



European Monitoring Centre
for Drugs and Drug Addiction

Health responses to new psychoactive substances



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Executive summary

- Responses to the emergence of new psychoactive substances (NPS) across Europe have largely been regulatory. However, findings from this study show that health- and drug-related interventions have emerged in response to evidence of harms associated with NPS use in some user groups and settings across Europe.
- Interventions identified and recommended in this study are largely based upon existing responses to drug use. Although limited, approaches have been adapted to reflect unique user group needs, the structural, cultural and social contexts of use, and new opportunities for the engagement of user groups and delivery of services.
- A number of key groups are considered to be at greater risk of NPS use and related harms. This includes, but is not limited to, participants in nightlife, men who have sex with men (MSM), people in custodial settings, young people and people who inject drugs. Such groups can be accessed across a range of settings including low-threshold services, specialist treatment, sexual health services, nightlife settings, schools, prisons and other custodial settings.
- Good practice guidelines and recommendations for responding to NPS tend to reflect evidence-based responses to harms associated with the use of established drugs, and include drug education, professional training and awareness-raising activities for health professionals, and low-threshold services such as needle and syringe exchange programmes (EMCDDA, 2015b).
- Given a lack of specific data on the use, nature, harms and effectiveness of various responses to NPS use, existing effective approaches in reducing drug use and associated harms across settings should be adapted to incorporate NPS. This assumes that existing responses to drug use are already effective and delivered to a high standard, but it is clear that this is not always the case. Reference should always be made to authoritative guidelines and quality standards.
- Although innovation should be encouraged, approaches that have already been shown to be ineffective or unhelpful are unlikely to be improved with adaption.
- Responses to NPS use must adapt to the unique harms and needs experienced by some members of some user groups, and the content and delivery of existing interventions may need to be carefully adapted. A professionally competent workforce with the required skills is needed to adapt and support health responses to NPS use, and needs assessments can assist in adapting existing approaches.
- There currently appears to be an overall limited demand for specialist treatment for NPS in Europe, although some specialist services have been developed in Member States where a need for such services was identified. However, in some Member States the lack of drug services that target NPS users and 'recreational' drug users in general has been reported to explain the low demand observed within existing treatment services. Multi-disciplinary approaches offer a useful way of engaging vulnerable groups who may not come into contact with traditional drug services (e.g. engaging MSM who practise 'chemsex' via sexual health services). Joined-up working across services is considered important, but can be difficult to realise and implement.
- Cultural competence (an understanding of how (sub) cultural issues influence patterns of drug use and associated harms) is required to improve service engagement and uptake. This includes services being accessible and welcoming, but staff may also require training to develop the necessary cultural competencies to work with diverse groups of NPS users, who may not previously have presented to drug services.

Introduction

The emergence of NPS over the last decade poses an important challenge to drug policy (UNODC, 2013). While prevalence levels of NPS use remain low in the general European population, there are important concerns with more problematic forms of use and harms in particular risk groups across different health and social settings. Important public health issues have arisen as a consequence of their use, although the real extent of these harms across Europe remains unknown. Initial responses to NPS in Europe have largely been regulatory, focusing on their supply using legislative tools (EMCDDA, 2015a) but, as the phenomenon evolves, it has increasingly become a priority to formulate and implement effective public health responses. Yet, while information on and our understanding of the availability and use of NPS have increased, there are still considerable knowledge gaps in current practices and even in the challenges and needs of European health professionals who are responding to the use of and harms caused by these novel substances.

Therefore, this short report first provides an overview of the current situation in terms of NPS use and harms across Europe. It then reviews and discusses the available health- and drug-related interventions to reduce and prevent the use and potential harms of NPS, and the challenges posed to European health professionals by an increasingly diverse and dynamic drug market. Health- and drug-related interventions covered in this report include acute care in emergency settings, as well as drug treatment, harm reduction and prevention activities delivered over the internet and in various intervention settings such as schools, specialist treatment centres, low-threshold, nightlife, sexual health and custodial settings.

Methodology

To address this lack of evidence and information, a rapid review of the literature was conducted following a two-day consultation with a range of European experts working in a number of settings across Europe. Literature searches were conducted by both the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and Liverpool John Moores University (LJMU) using a number of academic literature databases, hand-searching reference lists within documents and searching for grey literature on numerous organisations' websites. In October 2015 the EMCDDA brought together a multidisciplinary expert panel comprising European health professionals and researchers (N=17) to explore the challenges, needs and best practice in responses to NPS in a variety of health and intervention settings (see p. 22 for the list of experts). The consultation provided a platform to identify current health and intervention responses, and to highlight key issues and challenges in planning and delivering health responses to NPS use and harms across Europe.

In-depth notes taken throughout the consultation alongside the expert presentations were considered and reflected on when writing this report. Project descriptions, publications and any literature documenting the evidence base or guidelines that may underpin the various approaches taken within specific intervention settings were also requested.

For the purposes of this report, health- and drug-related interventions include acute care management, drug treatment, harm reduction and prevention activities. Adopting a socioecological approach to the promotion of health and well-being (McLeroy et al., 1988), the report emphasises both specialist individually targeted health responses and wider societal and community actions, and the relationships and interactions that link them all together. It is important to note that the high-risk groups focused on in this report are not exhaustive and other groups (e.g. patients experiencing mental ill health, sex workers, people who are vulnerably housed, looked after and accommodated children) may also be at increased risk of NPS-associated harms. In some cases the groups discussed in the report were presumed to be at high risk despite a lack of formal evidence.

Additionally, a settings-based approach was taken to draw attention to specific issues faced by a number of high-risk groups, by health professionals and the health and intervention responses that are available in these settings. High-risk user groups identified include: partygoers/nightlife attendees; individuals presenting to emergency departments; people in prison; existing problematic users and people who inject drugs (PWID); and MSM. Young people are also included, not necessarily because they are at greater risk from acute harms of NPS use but because use in this stage of development may establish future drug behaviours, may lead to more years of ill health, and they may not have developed the resources to 'self-manage' their drug use. Moreover, there has been heightened societal concern over the use of NPS by young people throughout Europe. Although a settings-based approach is taken, it is acknowledged that whilst these groups may be more likely to come into contact with services in particular settings, they could also present across a number of settings. See Figure 2 for a description of the settings and user groups included in this report.

In summary, this report is based on a rapid review of the literature, the conclusions of the two-day consultation and further project information provided by consultation participants. Case studies are presented and key issues in need of consideration when responding to the use and harms of NPS are discussed. It is intended that this information and the recommendations will be useful to practitioners working across a number of settings when planning and delivering NPS health and intervention responses.

Limitations

The targeted multi-source data collection approach used in this report is designed to explore emerging threats or developments in new areas where, by their very nature, existing literature is weak and restricted. It is understood that the information will be partial and incomplete. Whilst proving timely and valuable insights, the approach has obvious weaknesses based on the incompleteness of the information available. Therefore, interesting hypotheses can be generated for follow-up research, and a useful purpose is served by auditing the information available on the situation, but caution must be exercised in over-inferring from the data available. Results presented in this report are based on analysis and triangulation of the qualitative data sources described above. However, the limitations of reliance on qualitative data and expert opinion need to be acknowledged and caution applied in interpretation of results.

Definition of NPS

Various definitions of NPS exist, although no formal definition is universally accepted. Some definitions refer to ‘novel’ psychoactive substances and some to ‘new’ psychoactive

substances. For consistency with wider EMCDDA work, the latter is used in this report (abbreviated as NPS), but it is acknowledged that although these substances may be newly and recently created, some were synthesised many years ago with new evidence of sale and use. This report defines a NPS as ‘a new narcotic or psychotropic drug, in pure form or in preparation, that is not controlled by the 1961 United Nations Single Convention on Narcotic Drugs or the 1971 United Nations Convention on Psychotropic Substances, but which may pose a public health threat comparable to that posed by substances listed in these conventions’. These substances are psychoactive in that they stimulate or depress the central nervous system (Council Decision 2005/387/JHA).

Although a legal definition is provided here, it is also important to move beyond this (i.e. novelty of substances and international control) in order to focus additional attention on emerging drug issues and trends, new types of harm and newly emerging user groups. Therefore, the report sometimes refers to the use of drugs that are not legally classed as NPS but have a history of recreational use with new evidence of harm beginning to emerge (e.g. ketamine), and also a number of controlled substances used in similar settings and target groups, especially ‘club drugs’

FIGURE 1
Number and categories of new psychoactive substances notified to the EU Early Warning System, 2009–15

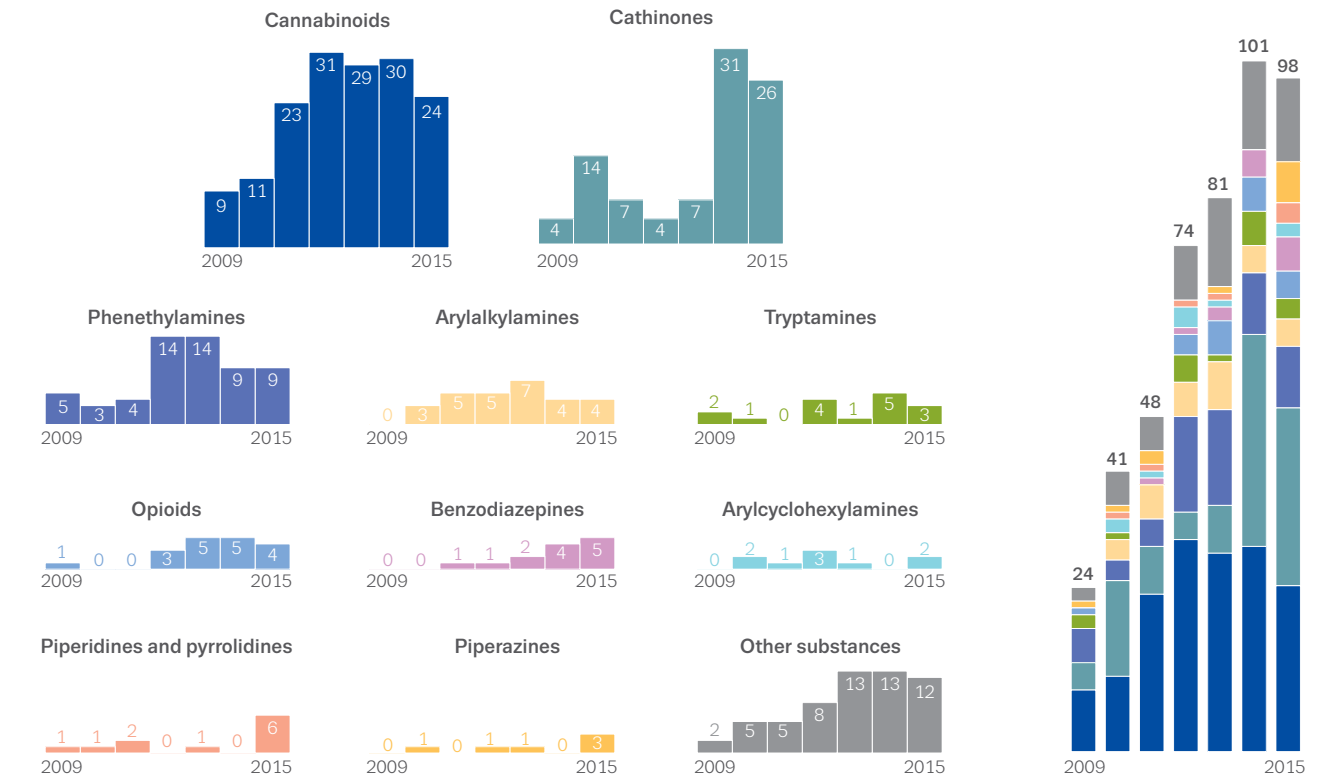
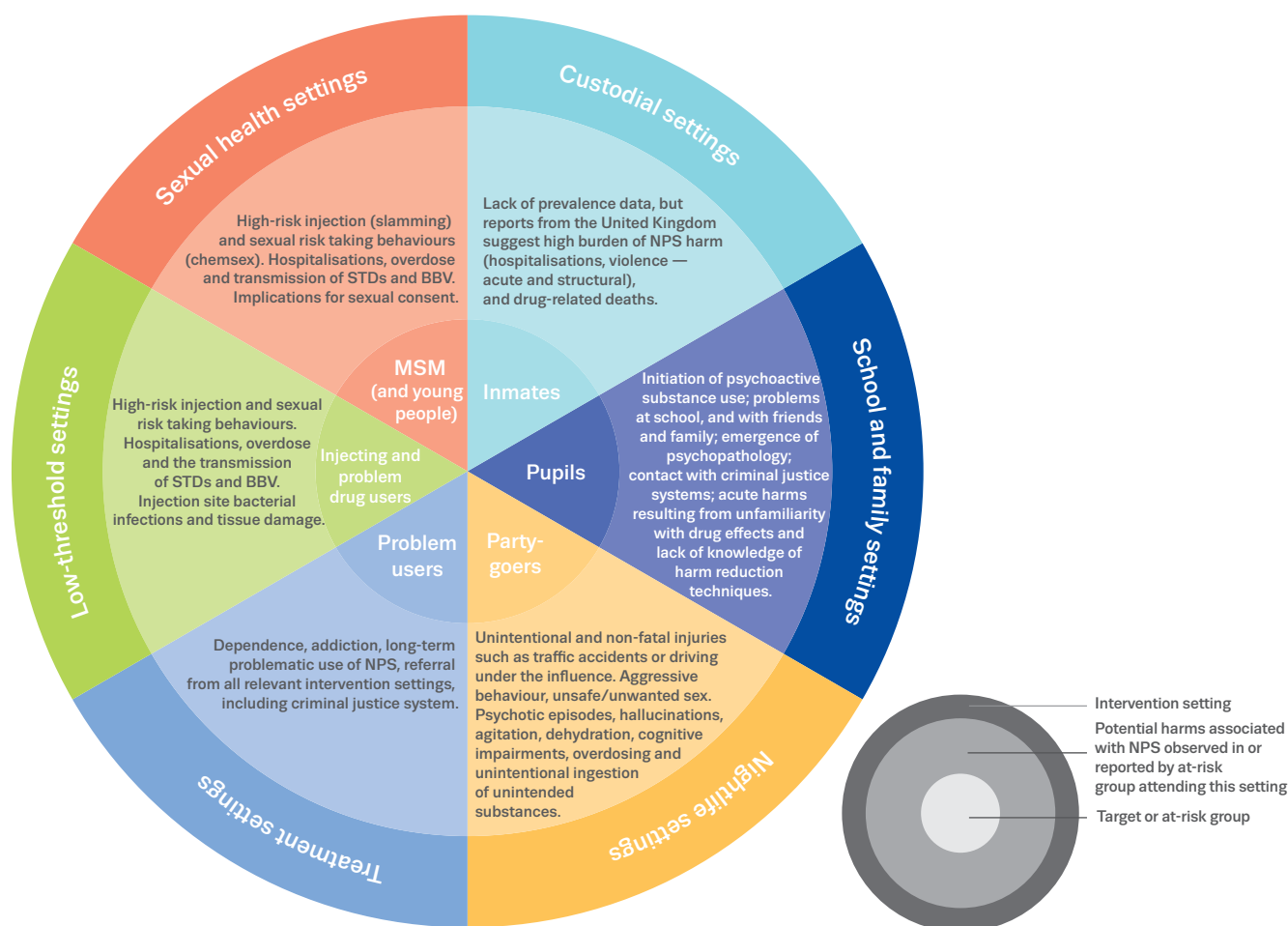


FIGURE 2

Relevant intervention settings (outer ring) where potential NPS-related harms and risk behaviours (middle ring) are reported by or observed among at-risk groups (inner ring)



Overview of the current situation and challenges

Concern surrounds the rapid emergence of NPS, their open sale, a lack of evidence on their effects and harms, and how to effectively respond (EMCDDA, 2015c; United Nations, 2014). The number of new drugs being detected and seized across Europe continues to grow. In 2015 a total of 98 new substances were detected for the first time, bringing the number of new substances monitored to more than 560, of which 70 % were detected in the last five years (EMCDDA, 2016d). These include synthetic cannabinoids, stimulants (including cathinones), hallucinogens and opioids that are designed to mimic the effects of established substances (see Figure 1). Whilst many of these substances tend to quickly disappear from the market and fail to diffuse, some, particularly synthetic cathinones such as mephedrone, are now prominent within illicit drug markets and recreational and problematic drug repertoires. European drug markets have therefore continued to evolve and diversify, with continued long-term and new patterns and trends of use (EMCDDA and Europol, 2016)

Estimating the prevalence of NPS use is challenging due to methodological and definitional inconsistencies, which also makes comparing national estimates difficult. The Flash Eurobarometer (European Commission, 2014) survey of drug use among young people aged 15–24 estimated that lifetime use of ‘legal highs’ (defined as new substances that imitate the effects of illicit drugs) was relatively low, with 8 % reporting lifetime use and 3 % reporting use in the last year (European Commission, 2014). Comparing national survey results, the EMCDDA reported that last year prevalence of NPS use (not including ketamine and GHB) among young people aged 15–24 ranged from 9.7 % in Ireland to 0.2 % in Portugal. A number of non-representative prevalence studies have also helped to establish use among key groups such as school students, partygoers, people in prison and existing injecting drug users (EMCDDA, 2015b). Thus, whilst the prevalence of NPS use in the general population is low compared to more established drugs such as cannabis and MDMA/ecstasy, it can be tentatively concluded that NPS use appears to be more important among some of these risk groups. When considering prevalence it is important to acknowledge that,

for most user groups, NPS are one component of polysubstance use, and they are generally added to existing drug repertoires rather than replacing (established) drugs that are already used (Sumnall et al., 2013). Moreover, users may experience NPS harms without meeting the diagnostic criteria for a substance use disorder or presenting to structured services, and their experience of NPS may change with age and the context of use.

There is a general lack of data on the public health and societal harms of NPS. However, there is increasing evidence of the association of NPS with hospital emergencies, acute adverse health consequences and some drug-induced deaths, although in many cases of fatal intoxication other substances had also been taken (EMCDDA, 2014a, 2014b, 2015a, 2015b). For example, unlike herbal cannabis, synthetic cannabinoids have been associated with strokes, and liver and kidney damage, and there are concerns that the use of these types of NPS may exacerbate psychiatric symptoms (Castaneto et al., 2014; Papanti et al., 2013). Similarly, mephedrone and other substituted cathinones have been associated with injection, compulsive use and social harms in some European Union (EU) countries (EMCDDA, 2015b). In some regions of Hungary, Romania and the United Kingdom there has been an increase in demand for treatment associated with the use of such substances. However, the number of deaths associated with the use of NPS and the number of individuals in treatment for NPS use is much smaller than for established drugs, which may reflect lower prevalence rates (EMCDDA, 2015b).

There are diverse legal and policy responses to NPS across Member States, and the Council of the EU is currently developing a model of regulation (EMCDDA, 2015a). These actions, and general drugs policy, may facilitate or limit the types of intervention that might be delivered. For example, whilst on-site drug checking is supported, or at least tolerated, by some governments, others have publicly opposed formally supporting and funding such work. Similarly, some countries provide full community equivalence of health services in custodial settings (including needle and syringe programmes), whilst others do not. It is also important to acknowledge the unintended secondary harms of drug policy, which may lead to the exclusion, stigmatisation and de-prioritisation of some user groups, including NPS users (e.g. UKDPC, 2010).

The following sections of this report provide an overview of health and intervention responses in seven different intervention settings by highlighting key issues, evidence and challenges in planning and delivering health responses to NPS use and harms in these settings.

School and family settings

Schools are the most common setting for the delivery of drug prevention and education in the EU (EMCDDA, 2015b), and whilst there is a developing evidence base for effective approaches and programmes these activities tend to be focused on drugs such as cannabis, or target substance-related risk factors and harms in general (EMCDDA, 2015f; Faggiano et al., 2014).

As NPS prevalence in the school age population is low (European Commission, 2014), universal approaches, which target all students regardless of their level of risk of NPS use, are unlikely to be cost-effective. Accordingly, there is currently no evidence upon which to make recommendations for *specific* school-based NPS prevention activities. Whilst existing (and effective) prevention programmes may be adapted to include NPS (e.g. the online Australian Climate Schools: Ecstasy and Emerging Drugs Module currently being trialled by Champion et al., 2015) it is important that these are only delivered as part of a carefully monitored evaluation in order to assess the impact of the adaption and the effectiveness of the programme on the targeted behaviours. This is because, despite best intentions, many prevention programmes and approaches are ineffective (e.g. standalone mass media and information campaigns, fear arousal approaches, random drug testing), and may even have negative effects and lead to increased drug use or intention to use drugs because, for example, they may 'normalise' NPS use (i.e. they may give the impression that more people use NPS than actually do) or bring attention to behaviours that might otherwise have been avoided (e.g. by raising awareness of the use of synthetic cannabinoid receptor agonists (SCRAs) as a substitute for the relatively less harmful cannabis). Furthermore, there are important ethical concerns about delivering ineffective or harmful programmes instead of those that are likely to lead to positive changes in behaviour. Resources such as the European Drug Prevention Quality Standards (Brotherhood and Sumnall, 2011) and other tools (UNODC, 2013) might be useful in the development and refinement of NPS-related prevention activities.

It is therefore recommended that school-based NPS-related prevention activities should only be delivered as part of generic prevention programmes for which there is evidence of effectiveness (EMCDDA, 2015b; Faggiano et al., 2014; UNODC, 2013). Such approaches include interactive skills training, classroom management activities and school retention programmes, and might also include family components such as monitoring and supervision. If there is evidence of need (e.g. there have been local NPS-related incidents, or surveys suggest use is likely to be high in the locality), NPS-specific components might focus on providing accurate descriptive and injunctive norms (e.g. based on local data 'very few people use NPS'; and 'young people like you

say they don't want to take risks with unknown NPS'). NPS education, including harm reduction, is most appropriate for those target groups and individuals who are either already using drugs, or at increased risk of use. Schools are also a suitable setting in which to deliver indicated and targeted prevention approaches, but the same considerations apply.

Teachers and other school staff may not have the skills required to assess NPS-related risk, respond to questions about NPS from students or deliver specific prevention activities, and therefore other organisations might be best placed to deliver these or to receive referrals in the school or community setting. It is important that the decision on which external providers and resources to use is carefully considered in order to ensure accuracy and objectivity, quality of delivery, the developmental and experiential relevance of the material covered, and coherence with the school's wider approach to health and well-being.

Nightlife settings

Individuals (commonly referred to as 'partygoers') participating in nightlife settings such as bars, pubs, nightclubs, discotheques and music festivals and events

report high rates and frequency of drug use compared to the general population (EMCDDA, 2014b). Despite this, the overall use of NPS in nightlife settings is relatively low compared to traditional club drugs (Stephenson and Richardson, 2014). Even so, the use of drugs and alcohol in nightlife settings has been associated with an increased risk of a range of health and social harms such as injury, aggressive behaviour, unsafe/unwanted sex and driving under the influence (EMCDDA, 2006, 2012; Charlois, 2009). In addition, acute and chronic health risks are commonly associated with the consumption of drugs of unknown content, strength and purity.

Nightlife settings are therefore relevant to developing an understanding and response to drug use (including NPS) and provide opportunities to target recreational and harmful drug use. A range of health responses to drug use and related harms have been applied to nightlife settings and include changes to the physical environment (e.g. chill out rooms, crowd control, ventilation), the provision of information, education, outreach, drug checking and crisis management (Charlois, 2009; EMCDDA, 2012; Brunt and Niesink, 2011; Valente et al., 2015). There are a growing number of examples of both on- and off-site drug checking services across Europe that provide chemical analysis of drugs submitted for testing by users (see boxes on 'CHECK!N' and 'checkit!', p. 9 for examples of on-site drug checking facilities and boxes on 'DIMS' and 'WEDINOS', p. 10 for examples of off-site facilities). Such facilities are presented as an opportunity for

CHECK!N — APDES, Portugal

CHECK!N was established in Portugal in 2009 as a drug checking and harm reduction information platform. It carries out on-site analysis of NPS and more traditional drugs with the aim of promoting the health and safety of partygoers by providing safe and reliable information to users of psychoactive substances. In addition to practical interventions (such as testing equipment, condoms, alcohol breathalyser), CHECK!N provide crisis management in the form of on-site counselling and advice for users experiencing psychological distress after ingesting drug/s. CHECK!N also provides training and education to peers, staff in nightlife settings and health professionals working with at-risk groups. An evaluation of CHECK!N at a festival in 2014 found that almost half of the drugs analysed (45 %) were not what users expected them to be. As a result, users' drug-use intentions changed — 29 % reported intending not to consume the drug and 71 % intending still to consume the drug but with the aim of searching for more information (10 %), taking a smaller dose (15 %) or not mixing it with other substances (30 %).

See: www.apdes.pt/en/services/health-harm-reduction-human-rights/checkIn.html

checkit!, Austria

Operating in Vienna since 1997, the checkit! programme provides an on-site drug checking analysis in nightlife settings and provides users with a content analysis of their drugs, harm reduction information and counselling on the effects and dangers of psychoactive substances. The aim is to reduce drug-related harms and provide early warnings on potentially dangerous substances (or dangerous doses) that are in circulation. Although there are no recent evaluations of the programme, checkit! has previously issued alerts regarding the circulation of PMA/PMMA pills (EMCDDA, 2001). Furthermore, a recent review of the programme found that between 2010 and 2014 there was a significant decrease in the number of users who expected NPS to be in their analysis (8.9 % in 2010; 0.8 % in 2014) and those who didn't (10 % in 2010; 4.1 % in 2014), and overall there was a decrease in NPS presented at events attended by checkit! (19 % in 2010; 4.9 % in 2014) (Schmid, 2015).

See: www.checkyourdrugs.at

Drugs Information Monitoring System (DIMS), the Netherlands

DIMS has been facilitating the testing of drugs for users since the 1990s. It was set up with the aim of preventing serious health hazards (e.g. adverse drug effects or unintentional overdoses) associated with using psychoactive substances, including NPS (Brunt and Niesink, 2011). Users anonymously submit their drugs for testing and are asked a series of questions regarding their experience with the substance. By establishing this information exchange between users and the testing facilities, DIMS aims to quickly deliver prevention and harm reduction messages directly to users. Furthermore, DIMS contributes to monitoring the Dutch drug market and identifying newly emerging NPS and drug trends. Such monitoring allows it to extend its prevention activity to a range of substances and to issue national risk alerts on known dangerous substances or situations (Brunt and Niesink, 2011).

See: www.drugs-test.nl

users to make an informed decision about their intended drug use, and some service providers also use the interaction to deliver personalised advice and harm reduction information, screening and brief intervention (TEDI, 2013). Data from testing may also be directed to policymakers and health and social welfare professionals, who may benefit from information on the nature of drugs in circulation in their operating geography. However, there is currently a lack of evidence on the effectiveness of drug checking in reducing drug use and related harms (including NPS), and there is a need for a better understanding of optimal content, framing and targeting of urgent communications about potentially harmful drugs. This is partly because users may not have the health literacy skills to access, understand and act upon the information in circulation, and because intoxication may make decisions around drugs more difficult. Furthermore, there is also a lack of standardisation of methods and analytical techniques, ranging from simple reagent testing kits targeted at consumers (e.g. Marquis/Mecke reagents) to more expensive and sophisticated equipment (e.g. infrared laser; high-performance liquid chromatography). These require specialist training for operation and interpretation and are the most adequate in identifying the chemical composition of psychoactive substances emerging on the market.

The aims and impact of nightlife health responses are not always sufficiently defined or evaluated, and there is a lack of NPS-specific responses in nightlife settings (Pirone et

Welsh Emerging Drugs and Identification of Novel Substances Project (WEDINOS), United Kingdom

Established in October 2013, WEDINOS provides anonymous testing of NPS that are submitted to it. Between October 2014 and September 2015, 1 350 samples were analysed, some of which were reported as new substances to the EMCDDA's Early Warning System (Wedinos, 2016). WEDINOS also gathers information from users, such as symptoms experienced following the ingestion of drugs. This information enables the organisation to provide evidence-based harm reduction information and advice for users and also provides a means for identifying trends in use and toxic substances in circulation.

See: www.wedinos.org

al., 2016). However, health responses and interventions aimed at the use of established drugs and alcohol in nightlife settings are relevant and may be adapted to respond to NPS use and related harms (e.g. the EU Healthy Nightlife Toolbox and the EMCDDA Best practice portal entries on partygoers and nightlife).

Sexual health settings

In recent years concern has surrounded the injection of stimulant drugs, including NPS, by small yet diverse groups of MSM in a number of European countries (Bladou, 2015; Csák, 2015; EMIS Network, 2010; EMCDDA, 2015b; PHE, 2015; Stuart, 2015). Chemsex refers to the intentional use of drugs such as mephedrone, GHB/GBL and methamphetamine to enhance, sustain, disinhibit or facilitate sexual pleasure (Bourne et al., 2015a, 2015b). This practice is associated with both drug and sexual risk-taking behaviour (e.g. injecting known as 'slamming', unprotected sex, sex with multiple sexual partners, prolonged sexual sessions) and a range of harms including hospitalisations, overdose, sexually transmitted infections (STIs) and blood-borne viruses (BBVs) such as human immunodeficiency virus (HIV) and hepatitis C virus (HCV); there are also implications for sexual consent (Bourne et al., 2015a, 2015b; Bracchi et al., 2015; Daskalopoulou et al., 2014a, 2014b; Grossman et al., 2015; McCall et al., 2015; PHE, 2015; Raudah et al., 2015; Ruf et al., 2006; Stuart, 2013). Despite the risk of harm, it is important to note that not all users participating in such practices experience harm, and that by far not all MSM engage in this practice (Holt, 2014).

MSM who practise chemsex face a number of barriers to accessing services. These include stigma, a lack of cultural competence among traditional drug and sexual health service providers, MSM not self-identifying their drug use as problematic, a lack of awareness of available drug services among MSM, and a lack of provision of specific services for those who use chemsex drugs (Bourne et al., 2015a; McCall et al., 2015; PHE, 2015). A preference for MSM to engage with sexual health services and a need for combined sexual health and drug interventions has led to the development of joined-up services targeted at this population (Bourne et al., 2015a; EMCDDA, 2015b; McCall et al., 2015; see boxes on '56 Dean Street Sexual Health Clinic' and 'Burrell Street

Sexual Health Centre', p.11). With regard to reducing harms associated with sexual risk behaviour involved in chemsex, specialist support services for MSM with HIV may also be useful (e.g. associated with the interaction between recreational drugs and prescribed medication) and prevent the transmission of HIV and other STIs (Daskalopoulou, 2014b). However, there is currently a lack of data to inform appropriate harm reduction services, and a lack of evaluation of the effectiveness of these approaches (Bourne et al., 2015a). Guidance for clinicians in responding to the use and associated harms of club drugs for chemsex purposes is provided by the Novel Psychoactive Treatment: UK Network (NEPTUNE) (Abdulrahim et al., 2016; see box on 'Guidance for substance use service staff working with MSM', p. 12).

56 Dean Street Sexual Health Clinic, United Kingdom

The Chelsea and Westminster Hospital NHS Foundation Trust, London, established the 56 Dean Street Sexual Health Clinic to respond to the specific needs of MSM (PHE, 2015; Stuart, 2013, 2015; 56 Dean Street, 2014). Taking a partnership approach, it provides a range of services with the aim of addressing the public health harms associated with chemsex (e.g. HIV/HCV and STIs) and the lifestyle/well-being consequences of using (including injecting) drugs in such sexual contexts. Services provided include a needle and syringe programme, workshops and support for MSM addressing issues such as safe injecting and 'sober' sex, harm reduction advice and campaigns, sexual health advice and testing, community mobilisation and outreach and brief psychosocial one-to-one interventions (e.g. motivational interviewing) addressing goals around drug use and sexual behaviour. The service also provides information and training for healthcare providers working with MSM engaging in chemsex to familiarise them with this practice, the associated risks (e.g. HCV and HIV) and motivations for behaviour, whilst aiming to improve competencies in effectively communicating such risks and the importance of STI testing to clients. Although the service has yet to be evaluated, it provides an example of a partnership working to address the harms associated with drug use and sexual risk-taking behaviour among MSM, and to improve the sexual and general well-being of clients.

See: www.chelwest.nhs.uk/services/hiv-sexual-health/clinics/56-dean-street

Regardless of the setting, the provision of clear, honest and non-judgemental advice on chemsex and information on how to manage potential harms should be delivered by culturally competent individuals (Abdulrahim and Bowden-Jones, 2015; Bourne et al., 2015a, 2015b; PHE, 2015). Cultural competence in addressing chemsex is important, and the services presented here provide examples of culturally competent spaces for the provision of sex and drug services for MSM participating in chemsex. Given the lack of evaluation of current practice, it is important that research is undertaken into the effectiveness of such approaches in addressing the sexual, physical and mental health needs of MSM engaging in chemsex.

Burrell Street Sexual Health Centre, United Kingdom

The Burrell Street Sexual Health Centre at Guy's and St Thomas' NHS Foundation Trust, London, is an example of a specific harm reduction response to the injecting of club drugs for sexual purposes by MSM. Alongside the provision of sexual services such as advice, testing and treatment, the clinic has also developed, in collaboration with drug services, 'slamming kits' containing colour-coded needles (to reduce the chances of using the wrong needle) and syringes labelled with measures for GHB/GBL (to reduce the risks of overdose). The kits are intended to encourage safe injecting among MSM engaging in chemsex (PHE, 2015). PHE (2015) reports that distributing the kits has encouraged the use of other counselling and sexual health screening services at the clinic and has led to new diagnosis of HIV infections and STIs among this population.

See: www.burrellstreet.co.uk

Guidance for substance use service staff working with MSM (PHE, 2015)

- Services should aim to gain an understanding of local patterns of drug use (injecting, club drug and NPS use) among MSM through the use of surveys and other information sources.
- Staff within mainstream substance use services should be confident that they are responsive to the specific needs of MSM (e.g. sexual and mental health issues, issues of personal stigma, varying patterns of drug use). They should also be comfortable discussing sexual practices associated with drug use among MSM.
- MSM may not recognise their drug use as problematic. Staff should therefore be skilled in screening or supporting user self-identification of problematic drug use in appropriate ways.
- Services must be accessible to MSM (e.g. available outside normal working hours, dedicated chemsex/MSM services housed in other accessible services).
- Joined-up working between substance use and sexual health services should be established and referral pathways developed.
- Needle and syringe programmes should be available within sexual health services. Programme staff should be aware that MSM may require different advice and equipment than is provided for opiate injectors (e.g. coloured needles).
- Staff should be aware that some MSM may have previous negative experience of substance use

services and as such should be supported and supervised to explore such issues and develop their practice and services in accordance.

- Staff should receive training and support to develop their competencies in assessing, treating and referring MSM clients in a culturally sensitive and competent manner.

NEPTUNE overview and recommendations on club drug use among lesbian, gay, bisexual and transgender (LGBT) people

This document describes patterns of club drug use among LGBT populations, as reported in the literature. It examines at the factors that may impact on the use of substances and discusses drug-related and other harms.

The document also looks in some detail at the use of drugs in a sexual context and at the risks associated with a particular pattern of drug use and sexual behaviours, sometimes referred to as 'chemsex', that have been particularly associated with risk and harm. The document addresses treatment responses to club drug use for MSM and is intended to guide improved service and treatment planning.

See: 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. Available online at: neptune-clinical-guidance.co.uk/wp-content/uploads/2016/02/neptune-club-drug-use-among-lgbt-people.pdf.

Emergency and clinical services

It is difficult to estimate the number of NPS-related emergency presentations across Europe due to coding and data collection differences between and within countries. A recent study across 16 European Drug Emergencies Network (Euro-DEN) sentinel sites (see box on 'Euro-DEN', p. 13) between October 2013 and September 2014 found that 5.6 % of 5 500 presentations mentioned NPS. Whilst the potential long-term harms of most NPS are poorly understood,

acute harm is typically encountered in presentations to emergency and other pre-hospital services (e.g. ambulances) (Wood et al., 2014a; Dines et al., 2015).

Despite limited understanding of the acute toxicity of many NPS, difficulties in identifying substances consumed (i.e. through self-report or toxicological screening), and the high proportion of polysubstance use, staff working in emergency settings have been required to develop treatment and best practice protocols in response to NPS-related presentations. Clinical management is

generally orientated towards providing symptomatic care, as much NPS toxicity is likely to be similar to that produced by better characterised drugs in equivalent pharmacological classes (see box on NEPTUNE guidelines, p. 16; Abdulrahim and Bowden-Jones, 2015). However, there are notable exceptions that illustrate gaps in clinical understanding. The dissociative methoxetamine, for example, unlike the more popular ketamine, is associated with cerebellar toxicity (Shields et al., 2012); whilst, unlike cannabis, presentations associated with SCRAAs have included ischaemic stroke and acute kidney injury (Lovett et al., 2015). National poison centres are useful sources of expertise and advice, and for more frequently encountered NPS may provide an assessment of the hazards of a specific exposure, whether hospital referral is needed and the specific management required (Wood et al., 2014b).

Whilst most cases will be discharged within a few hours of presentation, there may be opportunities for medical staff to provide screening, brief advice and referrals to community support (EMCDDA, 2016b). In the busy emergency environment this may not always be possible, but the salience of acute care may mean that users are receptive to such interventions, and they may not otherwise come into contact with drug services. Opportunities for emergency care and support are not just limited to hospital settings. On-site medical support plays an important role in multidisciplinary outreach responses in nightlife and festival settings (see section on 'Nightlife

settings', p. 9), and guidelines have been developed that aim to improve pre-hospital management and identification of individuals who require immediate hospital assessment by nightlife medics (Euro-DEN, 2015).

Specialised treatment settings

Due to differences in NPS uptake and markets there are currently no comparable EU-wide estimates of problem or high-risk NPS use or presentations to treatment services where NPS, except synthetic cathinones, have been identified as the primary problematic drug. However, the EMCDDA reports treatment demand for a limited number of drugs of relevance regarding emerging trends and novel drugs in some countries. Overall, demand for specialist treatment remains low and represents less than 2 % of all clients entering treatment in Europe. Only the United Kingdom (1 266 clients) and Poland (321 clients) report noticeable figures for treatment demands related to problems associated with synthetic cathinones, representing between 10 % and 30 % of all clients entering treatment for stimulant-related problems in these two countries. GHB- and GBL-related treatment demands are observed mostly in the Netherlands and the United Kingdom, while the number of treatment demands associated with ketamine-related problems is low across Europe (EMCDDA, 2016d; see Table 1). With the exception

European Drug Emergencies Network (Euro-DEN)

The Euro-DEN project was funded by the European Commission and has developed a network of 16 sentinel sites in 10 EU countries. The network gathered, critically assessed, and analysed data on admissions to emergency departments with acute toxicity associated with the use of drugs (including NPS). In addition, the project aimed to improve the recognition and assessment of acute drug toxicity by providing training for staff working in recreational settings. During a 12-month data collection period (October 2013 to September 2014) the Euro-DEN centres recorded over 5 500 presentations to emergency departments with acute drug toxicity. The network also produced guidelines for nightlife staff on when to call emergency services for unwell drug users.

See: www.emcdda.europa.eu/best-practice#view-answer18

National Poisons Information Service, United Kingdom

Approved by the UK Department of Health and commissioned by Public Health England, the National Poisons Information Service (NPIS) provides expert advice on all aspects (e.g. diagnosis, treatment and care) of acute and chronic poisoning as a result of exposure to a range of substances, including established drugs and NPS. Information is provided via the NPIS's online resource TOXBASE and by telephone. It provides healthcare professionals with rapid evidence-based advice to facilitate the clinical management of patients and others with suspected or confirmed poisoning and those who are (or may be) exposed to medicines or other potential poisons during pregnancy. In cases where toxicity is low, NPIS provides advice that aims to minimise unnecessary hospital attendances and admissions.

See: www.npis.org/index.html and www.toxbase.org

of groups identified elsewhere in the report it is currently unknown whether the NPS user population presenting at European treatment services differs from that of the traditional treatment client base, thus justifying different responses. Users of NPS may therefore require support for additional needs associated with (but not limited to) polydrug use, physical and mental ill health, offending behaviour, housing and employment problems, injecting behaviour and sexual health concerns.

Structured (community or inpatient) drug treatment responses to NPS are not expected to substantially differ from those offered to clients using drugs from similar classes,

and in general it is recommended that existing high-quality evidence-based guidelines and quality standards for drug treatment are adhered to (e.g. Council of the European Union, 2015; EMCDDA, 2016a; UNODC and WHO, 2008; WHO, 2010). Unlike drugs such as opiates, there are currently no maintenance or substitute pharmacotherapies available for NPS and, with the exception of GHB/GBL (Kamal et al., 2013; TOXBASE UK guidelines, see boxes on 'National Poisons Information Service', p. 13 and 'GHB treatment at the Novadic-Kentron institute', p. 17), there are few recommendations for specific pharmacological management of withdrawal. However, pharmacotherapies may be appropriate for symptom relief upon discontinuation.

TABLE 1

All clients entering specialist treatment for NPS-related problems as their primary drug in 28 Member States, Turkey and Norway (2014 data or latest data available)

Country	Year	Synthetic cathinones	All stimulants	GHB/GBL	All hypnotics and sedatives	Ketamines	All hallucinogens	All clients with known primary drug
Belgium	2014	0	1 229	0	787	0	26	10 702
Bulgaria	2014	0	87	0	49	0	0	1 804
Czech Republic	2014	0	7 038		64		7	10 090
Denmark	2011		371		69		5	3 779
Germany	2014		13 664		1 754		133	85 026
Estonia	2014		12				5	281
Ireland	2014	35	152	1	1 065	1	5	9 523
Greece	2014	0	23	0	128	0	1	4 697
Spain	2013	1	923	0	1 175	70	120	51 946
France	2014	30	486	16	849	53	206	41 362
Croatia	2014	0	132	0	116	0	4	7 812
Italy	2014		266	9	298	11	80	51 224
Cyprus	2014		48	1	4			1 068
Latvia	2014	3	126	1	23	0	6	826
Lithuania	2014	0	81	0	32	0	4	2 159
Luxembourg	2014				1		1	271
Hungary	2014	0	894	0	170	0	244	4 688
Malta	2014		29		2		3	1 755
Netherlands	2014	0	773	302	592	7	11	10 631
Austria	2014	6	190	0	94	0	5	3 422
Poland	2014	321	2 635	11	287	3	11	7 186
Portugal	2014	0	6	0	14	0	4	2 858
Romania	2014	2	21	0	131	2	4	2 617
Slovenia	2014		3		21			419
Slovakia	2014	0	1 064	0	78	0	1	2 483
Finland	2014	0	91	1	43	0	0	644
Sweden	2014	9	2 505	5	3 659	0	302	33 506
United Kingdom	2014	1 266	4 889	119	2 312	273	345	97 068
Turkey	2014		139		50	1	1	10 630
Norway	2014		1 147		779		39	8 581

Source: EMCDDA Statistical Bulletin 2016, treatment demand data tables (www.emcdda.europa.eu/data/stats2016)

The NEPTUNE guidelines (Abdulrahim and Bowden-Jones, 2015; see box on NEPTUNE guidelines, p. 16) suggest that the nature and intensity of the treatment offered should be related to the severity of the NPS problem, with an assessment of the health and other consequences of use. Some clients presenting to treatment services may benefit from low-intensity brief interventions based on general or tailored advice (e.g. using the FRAMES model), and even those showing NPS-related harm may benefit most from self-help approaches rather than referral to a structured intervention. Where problematic or high-risk NPS use has been identified, individual/group-based behavioural and psychosocial approaches (e.g. cognitive behavioural therapy, motivational interviewing, community reinforcement and contingency management) or formal psychological therapies, delivered as part of a staged or stepped care approach, may be effective (EMCDDA, 2016a; Abdulrahim and Bowden-Jones, 2015). Therefore, a thorough assessment of NPS use, the consequences of use and related needs is essential. Relapse prevention techniques are also recommended according to individual needs.

Structural barriers and treatment system deficiencies may prevent users of NPS accessing services and obtaining appropriate treatment. Many of these factors are likely to be similar to those related to treatment-seeking for other drugs (WHO, 2010), although some are unique to NPS. Few EU countries report an increase in levels of NPS treatment demand, and there is a lack of national treatment protocols and guidelines. Low treatment provision may represent low prevalence of NPS use, a low level of problematic use, and/or poor identification of use and treatment need (including underreporting of NPS use by clients, lack of suitable screening instruments and low professional awareness of NPS). Results from a French online survey conducted in 2014 as part of the European project I-TREND showed that the occurrence of adverse effects associated with NPS during last use concerned approximately 4 out of 10 users (Cadet-Taïrou, 2016). However, support from a health professional was sought by less than 4 % of them. Existing treatment services that have traditionally focused on opiate or cocaine users may not be orientated towards meeting the real or perceived needs of NPS users. In order to address this, new services have been developed in several EU countries that specifically respond to the needs of new client groups (e.g. MSM, users of club drugs;

see box on 'Club Drug Clinic', p. 17) who are users of NPS and other drugs. Although client-level factors may differ between countries (e.g. substances used, demographics, rurality and access to services), common structural barriers can be challenged. These include: ensuring that staff competencies are widened to include those skills required to screen, assess and treat NPS problems; the provision of support to develop topic expertise on NPS (e.g. training on broad classes of drugs, effects and harms); the development of cultural competencies to work with a wide range of client groups; the identification of clear pathways to more specialised support for complex cases; and the establishment of ((inter)national) networks to share evidence, develop guidelines and facilitate professional development (PHE, 2014).

| Low-threshold settings

Low-threshold services provide day-to-day support for drug users on a regular basis, and frequently deliver harm reduction activities. These services typically require less client motivation to attend than structured drug treatment, and are often accessible to those individuals and groups who may not be willing or able to access more specialised services. In addition to providing a range of harm reduction activities and some types of prescribing regimes (e.g. needle exchange, advice and information, opioid substitution treatment), low-threshold services may also offer assistance relating to housing, hygiene and sexual health (Edland-Gryt and Skatvedt, 2013). These types of services proactively contact hidden populations of drug users through outreach work, telephone helplines, online platforms (see section on 'Internet and digital devices', p. 20) or co-location with community health services. Although by their nature low-threshold services may require little or no formal assessment of clients before they are allowed to receive support, it is important that the nature of the service user's NPS use and associated drug-using behaviour (e.g. injecting) are investigated in order to provide appropriate harm reduction advice and, if appropriate, referral to more specialised services. Given a lack of data on the use, nature, harms and effectiveness of low-threshold responses to NPS use, existing effective approaches to reducing drug use and associated harms in this setting may be adapted to incorporate NPS.

NEPTUNE guidelines, United Kingdom

The NEPTUNE guidance material has been developed to improve clinical practice in the management of harms resulting from the use of club drugs and NPS. It is aimed at clinicians working in a range of frontline settings, including drug treatment and recovery services, emergency departments, sexual health services, primary care and mental health services. It aims to improve the confidence, competence and skills of clinicians and other professionals in the detection, assessment and management of the acute and chronic harms associated with the use of club drugs and NPS.

NEPTUNE specifically addresses the diverse new contexts and patterns of use, risk and harms of club drugs (e.g. clubbing, festivals, sexual behaviours).

A number of documents have been developed by NEPTUNE to support this process:

Guidance on the clinical management of acute and chronic harms of club drugs and NPS

This guidance is based on a systematic review and critical appraisal of the English language literature. Where evidence was lacking, clinical consensus was sought from the multidisciplinary group of expert advisors to the project.

In order to deal with the ever-growing number of club drugs and NPS, NEPTUNE adopted the following approach:

- Club drugs and NPS are classified based on their primary effects as depressants, stimulants and hallucinogens. In addition, SCRAAs are treated as a separate category, largely for reasons relating to their availability and clinical management.
- The guidance focuses in particular on commonly used club drugs and NPS including, but not limited to, GHB, ketamine, methamphetamine, mephedrone, MDMA, SCRAAs and a range of hallucinogens.

The NEPTUNE guidance reports using a consistent structure as follows:

- quality of research evidence;
- brief summary of pharmacology;
- prevalence and patterns of use;

- routes of ingestions and frequency of dosing;
- desired effects of recreational use;
- acute harms and management of acute harms;
- harms from chronic use and management of harms from chronic use;
- public health and safety, harm reduction and recovery.

E-learning modules and other clinical tools

Evidence-based guidance documents are essential but not sufficient on their own. NEPTUNE translated its guidance into tools that are accessible, convenient and easy to use for clinicians.

Online modules

In collaboration with the Royal College of Psychiatrists, NEPTUNE is developing a suite of e-learning tools based on the College's experience of developing continuing professional development:

Module 1 An introduction to club drugs and NPS

Module 2 Acute harms and management

- 2a. Depressant and synthetic cannabinoid receptor agonists
- 2b. Stimulants and hallucinogens

Module 3 Chronic harms and management

- 3a. Depressant and synthetic cannabinoid receptor agonists
- 3b. Depressant and synthetic cannabinoid receptor agonists

Clinical tools

Care bundles are being developed relating to the clinical management of the harms of some club drugs and NPS. These are algorithms or tick list that provide a structured way of improving the processes of reliable care. They are a small, straightforward set of evidence-based practices that, when performed collectively and reliably, improve outcomes.

See: www.neptune-clinical-guidance.co.uk

Club Drug Clinic, United Kingdom

The Club Drug Clinic was established in London in 2010 and targets users of club drugs (e.g. MDMA, methamphetamine, GHB/GBL, ketamine, NPS) who do not fit the profile of 'typical' drug treatment clients, or who do not readily present to traditional drug services. In addition to providing a community-based outpatient and drop-in service, the Clinic undertakes engagement activities online, and in universities, clubs, sexual health clinics, mental health treatment settings, hospital emergency rooms and prisons. The Clinic operates a well-networked multidisciplinary team, and although it offers traditional intervention approaches for drug-related problems, including relapse prevention, it has also developed the skills and cultural competencies required to respond to new drug issues and reach new client groups. For example, the clinic offers a detoxification programme for GHB/GBL; manages drug-related comorbidities such as (acute) psychotic states associated with the use of synthetic cannabinoid receptor agonists; and has developed specialisms in relation to chemsex, and hallucinogen and ketamine use.

See: clubdrugclinic.cnwl.nhs.uk

In general, low-threshold and harm reduction activities for NPS will mirror those delivered to users of established drugs but there are additional considerations with respect to injection. Injectors of NPS may be at increased risk of harm due to exposure to novel drugs with uncertain psychopharmacological and toxicological profiles. For example, the injection of stimulant NPS such as the synthetic cathinone mephedrone among some existing opioid injectors and drug treatment clients has been reported in a number of European countries (EMCDDA, 2015b, 2015 d, 2015e; Van Hout and Bingham, 2012). This may have led to an increase in the demand for treatment in countries such as the United Kingdom (Wales and Scotland), Ireland, Hungary and Romania (EMCDDA, 2015b, 2015d; Van Hout and Bingham, 2012). There have also been reports in several EU countries of injection site bacterial infections and tissue damage, transmission of blood-borne viruses (HIV, HCV) and increased injection risk (e.g. rapid transition between injection of different NPS, sharing equipment, sexual risk-taking, increased injection frequency and initiation of NPS injection) associated with the injection of NPS (Botescu et al., 2012; EMCDDA, 2015b, 2015d, 2015e; Giese et al., 2015; Karila, 2015; PHE, 2015; Rácz et al., 2015; , Sande, 2016; Scottish

GHB treatment at the Novadic-Kentron institute, the Netherlands

Novadic-Kentron (NK) is an addiction treatment institute in North Brabant, the Netherlands, with professional multidisciplinary teams that provide outpatient and inpatient treatment services to about 10 000 clients annually. In addition to detoxification treatment, psychiatric and psychological counselling and harm reduction, NK also provides prevention and awareness programmes addressing both substance and behavioural addiction in different settings such as schools, clubs, residential areas and prisons. NK treats addiction using a mental illness approach according to the bio-psychosocial model. This principle is expressed in a Community Reinforcement Approach treatment vision and elaborated in different evidence-based medicine care programmes. This approach is reinforced by the latest available knowledge and NK's own research results, which include new treatment approaches for gambling, internet addiction and effective detoxification and treatment of GHB/GBL addiction. The detoxification programme is provided by means of titration and tapering of pharmaceutical GHB in an average period of 10 days. The GHB detoxification procedure follows the standardised practice-based protocol by Kamal et al. (2013). This detoxification approach has been provided to almost 800 clients with satisfactory results and has been implemented nationally in general hospitals (emergency rooms) and mental health and addiction care institutes.

See: www.novadic-kentron.nl

Drugs Forum and NHS Lothian, 2015; Van Hout and Bingham, 2012, Gyarmathy and Sárosi, 2015). Although NPS injection may largely be a localised phenomenon, there is emerging evidence that these behaviours have become embedded in cohorts in some EU countries (Péterfi et al., 2014).

Whilst most NPS injectors are thought to have a history of opiate or amphetamine injection and therefore may already possess some harm reduction knowledge, it should not be assumed that this is sufficient to protect against novel harms associated with injecting NPS. Although evidence is lacking of the effectiveness of harm reduction approaches such as needle and syringe exchanges in reducing risky injecting and infections in NPS users, the provision of sterile injection equipment/kits and condoms and the dissemination of information on safe

injecting among NPS injectors are important (EMCDDA, 2016a). However, needle and syringe exchange programmes need to adapt to the differing injection practices of stimulant injectors (e.g. higher frequency injecting). For example, the Alternativa Foundation in Hungary provides a range of low-threshold harm reduction services in response to evidence of increasing numbers of users injecting NPS (Csák, 2015).

Although their effectiveness has not been assessed, a number of outreach approaches such as the provision of sterile injection equipment and the dissemination of information on proper injection techniques (e.g. the use of antibacterial creams and ointments, the rotation of injection sites, basic hygiene, vein and wound care) are useful in responding to injection site infections among stimulant injectors (EMCDDA, 2016a). There is also evidence that opioid substitution treatment and needle exchange programmes are effective for opioid injectors (who may also be injecting NPS) in reducing risky drug-taking behaviours and mortality, and in preventing infections such as HIV and HCV (EMCDDA, 2016a). The detection of blood-borne viruses through proactive dried blood spot testing is also in place in a number of settings such as low-threshold drug services and homeless centres (EMCDDA 2015d; Scottish Drugs Forum and NHS Lothian, 2015; Scottish Drugs Forum and NHS Greater Glasgow and Clyde, 2015).

Peer educator schemes offer a flexible approach to changes in the drug situation, user groups and the drug market and have a high potential for delivering individually adapted messages and support, which could be an important element of the response to NPS.

One example where specific low-threshold staff competence is already used to reduce NPS-related harm is the Local PASS project. Here, peers and (other) low-threshold staff collaborate as partners of a Local Emerging Drug Trend Panel in identifying new substances, risk groups and settings and by grading the risks. The Panel then takes a decision about the relevant interventions, according to type and risk level (www.localpass.eu/cms/local-pass-toolkit).

Furthermore, the supervised drug consumption facilities in 58 European cities have the potential to become 'early warning' sites for collecting samples of novel substances (and through an analysis of the residual content of used syringes returned to the services), in order to analyse their composition and potency so that relevant risk information can be transmitted to drug users. Important progress could be made in consumer protection by making information on drug composition rapidly available to users. Drug consumption spaces also provide a 'learning environment'

Crew 2000, Scotland

Crew2000 is a sexual health and drug service that provides a range of low-threshold harm reduction services to users of both established and new drugs, delivered by a diverse team of staff including peer workers. It is an example of a low-threshold service offering a comprehensive package of services that have been adapted to respond to NPS. Services include the provision of information and advice via telephone helplines and drop-in, outreach (including crisis work at festivals — see p. 9 for further information on nightlife responses to NPS), counselling, self-assessment, complementary therapies, recovery support, training and school curriculum development around NPS (Crawshaw, 2015).

See: www.crew2000.org.uk

where staff can assess NPS risk behaviours and harms, and develop ways to transmit 'safer use' messages.

In the United Kingdom, NPS injection and associated harms have been responded to by revising surveillance systems for BBV infection among PWID and by developing proactive community outreach for individuals not in contact with services such as needle and syringe programmes (PHE, 2015). Increasing the accessibility and provision of sterile injecting equipment and the opportunity for BBV testing in specialist services and community environments has been prioritised, as has raising awareness of the risks of injection, particularly co-infection with HIV (PHE, 2015). Published guidelines also present generic injection harm/risk reduction advice, but include specific items on dose titration, the use of solvents such as citric acid and alternative administration routes (NHS Greater Glasgow and Clyde and Scottish Drugs Forum, 2014).

Prisons and custodial settings

People in prison are a high-risk group for drug use and report higher lifetime rates and more harmful patterns of use than the general population (EMCDDA, 2015b). Illicit drugs are widely available within prisons, and some individuals continue or even initiate use during incarceration (EMCDDA, 2015b). Dual diagnosis of psychopathology and the coexistence of complex needs are commonly reported among the drug-using prison population (Department of Health, 2009). People in prison

are also a high-risk group for NPS use (DrugScope, 2015; Abdulrahim and Bowden-Jones, 2015), yet there remains a lack of evidence on the scale, nature and harms associated with NPS use in European prisons. Furthermore, it was only possible to identify specialist guidance from the United Kingdom for this report.

The data on NPS use in prisons and custodial settings in Europe is scarce. Data on the use of NPS among inmates in Portugal revealed a prevalence of use of 4.1 % ever in life and 1.6 % during imprisonment (Torres et al. 2015), while a Hungarian study showed the most frequently reported NPS was mephedrone, which had been used by 12.6 % of inmates at least once in their life (Ritter, 2013). Similarly, a Latvian study showed that one in four inmates (25 %) had used an NPS at some point in their life; in 92 % of the cases herbal smoking blends (such as Spice) had been used (Kļave et al., 2014). Expert opinion from countries such as Germany, the Netherlands and the United Kingdom suggests NPS such as pregabalin and GHB are being used in prison (ACMD, 2016; Montanari and Royuela, 2015). In the United Kingdom the use of SCRA in particular is on the increase in prisons (particularly men's prisons) (Centre for Social Justice, 2015; HM Inspectorate of Prisons, 2015a; RAPt, 2015; Abdulrahim and Bowden-Jones, 2015; PHE, 2015). For example, the number of UK prison seizures of these substances increased from 10 in 2010 to 737 in 2014 (DrugScope, 2015; PHE, 2015; Centre for Social Justice, 2015). Recent estimates from the United Kingdom suggested that 6 % of people in prison reported using the SCRA Spice/Black Mamba before incarceration and 10 % whilst in prison, making it the second most commonly reported drug used in prisons (after cannabis at 13 %) (HM Inspectorate of Prisons, 2015b; PHE, 2015).

Hospitalisations, seizures, psychotic episodes, violence, debt, bullying and intimidation have all been recorded as being associated with the use and distribution of such substances (Brown and Thomas, 2015; Prisons and Probation Ombudsman, 2015a, 2015b; RAPt, 2015; HM Inspectorate of Prisons, 2015b; PHE, 2015). Moreover, between 2012 and 2014 a total of 19 suspected NPS-associated deaths were recorded in UK prisons (Prisons and Probation Ombudsman, 2015a, 2015b). Overall, there is a lack of formal research on this topic across Europe and available information still comes from anecdotal reports.

The use of NPS in custodial settings presents challenges to healthcare and to prison staff, who may find it difficult to work with individuals with complex needs and help them engage with substance use and mental health teams (PHE, 2015). A range of responses have been implemented in UK prisons, but these responses have tended to be regulatory, addressing supply, and rely on punitive actions including adjudications and loss of privileges through the

use of drug detection dogs and targeted searching (Ministry of Justice, 2015; HM Inspectorate of Prisons, 2015a, 2015b). New legislation in the United Kingdom (Psychoactive Substances Act 2016) also allows for additional custodial time for individuals found guilty of NPS possession and supply offences in prisons (Home Office, 2015). Difficulties in the forensic and toxicological testing of most NPS make their monitoring and regulation difficult (Centre for Social Justice, 2015; RAPt, 2015; HM Inspectorate of Prisons, 2015a) and may contribute to inmates' interest in using these substances.

Health and intervention responses have begun to emerge in some UK prisons, but provision remains limited. NPS professional leads have been introduced in some prisons to develop strategies to respond to NPS use, and NPS working groups involving prison management, healthcare and substance misuse teams have been established to share knowledge and experiences, and encourage collaborative working (RAPt, 2015). There have also been some communication and awareness actions around NPS within prisons that aim to inform individuals in prison, staff and visitors about the risks of NPS, but there is no information on the nature and effectiveness of these activities (Prisons and Probation Ombudsman, 2015a, 2015b; RAPt, 2015). See box on p. 20 for a summary of UK guidance on responding to NPS in prisons.

With a lack of data on the use, nature, harms and effectiveness of responses to NPS use among the prison population, existing effective approaches in reducing drug use and associated harms for this population may be adapted to incorporate NPS. For NPS users who may also be using opioids and injecting NPS, evidence supports the use of opioid substitution treatment to reduce mortality and risky drug-injecting behaviours in prison and continuity in treatment when reintegrated back into the community (EMCDDA, 2016c). Moreover, psychosocial treatment has been found to be effective in reducing re-incarceration (EMCDDA, 2016c). High rates of injecting drug use, HCV and other infectious diseases are also found among the prison population which means health assessment upon prison entry is an important intervention (EMCDDA, 2015b). The provision of clean needles and syringes is important for those who may be injecting NPS or for users of NPS who may be injecting other drugs. However, it remains unclear whether such responses help to prevent risky practices and infectious diseases in prison (EMCDDA, 2016c). Interagency partnerships between prison health services and providers in the community are also important in delivering health education and treatment interventions in prison and in ensuring continuity of care upon prison entry and release (EMCDDA, 2014d, 2015c).

Published guidance for responding to NPS use in prisons ⁽¹⁾

- The prevalence of NPS use, effects and harms should be estimated within prison establishments and used to inform appropriate responses.
 - Integrated and joined-up approaches involving custodial, health and psychosocial staff should be established.
 - Staff within prison healthcare services should hold core drug-related professional competences that enable them to be confident in dealing with individual users and in providing advice and treatment related to the main NPS groups. They should be trained and supported in recognising and managing the effects of NPS, or the effects of combining NPS with other drugs or prescribed medication.
 - NPS awareness and training sessions should be delivered to inmates, including information on safer use, NPS interaction with prescribed medication and other illicit drugs, and what action should be taken in an emergency.
 - Suitable interventions to support and treat people who have developed NPS problems should be made available. Personalised and responsive care and the
- adaption of current approaches for existing drugs should be provided.
 - Harm reduction advice and appropriate psychosocial interventions should be available to individuals whose NPS use is identified as being problematic.
 - Clinical guidance (such as the NEPTUNE guidelines, see box on p. 16) should be referred to in the treatment of NPS use.
 - Responses should be guided by evidence and advice from national poisons information services that aims to support the management of people admitted to hospitals with exposure to suspected poisons (see box on 'National Poisons Information Service', p. 13).
 - A threshold for calling for an ambulance and/or sending an affected individual to hospital should be in place.
 - Debt and bullying should be responded to by investigating incidents, challenging perpetrators and providing individualised long-term solutions, with support and protection for victims and consideration of the impact of NPS-related bullying on the risk of suicide and self-harm.

(1) PHE, 2014, 2015; Prisons and Probation Ombudsman, 2015a, 2015b

Internet and digital devices as platforms for the delivery of health responses and interventions

In recent years the internet and other digital platforms such as smart phone apps have become more popular as a means of delivering health interventions. Although evidence on the effectiveness of these approaches in general is currently limited (e.g. Free et al., 2013), substance use and sexual health services across Europe have begun to use technology as an extension of existing communication platforms for responding to substance use and related harms. Such platforms are additional opportunities for the provision of drugs information, and for prevention programmes, outreach services and treatment programmes (EMCDDA, 2015b; ECDC, 2015). They also allow for anonymity when accessing information or seeking one-on-one help from health professionals, provide ease of access (for some) and allow messages to be tailored to individuals (Champion et al., 2015). Given increases in internet access and the significant role the

internet plays in the supply and sale of NPS, providing information and opportunities for prevention and intervention online seems an appropriate response for particular user groups.

Whilst some services have relocated health and intervention responses to virtual spaces to increase their accessibility to new and existing target groups (EMCDDA, 2015b), it is important to acknowledge that due to structural barriers (such as digital divides) some groups (e.g. homeless, people in prison, PWID) may not have adequate access to such devices. Therefore, while internet and digital platforms may provide an important additional opportunity to engage and target some groups they should not replace existing platforms without due consideration.

There is currently no evidence upon which to make recommendations for specific NPS-based online prevention and intervention responses, yet there are examples of services using these platforms to reach, engage and inform users. These include drug user-led initiatives providing NPS advice and information, which in

some cases incorporate drug-testing/drug-checking services that disseminate test results and harm reduction messages online (e.g. DIMS, WEDINOS, see drug checking in section 'Nightlife settings'). For example, DrugLijn in Belgium provides confidential non-judgemental information and advice (e.g. effects, risks, harm reduction), counselling and referral for a number of substances, including NPS, to the public anonymously via the internet (email, one-on-one chat, Skype) and via more traditional telephone helplines. The project also plays a role in monitoring NPS use by reporting new substances or new substance use behaviours to the EU Early Warning System via the Belgian Reitox national focal point. It also provides online early intervention tools such as knowledge tests, self-assessment questionnaires and online self-help modules. Advice on NPS is requested by users accessing the service at lower rates than other substances, but a variety of NPS-related advice is still sought, including information on legal status, complications following use, short- and long-term effects and information on the detection of NPS substances in blood and urine testing (Evenepoel, 2015).

The internet and digital applications are also being used by sexual health services in countries such as France and the United Kingdom (e.g. 56 Dean Street, see box on p. 11) to engage MSM who participate in chemsex, in sexual health and substance use services. Although the provision of information may increase knowledge of drug-related harms, such approaches must be careful not to normalise use or harmful behaviours (Brewer, 2003).

The impact and effectiveness of internet and digital approaches in targeting, engaging and changing behaviour in NPS users is unknown. To date there are no published evaluations of intervention and prevention programmes specifically for NPS that include internet-based approaches (Champion et al., 2015). However, the Climate Schools: Ecstasy and Emerging Drugs Module based in Australia is the first example of an internet-facilitated universal school-based prevention programme aimed at addressing the use of both ecstasy and NPS among 15- to 16-year-olds. This programme has previously been shown to be effective in reducing alcohol, tobacco and cannabis use among young people, and the model has been extended and applied to the prevention of NPS use among this cohort. However, the programme is currently being trialled and so cannot yet be recommended (Champion et al., 2013, 2015).

Conclusion

The NPS market is complex and the rapid emergence of novel products means that developing supportive health intervention responses is challenging. The significant annual number of detections of new NPS by the EU Early Warning System may suggest that services for users need to be continually developed. However, whilst there is the risk that new products with unpredictable toxic profiles may enter the market and it is important to regularly update knowledge and skills around the needs of NPS users, existing research evidence (albeit limited in nature), expert opinion and guidelines suggest that it is possible to develop and deliver a comprehensive health response to the harms associated with NPS use.

Limited experience and evidence in responding to/ managing NPS-related chaotic use and the diagnosis and prognosis of acute somatic harms due to NPS can at times make it difficult to distinguish between occasional problematic use and a more entrenched drug problem. It is important to acknowledge that the problematic use is not necessarily defined by the NPS in itself but rather by the intensity of use, and that there is a risk of labelling singular adverse events as an entrenched and persistent drug problem. Thus, acute healthcare management (e.g. within emergency settings) and brief interventions may be sufficient for experimental or occasional users experiencing an acute adverse event. Consumer protection actions such as drug checking and harm reduction interventions provide opportunities to reduce and prevent such harmful events for recreational or occasional users. Long-term problematic use, on the other hand, requires proper clinical assessment and care, as with any other problematic drug use and/or drug dependence.

Thus, the approaches identified and recommended in this report are largely based upon existing responses to drug use. These approaches have been adapted to ensure that they reflect: unique user group needs; the structural, cultural and social contexts of use; new opportunities for engaging with user groups and service delivery; and the need to develop specific cultural competencies among people delivering such services. However, it is important to acknowledge that existing prevention, treatment and harm reduction responses to drug use still often lack strong evidence of effectiveness. Therefore, the adaption of these interventions to respond to NPS must proceed with caution and within a robust evaluative framework. Although this report has focused on a limited number of selected settings and responses, it is likely that other existing types of interventions for drug use may be successfully adapted for NPS-using groups. However, although innovation should be encouraged, adaption

should always be carefully managed, monitored and evaluated; and approaches that have already been shown to be ineffective or unhelpful are unlikely to be improved with adaption.

In addition to the specific recommendations included in this report, the following general recommendations should be considered:

- Professionals' lack of experience with NPS and lack of knowledge of their pharmacology does not mean that they do not have the skills to support the users of these drugs. A professionally competent workforce is likely to already possess the skills required to support health responses to NPS use.
- Whilst some (new) specialism is needed in some types of response (e.g. GHB detox, supporting chemsex participants), approaches to NPS should be based on existing guidelines and evidence-based approaches. Where adaption is required, this should be based upon responding to the specific needs of the target population, and/or the emergence of new types of behaviour (e.g. NPS injection). However, this assumes that existing responses to drug use are already effective and delivered to a high standard; it is clear that this is not always the case and practitioners should therefore rely on the best available evidence as recommended in existing evidence-based guidelines.
- Multidisciplinary approaches that respond to health needs as part of a broader approach may be useful (e.g. chemsex). Joined-up working across services is considered important, but this is often very difficult to realise.
- Professional networking is important, but there are limitations with regard to the transferability and generalisability of approaches across borders, under different policy constraints and with respect to different user behaviours and characteristics.
- Cultural competence, and the understanding of how (sub-)cultural issues influence patterns of drug use and associated problems, is likely to improve service engagement and uptake. Services must be accessible and welcoming, and staff may require training to develop the necessary cultural competencies to work with diverse groups of NPS users.

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Drug checking

CHECK!N (www.apdes.pt/en/services/health-harm-reduction-human-rights/check!n.html)
 checkit! (www.checkyourdrugs.at/)
 WEDINOS (Welsh Emerging Drugs and Identification of Novel Substances Project) (www.wedinos.org)
 Trimbos Institute (Netherlands Institute of Mental Health and Addiction) (www.trimbos.org)

Project examples

Low-threshold services

Crew2000 (www.crew2000.org.uk)
 Scottish Drugs Forum (www.sdf.org.uk)
 Alternativa Foundation (<https://www.facebook.com/altalap>)

Sexual health

56 Dean Street (www.chelwest.nhs.uk/services/hiv-sexual-health/clinics/56-dean-street)
 Burrell Street Sexual Health Centre (www.burrellstreet.co.uk)
 Aides (www.aides.org/en)

Prison

Public Health England (2015), *New psychoactive substances (NPS) in prisons: A toolkit for prison staff*, Public Health England, London (www.nta.nhs.uk/uploads/nps-manual-final.pdf)

Emergency and treatment

NEPTUNE (neptune-clinical-guidance.co.uk)

Schools

European Drug Prevention Quality Standards (prevention-standards.eu)

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