the *Psychoactive Substances Act 2016*

As we reported in section 3.11, the evidence suggests that it is highly probable that the change in legislation that occurred on the 26th May 2016 to prohibit the sale of NPS will result in some of the more popular types of NPS being sold on the illegal drugs market. Monitoring of this situation, including test purchasing and analysis is important in gaining information on what specific compounds are potentially being purchased and used locally.

4.3.5 Continued monitoring of emerging drug trends and markets

The Public Health England JSNA guidance (Public Health England, 2014b) emphasises the need to plan according to local needs assessments. This includes an understanding of local demands and needs obtained through a combination of local and national data. As we illustrated in sections 3.1 to 3.5, many NPS users are not engaged with services. Moreover, in section 3.7, we highlighted a range of existing limitations with data collection. We therefore propose the establishment of an annual (Greater) Manchester 'Street Drug Survey' that captures data from specific sub-populations such as prisoners, the homeless, clubbers, students, and the LGBT community, alongside the insight of professionals in regular contact with a range of substance users. A survey of this nature would facilitate the early identification of new and emerging trends (e.g. performance and image enhancing drugs, 'smart drugs', or abuse of prescribed drugs), alongside existing substance use, such as NPS. An annual survey of this nature would be invaluable in terms of informing service development and commissioning services, thus helping to ensure a more comprehensive and appropriate provision of services in (Greater) Manchester.

References

Abdulrahim, D., Whiteley, C., Moncrieff, M. and Bowden-Jones, O. (2016) *Club Drug Use Among Lesbian, Gay, Bisexual and Trans (LGBT) People*. Novel Psychoactive Treatment UK Network. NEPTUNE. London [Online] [Accessed on 10th June 2016] (<http://neptune-clinical-guidance.co.uk/wp-content/uploads/2016/02/neptune-club-drug-use-among-lgbt-people.pdf>)

Almeida, J., Johnson, R.M., Corliss, H.L., Molnar, B.E. and Azrael, D. (2009) Emotional distress among LGBT youth: the influence of perceived discrimination based on sexual orientation. *In J Youth Adolesc*, Vol.38, pp. 1001-14.

Antoniou, T. and Tseng, AL-I. (2002) Interactions between recreational drugs and antiretroviral agents. *In Ann Pharmacother*, Vol.36, pp.1598-613.

Baker, S. (2015) *An Examination of the Reasons that Prisoners use Spice (Synthetic Cannabinoids)*. University of Cambridge. [Online] [Accessed on 27th February 2016] <http://www.crim.cam.ac.uk/alumni/penology/theses/Sam%20Baker.pdf>

Barratt, M.J., Cakic, V. and Lenton, S. (2013) Patterns of synthetic cannabinoid use in Australia. *In Drug Alcohol*, Vol.32, No.2, pp.141-6.

Bebarta, V.S., Ramirez, S. and Varney, S.M. (2012) Spice: a new 'legal' herbal mixture abused by young active duty. *In Substance Abuse*, Vol.33, pp.191-4.

Bourne, A., Reid, D., Hickson, F., Torres, R.S. and Weatherburn, P. (2014) *The Chemsex Study: Drug use in Sexual Settings Among Gay and Bisexual Men in Lambeth, Southwark and Lewisham*. London: Sigma Research, London School of Hygiene & Tropical Medicine. [Online] [Accessed on 17th June 2016] www.sigmaresearch.org.uk/chemsex

Braithwaite, R.S., McGinnis, K.A. and Conigliaro, J. (2005) A temporal and dose-response association between alcohol consumption and medication adherence among veterans in care. *In Alcohol Clin Exp Res*. Vol.29, pp.1190-7.

Brook, G., Bacon, L., Evans, C., McClean, H., Roberts, C., Tipple, C., Winter, A. and Sullivan, A.K. (2013) UK national guideline for consultations requiring sexual history taking. *Int J STD AIDS* 2014. Vol.25, pp.391-404.

Carhart-Harris, R., King, L. and Nutt, D. (2011) A web-based survey on mephedrone. *In Drug and Alcohol Dependence*, Vol.118, No.1, pp.19-22.

Castellanos, D., Singh, S., Thornton, G., Avila, M. and Moreno, A. (2011) Synthetic cannabinoid use: a case series of adolescents. *In Adolescent Health*, Vol.49, No.4, pp.347-9.

Centre for Social Justice (2015) *Drugs in Prison*. [Online] [Accessed on 10th January 2016] http://www.centreforsocialjustice.org.uk/UserStorage/pdf/Pdf%20reports/CSJJ3090_Drugs_in_Prison.pdf

Champion, K.E., Teesson, M. and Newton, N.C. (2016) Patterns and correlates of new psychoactive substance use in a sample of Australian high school students. *In Drug and Alcohol Review*, Vol.35, pp.338-344.

Children's Commissioner (2016) *Mental Health Lightning Review*, May 2016.

Clutterbuck, D.J., Flowers, P., Barber, T., Wilson, H., Nelson, M., Hedge, B., Kapp, S., Fakoya, A. and Sullivan, A.K. (2012) UK national guideline on safer sex advice. *In Int J STD AIDS*, Vol.23, No.6, pp.381-8.

Connor, T.J. (2004) Methylenedioxymethamphetamine (MDMA, 'ecstasy'): a stressor on the immune system. *In Immunology*, Vol.111, No.4, pp.357-67.

Corkery, J.M. (2013). *New Psychoactive Substances in the UK – analysing the adverse health Consequences*. [Online] [Accessed on 21st February 2016] <http://www.eesc.europa.eu/?i=portal.en.events-and-activities-new-psychoactive-substances-presentations.30192>

CSEW (2013) *Drug Misuse: Findings from the 2012/13 Crime Survey for England and Wales*. Home Office. London.

CSEW (2015) *Drug Misuse: Findings from the 2014/15 Crime Survey for England and Wales*. Home Office. London.

Department of Health (2013) *A Framework for Sexual Health Improvement in England*. London: Department of Health, 2013.

DrugScope Street Drug Survey (2011) [Online] [Accessed on 8th June] available from: <https://drugs-forum.com/forum/showthread.php?t=171561>.

EMCDDA (2015) *New psychoactive substances in Europe. An update from the EU Early Warning System* (March 2015).

EMCDDA (2016) *New psychoactive substances in Europe. An update from the EU Early Warning System* (March 2016).

European Commission (2011) *Flash Eurobarometer 330: Youth Attitudes on drugs*. [Online] [Accessed on 28th April 2016] http://ec.europa.eu/public_opinion/flash/fl_330_en.pdf

European Commission (2014) *Flash Eurobarometer 401: Young People and Drugs*. [Online] [Accessed on 28th April 2016] http://ec.europa.eu/public_opinion/archives/flash_arch_404_391_en.htm

Every-Palmer, S. (2011) Synthetic cannabinoid JWH-018 and psychosis: an explorative study. *In Drug Alcohol Depend*, Vol.117, pp.152-7.

FEWS (2015) *2014/15 Annual Report on the Home Office Forensic Early Warning System (FEWS) A system to identify New Psychoactive Substances in the UK September 2015*.

Global Drug Survey (2015) *The Global Drug Survey 2015*. [Online] [Accessed on 22nd April 2016] <http://www.globaldrugsurvey.com/the-global-drug-survey-2015-findings/>

Halkitis, P.N., Kutnick, A.H. and Slater, S. (2005) The social realities of adherence to protease inhibitor regimens: substance use, health care and psychological states. *In J Health Psychol*, Vol.10, pp.545-8.

Halkitis, P.N. and Palamar, J.J. (2006) GHB use among gay and bisexual men. *In Addict Behaviour*, Vol.31, pp.2135-9.

Harrington, R.D., Woodward, J.A., Hooton, T.M. and Horn, J.R. (1999) Life-threatening interactions between HIV-1 protease inhibitors and the illicit drugs MDMA and gamma-hydroxybutyrate. *In Arch Intern Med*, Vol.159, pp.2221-4.

Harris, C.R. and Brown, A., (2013) Synthetic cannabinoid intoxication: a case series and review. *In Journal of Emergency Medicine*, Vol.44, No.2, pp.360-6.

Haubrich, R.H., Little, S.J. and Currier, J.S. (1999) The value of patient-reported adherence to antiretroviral therapy in predicting virologic and immunologic response. *In AIDS*, Vol.13, pp.1099-1107.

Henry, J.A. and Hill, I.R. (1998) Fatal interaction between ritonavir and MDMA. *In Lancet*, Vol.352, pp.1751-2.

HM Inspectorate of Prisons (2014) *HM Chief Inspector of Prisons for England and Wales: Annual Report 2013-14*. [Online] [Accessed on 8th February 2016] https://www.justiceinspectors.gov.uk/hmiprisons/wpcontent/uploads/sites/4/2014/10/HMIP-AR_2013-14.pdf

HM Inspectorate of Prisons (2015) *HM Chief Inspector of Prisons for England and Wales: Annual Report 2014-15*. [Online] [Accessed on 8th February 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/444785/hmip-2014-15.pdf

Home Office (2012) *Drug Misuse Declared: Findings from the 2011/12 Crime Survey for England and Wales*. (2nd ed.) [Online] [Accessed on 7th February 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/147938/drugs-misuse-dec-1112-pdf.pdf

Home Office (2014) *New Psychoactive Substances Review: report of the expert panel*. Home Office. [Online] [Accessed on 20th February 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/368583/NPSexpertReviewPanelReport.pdf

Home Office (2015) *Guidance for local authorities in taking action against 'head shops' selling new psychoactive substances – working with local partners*. [Online] [Accessed on 20th February 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/410961/Guidance_for_local_authorities_on_taking_action_against_10.03_15.pdf

Home Office (2016) *Seizures of drugs in England and Wales, financial year ending 2015*. Home Office Statistical Bulletin. [Online] [Accessed on 20th June 2016]

Homeless Link (2014) *Health Audit*. [Online] [Accessed on 3rd June 2016] <http://www.homeless.org.uk/our-work/resources/homeless-health-needs-audit>

Howard League for Penal Reform (2016) *Latest Prison Population Figures*. [Online] [Accessed on 21st April 2016] <http://www.howardleague.org/weekly-prison-watch/>

Hurst, D., Loeffler, G. and McLay, R. (2011) *Synthetic cannabinoid agonist induced psychosis a case series*. [Online] [Accessed on 17th March 2015] <http://www.ncis.navy.mil/PI/CRP/Documents/Spice%20APA%20poster.pdf>

King, M., Semlyen, J. and Tai, S. (2008) A systematic review of mental disorders, suicide and deliberate self-harm in lesbian, gay and bisexual people. *In BMC Psychiatry*, Vol.8, No.70, pp.1-17.

Kirby, T. and Thornber-Dunwell, M. (2013) High-risk drug practices tighten grip on London gay scene. *In Lancet*, Vol.381, pp.101-2.

Lader, D. (2015) *Drug Misuse: Findings from the 2014/15 Crime Survey for England and Wales*. (2nd ed.) Home Office. [Online] [Accessed on 27th January 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/462885/drug-misuse-1415.pdf

Linnell, M (2013) *A Local Drug Early Warning System [Salford pilot]*. Salford DAAT/ Linnell Publications. [Online] [Accessed on 17th February 2016] <http://www.nta.nhs.uk/uploads/salfordewsmodelver10.pdf>

Manchester City Council (2016) *The Health Scrutiny Committee Meeting Notes on Sexual Health Services, 26th May 2016*.

McCall, H., Mason, D. and Willis, J. (2015) What is chemsex and why does it matter? *In BMJ*, Vol. 351, pp.5790.

McFall, S.L. (2012) *Understanding Society: Findings 2012*. Colchester: Institute for Social and Economic Research, University of Essex. [Online] [Accessed on 22nd June 2016] <https://www.understandingsociety.ac.uk/research>

Measham, F. and Moore, K. (2009) Repertoires of Distinction: Exploring patterns of weekend polydrug use within local leisure scenes across the English night time economy. *In Criminology and Criminal Justice*, Vol.9, No.4, pp.437-464.

Measham, F., Moore, K., Newcombe, R. and Welch, Z. (2010) Tweaking, Bombing, Dabbing and Stockpiling: The emergence of mephedrone and the perversity of prohibition. *In Drugs and Alcohol Today*, Vol.10, No.1, pp.14-21.

Measham, F., Wood, D., Dargan, P., and Moore, K. (2011a) The rise in legal highs: prevalence and patterns in the use of illegal drugs and first and second generation 'legal highs' in south London gay dance clubs. *In Journal of Substance Use*, Vol.16, No.4, pp.263-72.

Measham, F., Moore, K. and Østergaard, J. (2011b) Mephedrone, 'Bubble' and Unidentified White Powders: The contested identities of synthetic 'legal highs'. *In Drugs and Alcohol Today*, Vol.11, No.3, pp.137-147.

MIDAS (2016) <http://www.investinmanchester.com/why-manchester/universities/> [Online] [Accessed 16th June 2016]

Ministry of Justice (2016a) *Safety in Custody Statistics England and Wales Deaths in prison custody to March 2016 Assaults and Self-harm to December 2015. Statistics Bulletin 28th April 2016*. Ministry of Justice. [Online] [Accessed on 30th April 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/519425/safety-in-custody-march-2016.pdf

Ministry of Justice (2016b) *Offender Management Statistics Bulletin, England and Wales Quarterly October to December 2015 – Annual January to December 2015*. Ministry of Justice. [Online] [Accessed on 30th April 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/519437/offender-management-statistics-quarterly-bulletin-oct-dec-2015.pdf

Miotto, K., Darakjian, J., Basch, J., Murray, S., Zogg, J. and Rawson, R. (2001) Gamma-hydroxybutyric acid: patterns of use, effects and withdrawal. *In Am J Addict*, Vol.10, pp.232-41.

Moore, K., Dargan, P. I., Wood, D. M. and Measham, F. (2013) Do Novel Psychoactive Substances Displace Established Club Drugs, Supplement Them or Act as Drugs of Initiation? The relationship between Mephedrone, Ecstasy and Cocaine. *In European Addiction Research*, Vol.19, No.5, pp.276-282.

NEPTUNE. (2015) *Guidance on the Clinical Management of Acute and Chronic Harms of Club Drugs and Novel Psychoactive Substances*. London: Health Foundation. [Online] [Accessed on 10th January 2016] <http://www.neptune-clinical-guidance.co.uk>

Newcombe, R. (2009) *Mephedrone: The Use of Mephedrone in Middlesbrough*. Lifeline Publications and Research, Manchester.

NICE (2016) *Coexisting severe mental illness and substance misuse: community health and social care services* Published: 30 November 2016 (see: nice.org.uk/guidance/ng58)

Norman, J., Grace, S. and Lloyd, C. (2014) Legal high groups on the internet – The creation of new organized deviant groups? *In Drugs: Education, Prevention & Policy*, Vol.21, pp.14-23.

ONS (2015) *Deaths Related to Drug Poisoning in England and Wales: 2013 registrations*. Office for National Statistics Statistical Bulletin. September 2015.

ONS (2016) *Deaths Related to Drug Poisoning in England and Wales: 2014 registrations*. Office for National Statistics Statistical Bulletin.

Pacifici, R., Zuccaro, P. and Farre, M. (2001a) Effects of repeated doses of MDMA ('ecstasy') on cell-mediated immune response in humans. *In Life Sci*, Vol.69, pp.2931-41.

Pacifici, R., Zuccaro, P. and Hernandez, L.C. (2001b) Acute effects of 3,4-methylenedioxymethamphetamine alone and in combination with ethanol on the immune system in humans. *In J Pharmacol Exp Ther*, Vol.296, pp.207-15.

Perrone, D., Helgesen, R. D. and Fischer, R. G. (2013) United States drug prohibition and legal highs: How drug testing may lead cannabis users to Spice. *In Drugs: education, prevention and policy*, Vol.20, No.3, pp.216-224.

Prison Reform (2016) *Trust Care Not Custody. Prison Reform*. [Online] [Accessed on 30th April 2016] from: http://www.prisonreformtrust.org.uk/Portals/0/WI%20Care%20not%20Custody_10th%20Aug.pdf

Prisons and Probations Ombudsman (2015) *New Psychoactive Substances: A Factor In Some Prisoner Deaths, Says Ombudsman*. [Online] [Assessed on 14th February 2016] <http://www.ppo.gov.uk/wp-content/uploads/2015/07/NPS-bulletin-news-release.pdf>

Public Health England (2014a) *Promoting the Health and Wellbeing of Gay, Bisexual and Other Men Who Have Sex With Men. Initial Findings*. [Online] [Accessed on 12th June 2016] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/339041/MSM_Initial_Findings__GW2014194.pdf

Public Health England (2014b) *Drug prevention, treatment and recovery for adults: JSNA support pack. Good practice prompts for planning comprehensive interventions in 2015-16*.

Public Health England (2015a) *Young people's substance misuse data: JSNA support pack. Key data for planning effective young people's substance misuse interventions in 2016-17 (Manchester)*.

Public Health England (2015b) *Drug data: JSNA support pack. Key data to support planning for effective drugs prevention, treatment and recovery in 2016-17 (Manchester)*.

Public Health England (2015c) *PHE Action Plan 2015-16: Promoting the Health and Wellbeing of Gay, Bisexual and Other Men Who Have Sex With Men*. January 2015.

Public Health England (2015d) *Substance misuse services for men who have sex with men involved in chemsex*. Briefing for Commissioners. Public Health England, November 2015.

Public Health England (2016) *Drug alerts and local drug information systems*. January 2016.

Ralphs, R., Williams, L., Askew, R. and Ykhlef, A. (2016) Adding Spice to the Porridge: The development of a synthetic cannabinoid market in an English prison. *International Journal of Drug Policy*. Special Issue on Emerging Drug Trends.

RAPt (2015) *RAPt Research and Policy Briefing Series No.4- Tackling the issue of new psychoactive substance in prisons Rehabilitation for Addicted Prisoners Trust*. [Online] [Accessed on 14th January 2016] [http://www.rapt.org.uk/sites/default/files/16/RAPt%20Research%20and%20Policy%20Briefing%20Number%204%20v10%20AW%20edit%20-%20\(1.9.2015\).pdf](http://www.rapt.org.uk/sites/default/files/16/RAPt%20Research%20and%20Policy%20Briefing%20Number%204%20v10%20AW%20edit%20-%20(1.9.2015).pdf)

Reshape (2016) <http://www.reshapenow.org/chemsex> (last accessed 30th June 2016).

Romanelli, F., Smith, K.M. and Pomeroy, C. (2003) Use of club drugs by HIV-seropositive and HIV-seronegative gay and bisexual men. *In Top HIV Med*, Vol.11, No.1, pp.25-32.

SIGMA (2016) *State of Play: findings from the England Gay Men's Sex Survey 2014*. Published by Sigma Research, London School of Hygiene & Tropical Medicine.

Singleton, N., Meltzer, H. and Gatward, R. (1998) *Psychiatric Morbidity among Prisoners in England and Wales, Office for National Statistics*. London: The Stationery Office.

Sullivan A.K. (2015) Club drugs: what's happening? *Sex Transm Infect*, Vol.91, pp.388.

Sullivan, A.K., Boden-Jones, O. and Azad, Y. (2014) *BASHH statement on 'club' (recreational) drug use*. BASHH, 2014. [Online] [Accessed on 19th May] [http://www.bashh.org/documents/BASHH%20Statement%20on%20'club'%20\(recreational\)%20drug%20use.pdf](http://www.bashh.org/documents/BASHH%20Statement%20on%20'club'%20(recreational)%20drug%20use.pdf)

The TAB (2015) *Student Drug Survey*. [Online] [Accessed on 4th May 2016] <http://thetab.com/2015/05/15/manchester-is-the-capital-of-mdma-coke-and-ketamine-says-our-drug-survey-38682>

Thomas, S., Bliss, S. and Malik, M. (2012) Suicidal ideation and self-harm following K2 use. *In Oklahoma State Medical Association*, Vol.105, No.11, pp.430-3.

-
- UNODC (2015) *United Nations Office on Drugs and Crime, World Drug Report 2015*. United Nations publication.
- UNODC (2016) *United Nations Office on Drugs and Crime, World Drug Report 2016*. United Nations publication.
- Van Der Veer, N. and Friday, J. (2011) Persistent psychosis following the use of Spice. *In Schizophrenia Research*, Vol.130, pp.285-6.
- Van Hout, M. and Brennan, R. (2011) "Heads Held High": An Exploratory Study of Legal Highs in Pre-Legislation Ireland'. *In Journal of Ethnicity in Substance Abuse*, Vol.10, pp.256-272.
- Walker, D.F. (2015) The informal economy in prison. *In Criminal Justice Matters*, Vol.99, No.1, pp.18-19.
- Warren, H. (2016) *Taking Charge. Implementation and Delivery Plan*. Greater Manchester Health & Social Care Partnership.
- Winstock, A. (2011) The 2011 Mixmag drugs survey, *In Mixmag March* pp.49-59.
- Winstock, A., Mitcheson, R., Deluca, P., Davey, Z., Corazza, O. and Schifano, F. (2010) Mephedrone, new kid for the chop? *In Addiction*, Vol.106, pp.154-161.
- Wood, D., Measham, F. and Dargan, P. (2012a) "Our favourite drug": prevalence of use and preferences for mephedrone in the London night-time economy 1 year after control'. *Journal of Substance Use*, Vol.17, pp.91-97.
- Wood, D., Hunter, L., Measham, F. and Dargan, P. (2012b) Limited use of novel psychoactive substances in South London nightclubs. *In QJM*, Vol.105, No.10, pp.959-964.
- Zimmermann, U.S., Winkelmann, P.R., Pilhatsch, M., Nees, J.A., Spanagel, R. and Schulz, K. (2009) Withdrawal phenomena and dependence syndrome after the consumption of 'Spice Gold'. *In Deutsches Ärzteblatt International*, Vol.106, No.27, pp.464-7.

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- 1** The Angelus Foundation was founded in 2009 by Maryon Stewart, a health practitioner and author. Her 21 year-old daughter Hester, passed away after consuming a legal high (GBL) in April 2009. For more information see: <http://www.angelusfoundation.org.uk/>
 - 2** Later in this report, we consider the impact that the new *Psychoactive Substances Act* may have on specific sub-populations and motivations for consumption.
 - 3** The recently released SIGMA research only distinguishes between those gay and bisexual living in London and those they refer to as 'the rest of England'. It may be possible to obtain a breakdown of these data for (Greater) Manchester residents on request.
 - 4** The generic term 'Spice' is widely used in the British prison system to refer to any form of synthetic cannabinoid. This term was also widely used when discussing synthetic cannabinoid use amongst many users and stakeholders in the current research.
 - 5** All the names used in the case studies are pseudonyms.

