Psychoactive Substances

Issues for policy makers
EURAD is a European network of around 50 non-governmental organisations which advocate for prevention and recovery oriented drug policies. Many of our affiliate organisations work directly in the field of drug prevention or as drug treatment and rehabilitation providers.

Our mission is to reduce the burden on individuals, families and society at large by promoting comprehensive, balanced and integrated policies. We seek to reduce demand for illicit drugs through evidence-based prevention and treatment.

We respect the fact that internationally there are important historic, cultural and social differences that impacts on how we talk about drugs and drug policy. We respect that people come into this policy field with very different backgrounds, motifs, experiences and perspectives. Our overarching purpose is not ideological, religious or cultural but rather the welfare, health and dignity of both individual and society.

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This publication was made possible by the operating grant funded by the European Union in the framework of the Drug Prevention and Information Programme.
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<thead>
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<th>Abbreviation</th>
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<tr>
<td>EMCDDA</td>
<td>European Monitoring Centre for Drugs and Drug Addiction</td>
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<td>EC</td>
<td>European Commission</td>
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<td>ESPAD</td>
<td>European School Survey Project on Alcohol and Other Drugs</td>
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<td>EWS</td>
<td>Early Warning System</td>
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<td>EU</td>
<td>European Union</td>
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<td>INCB</td>
<td>International Narcotics Control Board</td>
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<tr>
<td>LGBT</td>
<td>Lesbian, Gay, Bisexual and Transgender</td>
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<td>LSD</td>
<td>Lysergic Acid Diethylamide</td>
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<td>NPS</td>
<td>New Psychoactive Substance</td>
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<td>PCP</td>
<td>Phencyclidine</td>
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<td>UK</td>
<td>United Kingdom</td>
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<td>UN</td>
<td>United Nations</td>
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<td>US</td>
<td>United States of America</td>
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<td>UNODC</td>
<td>United Nations Office on Drugs and Crime</td>
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<td>WEDINOS</td>
<td>Welsh Emergency Department Investigation of Novel Substances</td>
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<td>WHO</td>
<td>World Health Organisation</td>
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New psychoactive substances have become more widely available across Europe. Mimicking the effects of controlled substances and sometimes being traded alongside them, these substances which operate on the edge of legality pose a challenge to legal systems as well as emergency and drug treatment services. Over the last few years, there has been some progress, with EU Member States taking novel approaches to this relatively new phenomenon.

From temporary banning orders to consumer legislation, governments are now using a host of tools at their disposal in an attempt to address the marketing and distribution of these products. However, there is still much that could and should be done. Member States need to recognise that one tool alone cannot reduce the use and harms of these substances. Rather, there is a need for a much more comprehensive approach.

Throughout this paper we highlight recent evidence and demonstrate some of the interventions which have already been implemented across Europe. We conclude by providing recommendations to governments in relation to drug policy, prevention, treatment and research.

EURAD is first and foremost a European network and this report is written from mainly a European perspective. EURAD rejects the false dichotomy between legalisation and a war on drugs; instead seeking an approach based in the fertile middle ground, which emphasises the importance of prevention and recovery.

Stig Erik Sørheim
President, EURAD
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Introduction

In layman's terms, new psychoactive substances (NPS) are substances that mimic the effects of controlled substances (such as cannabis, amphetamines or heroin), but which are not covered by the United Nations (UN) Drug Control Conventions. The chemical structure of these new substances is modified to circumvent international drug control, and should one such drug be banned, the possibility to change the chemical structure and create a new modified substance is almost unlimited. These modified substances may or may not produce similar effects and risks as the original substances.

Commonly, NPS have been referred to as legal highs, designer drugs, herbal highs, synthetic drugs or research chemicals (Transnational Institute, 2011).

As these substances may not be controlled, suppliers can produce them without fear of legal sanctions and distribution has been noted to have taken place in open marketplaces, such as online shops, at music festivals as well as in specially made high-street stores (some of which are known as head shops). The sale of NPS through the internet has received particular attention, as it offers easy access to large numbers of consumers, reduces the costs of operation and allows anonymity for producers as well as sellers. The internet can also be used to bypass the laws of many countries as it is more difficult to control than for example, high-street shops (UNODC 2013a).

At the European level, the European Monitoring Centre for Drug and Drug Addiction (EMCDDA) recently identified 631 online shops which were selling psychoactive substances. This was a three-fold increase from the number of online shops which were found just two years earlier (EMCDDA, 2011a). The EMCDDA also found that controlled substances were often being sold side-by-side NPS in online shops and that the information provided by online retailers in terms of ingredients and chemical names varied widely.

In spite of being labelled 'new psychoactive substances' by governments, it is important to note that these substances are not necessarily new. One example of this is ketamine, which has been available since the late 1980's/ early 1990's but has not yet come under international or EU control and therefore remains classed as a NPS (WHO, 2012; EMCDDA, 2002). Other substances which were patented in the 1970's have come to the fore recently as they have been synthesised to produce effects similar to those found in known illicit substances.

From 2004 onwards, synthetic cannabinoids such as 'spice' (Figure 1) appeared on the market, followed by synthetic cathinones (Figure 2) as well as other emerging groups such as piperazines (pharmaceutical drugs which were never brought to market) and other plant-based substances (UNODC 2013a). Figure 3 shows the number of new substances notified through the EU early warning system between 2005 and 2010. In Europe, the last few years have seen record levels of new substances being identified, with 41 new substances being identified in 2010 alone. In total, there are around 150 substances being monitored at EU level (EMCDDA, 2011b), with the UNODC being aware of around 241 substances (UNODC 2013a). However, in spite of this increase in the number of available products, some drug researchers argue that this is spike in trends rather than a rising tide (Caulkins & Coulson 2011).

The issue of how to tackle new psychoactive substances is high up the current drug policy agenda. The reasons for this are clear; the use and diversity of psychoactive substances are apparently increasing; their production, distribution (including online sales) and consumption circumvent drug law restrictions (Winstock & Wilkins 2011) and at the same time, little is actually known about the harm caused by some of these substances.
At all levels of jurisdiction, whether it is at the UN, EU or at national level, politicians are facing the challenge of how to deal with this issue. This paper will explore what we know about the scale of production, distribution and consumption of psychoactive substances. Furthermore, we will highlight some examples of existing solutions that are being used by governments to deal with this issue and discuss advantages and disadvantages of the various approaches.

The number of new substances reported provides a good indicator of the type of substances which are in circulation (Figure 3). However, the extent to which people are actually using them is more difficult to ascertain as large scale youth substance use surveys, such as ESPAD, rarely ask about psychoactive drug use. Nevertheless, some one-off large-scale surveys have been possible. In 2011, a Eurobarometer (European Commission, 2011) survey found that only a small minority (5%) of 15-24 year olds had ever tried a new psychoactive substance, although results did vary across Europe (Figure 4).

On a national level, new psychoactive substances have been included for the first time in some drug prevalence surveys (National Advisory Committee on Drugs and Public Health, 2012). Such surveys have found that use of NPS tends to be more common amongst men than women and for younger age groups, which follows the patterns of use for most illicit drugs. However, even when compared with illicit drug use, there is evidence to show that NPS are particularly attractive to younger age groups. For example, data from the US shows that the average age for synthetic cannabinoids-related hospital visits is 24 years, compared to 30 years for cannabis (Drug Abuse Warning Network, 2012).

Whilst cannabis remains the most commonly used illicit drug in Europe by far, some of the most popular NPS like mephedrone are used at a rate similar to cocaine (National Advisory Committee on Drugs and Public Health, 2012) or ecstasy in some countries. Other NPS such as synthetic cannabinoids, khat and BZP are not used as widely (0.4%, 0.3% and 0.2% respectively) (Smith and Flatley, 2011).

Despite the diversity of drugs appearing on the market (Figure 3), it should be noted that few psychoactive substances (apart from perhaps mephedrone) have been able to find a stable, regular user-base, with most substances having a limited life-span (Deluca et al, 2011). It is therefore important that one does not interpret survey results about life time use (people who may have tried a substance once in the last 12 months) (Figure 4) as being regular users. As with most drug use, regular users constitute a much smaller group.
The intertwined markets of NPS and illicit substances

While it may be true that producers and distributors favour working with NPS rather than controlled drugs because they do not fall under national or international control, it would be a mistake to think that these markets are entirely separate. Indeed, there is a growing body of evidence to suggest that the production, distribution and consumption of new psychoactive substances and illicit substances are, to some degree, intertwined. For example, products which have been branded ‘legal highs’ have been found to contain controlled substances which demonstrates an interaction during the production stage (Brandt et al, 2010; Ramsey et al, 2010 & EMCDDA, 2011a) and in terms of distribution, they can be sold alongside illicit substances, either in the online environment (for example, through online outlets such as Silk Road) or through friendship groups, which is common with illicit drug use. Large scale surveys have found that the majority of people acquire NPS from a friend (44%), during parties or in a club (37%) or from a specialised shop (33%), with fewer claiming to access them directly via the internet (7%) (European Commission, 2011).

In terms of consumption, there is also a clear cross over between those who use psychoactive substances and other illicit drugs, with users of new psychoactive substances frequently having had experiences with other illicit drugs (Wood, 2010 & Miller et al, 2009). Traits such as reduced risk perception may well help to explain why, in spite of legal differences, there is still some overlap between the two markets, with users of NPS less likely to recognise the risks associated with regular and occasional use of both licit and illicit substances (European Commission, 2011). The proportion of NPS users who also use other illicit drugs is difficult to estimate but data has shown that when legal restrictions on mephedrone were introduced in England, around 1/3 of users stopped using it, whilst 2/3rd continued (Olives et al, 2012). One may assume that the group who continued to use may already have been engaged in other illicit drug use or perhaps less likely, may have crossed over to the illicit market when the legal status changed (Winstock and Wilkins, 2011).

The clubbing culture and NPS use

Notably, people engaged in regular clubbing activities are likely to consume a mixture of licit and illicit substances; with recent data showing that polydrug use is now the norm among clubbers, with many happy to mix legal, newly banned and established legal drugs (Guardian, 2013). A recent survey, which targets drug users, found that 14% of respondents who had taken ketamine in the past year had taken methoxetamine as well (Global Drug Survey, 2012). However, not all countries have the same clubbing culture as the UK, meaning that psychoactive drug use can have different trends in different countries. The Global Drug Survey, for instance, found that respondents from the US were less likely to be regular clubbers compared to respondents from the UK. Different patterns of psychoactive substance use were evident between the US and the UK. For example, hallucinogens (such as LSD and mushrooms) and synthetic cannabinoids were far more prevalent in the US, whereas drugs associated with clubbing such as ketamine and methoxetamine were much more prevalent in the UK.

Mephedrone is a synthetic cathinone, which is mainly produced and distributed from Asia. Mephedrone was first emerged in Europe in 2001 but it became more prevalent in 2009/2010 (EMCDDA, 2011c). When it became available from ‘head shops’, the internet, at music festivals as well as from drug dealers (Measham et al, 2010). Online, it is often marketed as ‘plant food’, ‘bath salt’ or as a ‘research chemical’ (EMCDDA, 2012c). Mephedrone is deemed to have similar effects to other stimulant drugs, particularly ecstasy (MDMA) and it is these effects, coupled with its perceived consistency and reported fewer side effects than other stimulants, which appear to have fuelled its popularity, rather than solely its legal status. Like many other illicit and psychoactive substances, users are more likely to be male and in their late teens/early twenties (EMCDDA, 2010). With people seeking mephedrone as a potential replacement for ecstasy or cocaine (Measham et al, 2010), it became relatively popular in a fairly short period of time, becoming the fourth most popular drug among clubbers in England (Mixmag, 2010). Its popularity and availability spread rapidly across Europe, with twenty-two European countries reporting seizures of the substance within a few years (EMCDDA, 2010c).

Whilst further studies are needed on the health and social risks of mephedrone, many member states decided to control mephedrone because of its stimulant properties, its ability to produce dependence in users, its potential attractiveness, the risk to health, the lack of medical benefits and the need to apply precaution (EMCDDA, 2011c). For the same reasons and the fact that so many European countries had already placed mephedrone under control, mephedrone was placed under control at the EU level in December 2010. This had the additional benefit of facilitating greater cross-border and judicial co-operation. At the time when this decision was taken, mephedrone had been identified as the sole cause of death of two people in the EU as well as being detected in 37 other post-mortem reports in the UK and Ireland (EMCDDA, 2010c). There was also evidence that the drug had a high abuse potential, with over 30% of users in one survey reporting three or more DSM criteria of dependence (EMCDDA, 2011c).

Case study: Mephedrone

Some commentators have criticised governmental reactions to proactively reduce the potential harm of mephedrone and other psychoactive substances, as they have to weigh the benefits of taking action before a substantial user base emerges or taking action after harm has already occurred. It is also interesting to note that whilst some research exists on the control measures taken on mephedrone, very little research exists on how control measures should be coupled with other drug demand reduction initiatives such as prevention or treatment programmes as part of a comprehensive approach to reduce the use and harm of such substances. Whilst we can see that in the case of mephedrone, up to a third of users may have stopped using it after control measures were introduced (Olives et al, 2012), still many other users continued to use it. This highlights the need for governments to take a more comprehensive approach to tackling substance use as well as the need to take action before a substantial user base is established.
Reported Adverse Effects of New Psychoactive Substances

Although limited, there is a growing body of evidence on the effects of psychoactive substances. Some of the known effects of individual substances are summarised below in Figure 5. On top of these mainly physical effects, there have also been reports of compulsive use and tolerance effects that indicate the abuse potential of these substances (Kelleher et al 2011). Whilst the data is still quite limited and the list of the effects below not extensive, even less is known about their combined effects.

### New Psychoactive Substance Reported Effects

<table>
<thead>
<tr>
<th>New Psychoactive Substance</th>
<th>Reported Effects</th>
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<tbody>
<tr>
<td>Ketamine</td>
<td>• Tachycardia</td>
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<td>• Abdominal Pain or Discomfort</td>
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<td>• Bladder damage</td>
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<td>• Hypertension</td>
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<td></td>
<td>• Pulmonary oedema</td>
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<td>• Impairment of attention and recall</td>
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<td></td>
<td>• Rhabdomyolysis</td>
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<tr>
<td>Synthetic Cannabis (i.e. Spice)</td>
<td>• Panic and anxiety</td>
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<td></td>
<td>• Paranoia</td>
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<td></td>
<td>• Breathing difficulties</td>
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<td>• Sweating</td>
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<td></td>
<td>• Chest pain</td>
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<td></td>
<td>• Hallucinations</td>
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<td></td>
<td>• Agitation</td>
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<tr>
<td>Synthetic Cathinones (i.e. methylone, bath salts/ivory wave/mephedrone/MCAT, MDPV/MDPK/MTV, ephedrone, and naphyrone)</td>
<td>• Mild agitation</td>
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<td></td>
<td>• Severe psychosis</td>
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<td></td>
<td>• Tachycardia</td>
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<td>• Hypertension</td>
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<td></td>
<td>• Central nervous system</td>
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<td></td>
<td>• Nasa/respiratory system</td>
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<td></td>
<td>• Cardiovascular system</td>
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<td></td>
<td>• Reported deaths (most associated with polydrug use)</td>
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<tr>
<td>Phenethylamines (i.e. PMMA, 2C Series, D-Series)</td>
<td>• Agitation</td>
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<td></td>
<td>• Tachycardia</td>
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<td></td>
<td>• Mydriasis</td>
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<td></td>
<td>• Hallucinations</td>
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<td></td>
<td>• Severe limb ischemia</td>
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<td></td>
<td>• Seizures</td>
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<td>• Liver and renal failure</td>
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<tr>
<td></td>
<td>• Hyperthermia</td>
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<tr>
<td></td>
<td>• Reported deaths (some associated with variant Bromo Dragonfly, others with polydrug use)</td>
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<tr>
<td>Piperazines (i.e. B2P, TFMP, MB2P)</td>
<td>• Toxic seizures</td>
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<td></td>
<td>• Respiratory acidosis</td>
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<td></td>
<td>• Hyperthermia</td>
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<td></td>
<td>• Rhabdomyolysis</td>
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<tr>
<td></td>
<td>• Renal failure</td>
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<td></td>
<td>• Grand mal seizure</td>
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<td></td>
<td>• Reported deaths (most associated with polydrug use)</td>
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<tr>
<td>Khat</td>
<td>• Alertness</td>
</tr>
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<td></td>
<td>• Euphoria</td>
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<td>Phencyclidine-type substances (PCP)</td>
<td>• Stupor or light coma to deep coma</td>
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<td></td>
<td>• Behavioural/psychiatric disturbances</td>
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<tr>
<td></td>
<td>• Violent behaviour</td>
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<tr>
<td>Aminoindanes</td>
<td>• Mild agitation</td>
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<tr>
<td></td>
<td>• Tachycardia</td>
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<td></td>
<td>• Hypertension</td>
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<td>• Cardiovascular system</td>
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<tr>
<td></td>
<td>• Reported deaths (most associated with polydrug use)</td>
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<tr>
<td>Salvia divinorum</td>
<td>• Lasting psychosis (attributed to the addition of O-desmethytramol to the dried kratom leaves)</td>
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<tr>
<td>Kratom</td>
<td>• Stimulant effect (in low doses)</td>
</tr>
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<td></td>
<td>• Sedative-narcotic effect (in high doses)</td>
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<tr>
<td></td>
<td>• Reported deaths (attributed to the addition of O-desmethytramol to the dried kratom leaves)</td>
</tr>
<tr>
<td>Phencyclidine-type substances (PCP)</td>
<td>• Ranges from mild neurologic and physiologic abnormalities</td>
</tr>
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<td></td>
<td>• Stupor or light coma to deep coma</td>
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<td></td>
<td>• Behavioural/psychiatric disturbances</td>
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<td></td>
<td>• Violent behaviour</td>
</tr>
<tr>
<td>Tryptamines</td>
<td>• Restlessness</td>
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<tr>
<td></td>
<td>• Agitation</td>
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<tr>
<td></td>
<td>• Gastrointestinal distress</td>
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<td></td>
<td>• Muscle tension</td>
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<td></td>
<td>• Rhabdomyolysis</td>
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<td>(Evidence is limited for this group; all of the above have been linked to variant 5-MeO-DITP, which is also known as ‘foxy methoxy’)</td>
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</tbody>
</table>

Figure 5: Effects of psychoactive substances

New Psychoactive Substance | Reported Effects
--- | ---
Ketamine | • Hyperthermia  
| | • Anorexia  
| | • Increased respiration rate  
| | • Increased heart rate  
| | • Increased blood pressure  

Kratom | • Stimulant effect (in low doses)  
| | • Sedative-narcotic effect (in high doses)  
| | • Reported deaths (attributed to the addition of O-desmethytramol to the dried kratom leaves)  

Salvia divinorum | • Lasting psychosis (in vulnerable individuals)  

Aminoindanes | • Effects on humans have not yet been reported  

Phencyclidine-type substances (PCP) | • Ranges from mild neurologic and physiologic abnormalities  
| | • Stupor or light coma to deep coma  
| | • Behavioural/psychiatric disturbances  
| | • Violent behaviour  

Tryptamines | • Restlessness  
| | • Agitation  
| | • Gastrointestinal distress  
| | • Muscle tension  
| | • Rhabdomyolysis  
| | (Evidence is limited for this group; all of the above have been linked to variant 5-MeO-DITP, which is also known as ‘foxy methoxy’)
Case study: Ketamine

Ketamine was first synthesized as an anaesthetic in 1962 and has been used for both human and veterinary use. Medically, it has also been used in the management of chronic pain and has recently been proposed as a fast-acting anti-depressant (Shahzad et al, 2012). Recreationally, its use as a psychoactive substance has been traced back to the late 1960s in the US (UNODC, 2013b) but up until the late 1990s, there had been relatively few reports or research available on its non-medical use (Dillon et al, 2003). Both popular and academic reports now indicate that the recreational use of ketamine has increased in the clubbing environment over the last 15 years (Curran & Morgan, 2000), which is concerning given its status as an anaesthetic.

An Australian survey of recreational ketamine users found that, compared to regular ecstasy users, the ketamine users they sampled were more likely to be older, male, in full-time employment, single and living in the inner city. They were characterised by the researchers as being a “risk-taking sample” and a “well-educated group of people, many of whom had high incomes” (Dillon et al, 2003). Both popular and academic reports now indicate that the recreational use of ketamine has increased in the clubbing environment over the last 15 years (Curran & Morgan, 2000), which is concerning given its status as an anaesthetic.

Several countries have controlled ketamine at a national level but there have also been calls for international control at the UN’s Commission on Narcotic Drugs from countries such as China who have reported an increased prevalence of the substance on the recreational market (WHO, 2012). However, a review conducted by the WHO Expert Committee on Drug Dependence concluded that bringing ketamine under international control would not be appropriate, after assessing that diversion and illegal production was not to be expected to be large scale. The WHO did however warn that it was important to keep a close watch on developments and trends. This conclusion and warning was later echoed by a risk assessment carried out by the European Commission (EMCDDA, 2002).

Responding to Psychoactive Substances

Country level responses
Rapid control of the distribution and sale of psychoactive substances has proved to be very challenging throughout Europe, with many countries taking slightly differing approaches. With little published research on the non-medical use of many of these substances, governments are faced with the dilemma of either taking immediate action or taking precautionary action. Both of these approaches are limited; for example, taking no immediate action may lead to open sales and distribution which may increase the usage of these substances amongst young people, whereas precautionary action on substances which are rarely used and which may never become popular may be seen by some as disproportionate as well as expensive.

The emergence of NPS is sometimes seen as an opportunity to “test alternative approaches to drug control” (Winstock & Wilkins, 2013). Those who criticise the use of drug legislation to tackle NPS typically state that there are unintended consequences from controlling substances. The most common claims are that restricted NPS would simply be replaced by another uncontrolled drug, that the substance will move into the illicit market and that there would be a loss of research on the therapeutic potential of some analogues. Moreover, critics have also said that using drug laws increases demands on enforcement, results in a loss of possible taxable revenue and creates a burden on law enforcement activities. These criticisms have become extremely commonplace and are often accepted without question.

Rarely do such writers acknowledge that NPS are already heavily intertwined within the illicit drug market, that substantial enforcement and regulatory costs would still be incurred by any approach taken, or that research or use for medical purposes should not be impossible under control conditions. This section of the report will attempt to put forward some examples of how the NPS phenomenon has been tackled by different countries whilst briefly mentioning what the benefits or pitfalls of each may be.

A combined legislative approach
In Romania, a combination of consumer safety, medicines, drugs and even tax laws were used to stop the open sale of NPS. Following practical on-the-ground enforcement of these laws, the number of “head shops” fell by two thirds within a month, although medical emergency data is not available to show if this led to a decrease in drug-related medical emergencies (Hughes & Winstock, 2012a).

Consumer Legislation
There are certainly limitations to tackling NPS through consumer legislation alone, as it was not designed to deal with unknown chemicals. One example of this is that the “burden of proof” as to the safety of the product can lie with government agencies rather than producers, making it very difficult to enforce at a local level. Moreover, relying on limited enforcement powers such as “incorrect labelling” legislation may not be effective, as mephedrone labelled as “bath salts” with a sticker saying “not for human consumption” may effectively mean that little action could be taken in some countries (Parsons, 2012).

However, in places like Poland, the government was able to effectively use existing health protection legislation to take action, closing down 1200 head shops within a one-month period (Hughes & Winstock, 2012b), after using a blanket approach to outlaw the sales of all legal highs. However this use of health protection legislation was questioned in relation to its legality, leading to court appeals by retailers (Gazetta, 2012a). There were also reports that some high street retailers simply moved to selling NPS online once the high-street shops were closed (Gazetta, 2012b). This demonstrates the importance of analysing already existing national legislation as well as the importance of communicating the use of different types of laws to tackle the phenomenon.

Another novel ‘consumer based’ approach is that used by Sweden, through the Act of Destruction, which was introduced in April 2011. This law aims to prevent the use and distribution of hazardous substances that are not yet regulated or are in the
process of being regulated as narcotic drugs. The law effectively allows for seized substances to be destroyed if they fulfill a number of requirements:

a) The substance has been declared as narcotics or as hazardous to health in a legal proposal not yet in place.
b) The substance has been internationally declared under the UN Drug Control Conventions of 1961 or 1971 but that the decision is not yet in force.
c) The substance is presumed to become regulated as a narcotic substance of abuse or hazardous to health by the Swedish government.

All matters are then handled according to the Administrative Act (1986:229) and are not viewed as criminal offenses. Certain protocols must be used and the decision can of course be appealed to court. In 2011 alone, the Swedish Police and Customs Service made almost 1100 seizures (Swedish National Institute of Public Health, 2012), which was an important step in disrupting sale and distribution.

A regulated market including Age of Sale Restrictions

Some researchers and drug law reform groups have proposed tackling NPS and currently controlled substances through a regulated market, similar to the buying and selling of alcohol or tobacco. Such recommendations typically include generating revenue from the sale of the substances and introducing an age of sale restrictions, to reduce the likelihood of them being sold directly to people under the age of 18.

However, when considering this proposal, policymakers should bear in mind the public health consequences of alcohol and tobacco use, as well as the challenges governments have faced when attempting to regulate these two industries. For example, despite age control restrictions, young people find both alcohol and tobacco very accessible (Eurobarometer, 2011). Of 12,000 young people aged 15-18 years old surveyed, 84% said it would be very easy or fairly easy for them to get alcohol and 82% said it would be very easy or fairly easy to get tobacco. What was remarkable was that of the 15-18 year olds, just 6% and 9%, respectively, answered that alcohol and tobacco were impossible, very difficult or fairly difficult to obtain, despite legal restrictions and age limits in many EU Member States.

Some claim that enforcement of NPS through policing is too expensive and instead suggest that a regulated market would be a solution to this economic challenge. However, a regulated market would also incur substantial secondary costs in terms of trading standards and local-level judicial enforcement as well as in the healthcare sector if usage was to increase alongside increased availability of these products.

One example where this approach is being trialled is in New Zealand, where psychoactive substances are planned to go through a product approval process. To try and encourage this process to take place, the cost of the approval process will not be so onerous and the regime will be overseen by an arms-length independent body (Sheridan et al, 2012). To date there is no evidence about how this approach will impact upon prevalence rates or public health.

Notably, in terms of creating a regulated market for psychoactive substances, very few young EU citizens support such an initiative. Roughly a third (34%) of respondents thought that the best response would be to ban all substances that imitate the effects of illicit drugs, while about one in two (47%) interviewees thought it would be better to ban only those substances that posed a risk to someone’s health. About one in seven (15%) respondents said the sale and consumption of new psychoactive substances should be regulated. Finally, only a small minority (2%) of respondents thought that nothing needed to be done regarding these substances (Eurobarometer, 2011).

Pharmaceutical legislation

In some cases, pharmaceutical legislation may prove a useful tool in removing these substances from the market, if other legislative routes take too long to respond. Such legislation would require psychoactive substances to have market authorisation, without which, the product could not be marketed. Such an approach however requires quick action as well as the political will and means to enforce it, if it is to be at all successful. This approach was used with synthetic cannabis in Austria.

However, it must be noted that using pharmaceutical legislation is somewhat deceptive, given that these substances are not designed to have therapeutic effects but designed as recreational drugs for which there is no medical supervision. At the EU level, goods permitted under medications legislation should meet the criteria of being “used in or administered to human beings either with a view to restoring, correcting or modifying physiological functions by exerting a pharmacological, immunological or metabolic action, or to making a medical diagnosis” (Reuter, 2012). Therefore, it may be necessary to adjust the wording of the relevant legislation.

Existing Drug Laws and Overcoming The Challenge of Timing

Some have argued that the key to tackling the NPS phenomenon on a national level is not ‘how’ action is taken but rather a question of ‘when’ action is taken (Hughes & Winstock, 2012b). Rather than allowing head shops and online environments to flourish with enough time for them to establish a user base, governments should search for rapid ways to tackle the phenomenon before a substantial user base is created. This may involve the use of existing drug laws or adapting them to make them more responsive, as well as considering comprehensive approaches using other forms of legislation as part of one package.

Some claim that using existing drug law legislation takes too much time and is cumbersome; however, bureaucratic or lengthy processes may be in place in all types of forms of legislation. To this end, several countries (including Germany, The Netherlands, the UK and Portugal) have introduced ‘temporary banning orders’ for periods of around 1 year, which provides the government with enough time to assess whether the substance needs to be controlled. If it doesn’t need to be controlled, the temporary ban will be lifted. In March 2013, the Portuguese parliament passed a new law that temporarily banned 160 psychoactive substances, with possession and use formally prohibited, after local authorities noted a dramatic increase in both the consumption and health consequences of these substances (Portugal News, 2013).

Some claim that using existing drug law legislation results in an over-scheduling of substances. However, this does not seem to be the case. In one study, Caulkins and Coulson (2012) reviewed 73 substances that had been scheduled by at least one of four countries, including US, UK, Australia and Canada. For each substance, the researchers reviewed whether the decision had been erroneous and whether the drug should have been allowed onto the market. With all evidence available, it appeared that no more than four substances (and probably only one substance) represented an over-scheduling decision.

Healthcare Responses

Much of the debate on psychoactive substances has focused on what regulatory tools can be used to prevent their use, with much less attention going to drug prevention or how to treat users. Like when tackling other forms of substance use, it is clear that it is insufficient to rely on one single intervention alone.

Predictably, the use of psychoactive substances is related to the nighttime setting. Yet, only one third of countries in the EU report the use of prevention or health-related initiatives in these environments (EMCDDA, 2013). Environmental prevention strategies which aim at altering cultural, social, physical and economic environments in settings such as schools also remain rare, despite the fact that they can be effective in changing normative beliefs and substance use (EMCDDA, 2013). Moreover, previous research has shown that interventions which are more strongly supported by evidence (such as structured intervention protocols, carefully delivered peer approaches and interventions specifically for boys), are not widespread, nor are those interventions which
either address social disadvantage or drug use in families (EMCDDA, 2013d). It can also be difficult for those dependent on psychoactive substances to find adequate drug treatment for their dependence. Anecdotal evidence suggests that those dependent on psychoactive substances may be treated less seriously as those who use more traditional drugs such as heroin or cocaine and can find it difficult to find appropriate services to meet their needs (UKESAD, 2012).

However, where there has been effort in this arena, innovative practices have emerged. For example, the Healthy Nightlife Toolbox (a European initiative) supplied practice measures to address risks in the nightlife environment, where they integrated prevention, harm reduction, regulation and law enforcement interventions which could be implemented by member states (EMCDDA, 2013a).

On a local level, there have also been some very innovative practices. In Wales for example, the WEDINOS project, as described in the following case study, was established due to an increase of people attending the emergency department following ingestion of psychoactive substances. In larger cities, ‘Club Drug Clinics’ have started to become developed where multi-disciplinary teams such as specialist addiction doctors, psychologists, nurses, counsellors and peer mentors work closely with the nightlife sector to address drug use. Services may include screening, detoxification, withdrawal, counselling and referral to specialist medical or mental health services. In the London club drug clinic, there is a particular emphasis on engaging people from the LGBT community, due to the high rates of club drug use known to be used by this group (NHS Central and North West London, 2013).

Case study: The WEDINOS Project

The WEDINOS project aimed to respond to the growing number of people attending emergency departments in Wales following ingestion of known or unknown psychoactive substances (Caldicott, 2011). Typically they found young people presenting with some of the toxicological problems noted in Figure 5 as well other related problems such as assault, self-harm, rape, sexual assault and behavioural problems. The project identified some of the challenges hospitals face when trying to treat patients who present in the emergency department with a set of symptoms but not a name of a drug; of clinicians not understanding the metabolic pathways of the substances; of having no chemical standards to compare the substances against and finally not being able to clinically code the emergency admission for research purposes due to data collection problems.

As part of the project, a network of monitoring hubs was set up across Wales. The emergency departments then established a drug testing facility and people attending where able to provide samples of the substance they had consumed for further laboratory analysis. The project group were then able to use demographic information from those attending emergency departments to identify residential “hot spots” of drug use, where targeted prevention and treatment interventions could then be developed in liaison with local health services. Furthermore, the project then developed screening tools, brief intervention training and referral systems to drug treatment for young people presenting at the emergency department with problems related to drug use.

EU Level Response

In July 2011, the European Commission announced it was considering the best ways to respond to NPS within the framework of the United Nations Conventions. The current framework (Council Decision 2005/387/JHA) provides an early warning system for a substance as well as a risk assessment. If necessary, the EU does have powers to grant EU-wide control, if this is deemed necessary (Alice Rap, 2011).

Currently, the European Commission is developing an updated legislative proposal on new psychoactive substances, which will lead to a revision of Council Decision 2005/387/JHA. The new proposals, which will be presented in the course of 2013, should enable swifter and more effective action on new psychoactive substances at the EU level. The aim of the proposals will be to improve the exchange of information on new psychoactive substances, the assessment of their risks, and to enable the rapid withdrawal from the market of those substances that pose health, social and safety risks (European Parliament, 2012).

Whilst it is the responsibility of national governments to adopt the legal, strategic and budgetary frameworks necessary to respond to drug-related problems, there is a crucial role for EU action in terms of information collection and analysis; sharing best practice and finally taking action where member state action alone may not be sufficient. In terms of information collection, the EU early warning system (EWS), operated by the EMCDDA and Europol, now monitors over 250 new psychoactive substances, providing a crucial information gateway for member states in which information can be shared across the union area.

As explained above, as part of this process the European Commission (EC) can propose EU-wide control of substances. Recently, the EC has taken this course in relation to the stimulant drug 4-methylamphetamine (4-MA), a synthetic phenethyllamine closely related to amphetamine, for which they have proposed an EU wide ban. This proposal has followed from a risk assessment carried out by an extended EMCDDA Scientific Committee which reported 21 fatalities in four EU Member States, where 4-MA had been detected in post-mortem samples, either alone or in combination with other substances. The substance was assessed as having numerous other serious adverse side effects, being available across 14 countries and as having no established medical value or other known legitimate purpose (EMCDDA, 2013b).

The EC also has responsibility for ensuring that legitimate chemicals (drug precursors) are not diverted onto the drug market. As part of this responsibility, EU regulations are in place which aims to monitor trade in drug precursors both within the EU and between the EU and the rest of the world. The control mechanism, aiming at preventing diversion of drug precursors, is based on close cooperation (partnership) with industry and reinforced through measures such as documentation and labelling, licensing and registration of operators, procedures and requirements governing exports. The EU drug precursor legislation requires a systematic reporting from EU Member States on seizures and stopped shipments of drug precursors. This allows identifying the evolution of trends in drug precursor trafficking and diversion. In the past, this has mainly been concerned with diversion onto the illicit drug market but may be just as important in terms of NPS (European Commission, 2013).

The online sale of psychoactive substances poses a real challenge at the national level and is best dealt with through collaboration at the EU and international level. The presence of online retailers selling psychoactive substances is monitored at EU level by the EMCDDA and it is fair to say that the scale of the challenge has been unprecedented. Whilst hidden websites such as Silk Road previously hit the headlines for enabling the online sale of illicit substances, sites selling psychoactive substances are much more available and accessible to the public than they ever have been. Notably, such sites have been found to sell both controlled and non-controlled substances.
There needs to be EU level as well as international co-operation on this issue to effectively tackle this phenomenon. Such co-operation should define responsibility for effective removal of content at source and agreements over deletion of illegal content. It is hoped that the forthcoming EC legislative package on psychoactive substances will suitably address this issue in a way that complements national action.

UN Level Response
While the appearance of new and uncontrolled substances does not necessarily affect the UN Drug Conventions, increasing consumption of drugs that are not covered by the conventions may in some way undermine the goals of the international drug control system to protect health and social wellbeing. Although the drug control conventions contain provisions for adding new substances to the schedules, the rapid development of the NPS market may make it difficult to stay abreast of developments and so a rapid national response becomes crucial in tackling these substances initially. However, the national response is clearly limited and it is clear that international collaboration on issues such as control of manufacturing, trafficking and distribution is essential.

Even though countries have recently called for increased international control of some psychoactive substances such as ketamine, those involved in the risk assessment process at the World Health Organisation have not fully supported these calls. In spite of evidence which demonstrates the harm of ketamine, the conclusion from this particular risk assessment was that increased monitoring of trends is required.

At the United Nation's Commission on Narcotic Drugs annual meeting in 2013, a resolution was put forward by 16 nations across the globe on enhancing international co-operation in the identification and reporting of NPS. The resolution called for better exchange of information and best practices from Member States, the UNODC, the WHO and the INCB; better data from hospitals and toxicology centres; technical assistance to member states and increased funding from Member States to tackle the issue (UNODC, 2013b).

Public Opinion
A survey to gather public opinion on this matter was carried out between 9 and 13 May 2011 across the 27 EU Member States. The survey targeted young people aged 15-24 years old, was carried out by telephone, using web- computer assisted telephone interviewing and involved over 12,000 participants (Eurobarometer, 2011).

In terms of tackling drug problems as a whole, young people through that other measures, such as prevention or treatment and rehabilitation of drug users would be more effective than tough measures against drug users. Nearly half of all respondents (49%) chose information and prevention campaigns as one of the most effective ways of reducing drug problems; treatment and rehabilitation followed with 37% and around one third thought tough measures against drug users would be a valuable way of dealing with the drug problem. Reducing the root causes of drug use (i.e. poverty and unemployment) was mentioned by 24% of respondents, whilst legalisation of drugs was judged to be the least effective option with only 15% thinking it would be useful.

In relation to psychoactive substances particularly, roughly a third (34%) of respondents thought that the best response would be to ban all substances that imitate the effects of illicit drugs, while about one in two (47%) interviewees thought it would be better to ban only those substances that posed a risk to someone’s health (Figure 6). About one in seven (15%) respondents said the sale and consumption of new psychoactive substances should be regulated. Finally, only a handful (2%) of respondents thought that nothing needed to be done regarding these substances (Eurobarometer, 2011).

![Figure 6: Survey results on ways to handle legal substances that imitate the effects of illicit drugs](image)
EURAD recommendations

Drug Policy Recommendations

✓ Governments should opt for a comprehensive approach through evidence-based measures such as drug prevention, treatment and rehabilitation
✓ Governments should acknowledge the need for a timely approach to tackling psychoactive substances, making use of temporary tools if necessary
✓ Governments should carefully assess measures at their disposal to tackle psychoactive drug use in a rapid and effective manner
✓ The EU and UN structures should be used to ensure effective collaboration on this phenomenon, in order to tackle cross-border issues
✓ Governments should reflect on the failures of alcohol and tobacco restrictions when considering approaches to psychoactive substances

Prevention Recommendations

✓ Governments should provide a combination of evidence-based universal, selective, indicated and environmental drug prevention programmes
✓ Governments should particularly invest in targeted prevention programmes for those most at risk of NPS use

Treatment Recommendations

✓ Governments should provide accessible drug treatment services for those who use NPS
✓ Governments should ensure that young people who use NPS have access to a range of multi-disciplinary services, including screening, detoxification, residential treatment, counselling and peer support

Data & Research Recommendations

✓ Governments should ensure national health data collection systems are in place to measure the impact of NPS use
✓ Governments should invest in research on the harms caused by the use of NPS
✓ Governments should invest in drug prevention research, ensuring that only evidence-based programmes are implemented and that findings are effectively disseminated amongst researchers and practitioners
✓ Governments and the EC should commission independent youth drug surveys and respond to trends with appropriate tools
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