

Harm reduction of novel psychoactive substance use

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Abstract

During the last few years, the rapid emergence of novel psychoactive substances (NPS) has significantly reshaped the global drug scene. Emergency hospital admissions and confirmed or suspected NPS-related deaths are on the rise, and many related health and social problems may have not yet even been fully recognised. Potential NPS harms stem from the lack of information, as well as from the general *sets* and *settings* of drug use. As compared with “classical” drug harm reduction, NPS-related harm reduction has got a notably more difficult operational environment. In this chapter, I will briefly outline the emergence, terminology, and appeal of the NPS phenomenon, and introduce a seven-item list of NPS-related risks and subsequent potential harms that has been compiled from both academic and anecdotal sources. Moreover, I summarise six important ongoing NPS harm reduction attempts that can be currently perceived as best-practices, illustrated by European examples. Finally, I conclude the analyses of NPS-related harms and harm reduction best-practices by discussing some conceptual, strategic, practical, and drug policy issues.

Keywords:

drug use, substance use, novel psychoactive substances, NPS, harm reduction, drug markets, drug policy

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Introduction

During the last few years, the rapid emergence of novel psychoactive substances (NPS) has significantly reshaped the global drug scene. As of May 2014, the EU Early Warning System monitors more than 350 new psychoactive substances, 81 of which were notified in 2013 ([EMCDDA, 2014b](#)). The NPS phenomenon has induced fundamental changes on legal and illegal drug markets, in national and international drug policies, and also in drug use subcultures. While some of the background factors – such as the development of organic chemistry, the spread of internet marketing, and the cultural demand for mind-altering substances – were quite obvious and could be foreseen, the extent and velocity of the convergence took most societies by surprise. Emergency hospital admissions and confirmed or suspected NPS-related deaths are on the rise, and many related health and social problems may have not yet even been fully recognised. Hence, attempts to bring the NPS issue under control could be seen as highly experimental at best, struggling with a major lack of information.

Due to fundamental changes induced by NPS, drug prevention and harm reduction are also facing many new and difficult challenges. In contrast with “classical” drugs – many of which have been well-known and studied for centuries, or at least for decades – NPS are requiring prevention and harm reduction measures to operate with vagueness. Moreover, the urge to respond to the NPS phenomenon both in time and with adequate efficiency is clearly calling for unavoidable compromises and trade-offs. In this chapter, I will briefly outline a few aspects of the NPS phenomenon, list some of the known risks of NPS use, and suggest novel attempts to reduce NPS-related harm. In addition to a review of scientific literature, non-academic information has been collected from drug user online discussion groups, warnings and alerts about drug-related emergencies, and legislative and policy changes in the last five years.

The NPS phenomenon

Understanding new drugs

The emergence of new drugs is far from being an unexpected phenomenon; it occurs during the normal course of biotechnological development. For millennia, humankind has used a plethora of plants for treating various human conditions. Drying and powdering, making tinctures and ointments are the oldest pharmacological technologies to transform and apply plant-based compounds for human consumption. More advanced methods enabled “top-down” extraction, isolation, and identification of pharmacologically active principles, such as alkaloids from plant material. Newer chemical technologies made possible the creation of new substances by tweaking existing compounds, i.e., by taking a basic chemical skeleton and adding, removing, or replacing its atoms and molecules. By now, the development in organic chemistry enables *semi-synthesis* from natural starting materials (plant essential oils, acids, or alkaloids), and “bottom-up” *total synthesis* from basic petrochemical ingredients.

It is important to grasp the idea that the creation of new substances is not necessarily “clandestine” underground activity. Drug development is a vital part of everyday pharmaco-technological processes driven by legal pharmaceutical companies and licensed research institutes. With the exception of patentable molecules under

development, manufacturing processes are described in detail and published in journals of chemistry. Given the chemical knowledge available and the initial legal statuses of NPS, these substances can be obtained in bulk quantities by ordering a custom synthesis from any legally operating chemical company worldwide.

The main driving force behind drug design is a commercial utilisation of medicinal molecules. New compounds should be somewhat similar to existing ones to exert a preferably larger wanted main effect with fewer unwanted side effects. At the same time, they should be a bit different in their chemical structures in order to be patented as new medicinal products. Only a few of these novel molecules reach commercial production; the vast majority of compounds get disqualified due to various reasons, such as unfavourable results of preclinical or clinical studies—or simply the high costs of the bulk manufacturing process. Another important application for novel molecules is in neuropharmacological research as receptor agonists or antagonists. Experimental setups may require certain receptors to be blocked before administering a drug, in order to find out more about that drug's effects. Some of the NPS on current street markets have a historical background in laboratories: they have been used in research because of their great affinity to bind to certain receptors. However, great affinity means strong effects – both wanted and unwanted – which facilitates the process for these substances to become recreational drugs.

On NPS terminology

The turbulent scenario of the new drug use boom also manifests in multiple attempts to bring together all the substances under one common term—often unsuccessfully. “Novel Psychoactive Substances” is admittedly the closest *terminus technicus* to describe this versatile group of drugs. However, a great many of these substances are not novel at all, but have been around since many decades, albeit utilised only marginally. Thus, novelty here may not refer to the existence of a substance, but only to its recent widespread emergence as a recreational psychoactive drug. A previously used term, “new synthetic drugs” (NSD), fails to capture many plant-based compounds, e.g., ibogaine, mitragynine, or salvinorin-A. References to “research chemicals” (RC) are similarly inaccurate, as they cover only a subset of these novel drugs, many of which have never been used in laboratory research. The term “designer drugs” (DD) is also an unnecessary narrowing of the wide drug spectrum, along with an artificial separation between synthetic and naturally occurring molecules (which may actually belong to the same chemical families). Another confusing term that is also suggested to be avoided is “legal highs” (LH) ([Corazza, Demetrovics, van den Brink, & Schifano, 2013](#)). As legal classification is only a temporally and regionally varying characteristic, it is not recommended to be used as an adjective for substance categorisation. A “legal high” may easily count as an illegal one in another country, as well as it may also have a high probability to become illegal as time passes by.

The emerging NPS phenomenon

The rapid and massive emergence of NPS poses novel societal challenges to be addressed. For adequate responses, it is important to understand cultural, economic, legislative, and health aspects, as well as the factors and background processes that have converged into the NPS phenomenon. While recreational party drug use has been

relatively widespread, self-experimenting with little-known substances has long been marginal, mostly only as a part of “psychonaut” subcultures ([Móró, Simon, Bárd, & Rácz, 2011](#)). Since the late 1960s, substances that have been used for self-exploring the mind were typically hallucinogenic phenethylamines and tryptamines developed and described by the extraordinary chemist Alexander “Sasha” Shulgin (1925-2014) ([see e.g., Shulgin, 1969](#)). Stimulant drugs, such as piperazine party pills surfaced in the early to mid-2000s. Simultaneously, cannabinoid receptor agonists (e.g., the JWH-series) “escaped” from regular laboratory use around 2004 to start up the “Spice” phenomenon, which became properly detected only as late as in 2008 ([Griffiths, Sedefov, Gallegos, & Lopez, 2010](#)). As of recently, these substances were followed by novel cathinones – most notably, mephedrone ([Schifano et al., 2011](#)) – and other β -ketones appearing as “plant foods” or “bath salts” ([UNODC, 2013](#)).

Some of the many causes for drug market turbulence on the supply-side could have been caused by the destabilisation of Ecstasy pill markets, precursor regulations, appearance of bulk crystalline MDMA, a high-profile EU ban on some phenethylamines, and the low quality of “speed” powders (in some countries). At the same time, new forms of psychoactive substance use have become essential cultural elements at certain dance parties due to curiosity, “coolness”, or trend factors. The ultimate easiness and anonymity of internet purchase has accelerated legal drug trade in unforeseen ways and created vivid online markets ([Van Hout & Bingham, 2013](#)). Simultaneously, internet communication between sellers and potential buyers have become virtually unlimited, while even larger masses of people became NPS-aware by the conventional public media’s (often exaggerated) news stories ([Dąbrowska & Bujalski, 2013](#)) that have served also as unintended advertisements for these new substances.

The appeal of NPS

The history of psychoactive substances may rightfully blur our modern division between *medicinal* drugs and *recreational* drugs. It appears that substances have been used for enhancing all aspects of life quality in general—and not only for restoring health. Therefore, a modern-day demand for modern-day drugs that fulfil age-old functions is not at all surprising. In this sense, NPS are merely contemporary alternatives to some “classical” drugs that have been consumed to relieve anxiety, to enhance sociability, to increase alertness, etc. Many NPS are “energising” drugs, similar in their effects to amphetamine type stimulants (ATS) that have been on the streets since the 1960s. In a similar fashion, traditional “euphorising” drug use included the ingestion of various processed forms of the cannabis plant (such as marijuana, hashish, or *charas*), as well as eating and drinking various preparations of the opium poppy. During the last two decades, major advances in neuropharmacology and organic chemistry have been made by discovering the endocannabinoid system in detail, and in synthesising hundreds of compounds to affect CB1 and CB2 receptors.

A couple of global NPS use trends seem consistent across borders. An important observation is that due to their initial legal statuses, new drugs had been successfully marketed to new consumers who previously had no access to (or will to access) illegal drugs ([UNODC, 2013](#)). In line with this, good availability of “classical” drugs (e.g., cannabis) counterbalances the prevalence of NPS use (e.g., synthetic cannabinoids) in

some countries. Even though recreational drug use is often a subject of moral and ethical counterarguments, the demands for extra strength and extra joy seem to be a constant part of the human experience ([Siegel, 1989](#)). However, societies are indeed justified to intervene whenever potential social problems occur while satisfying these demands—assuming that countermeasures and responses are in proportion with those problems. Therefore, proper interventions should definitely take into account and understand the fundamental appeal of NPS as an important cultural factor.

Set and setting of NPS use

So, if the demand for drugs is not a new phenomenon at all, then what exactly caused the recent surge in NPS demand? In order to answer the questions, it may be necessary to involve the concepts of *set* and *setting* of drug use ([Zinberg, 1984](#)). In here, *set* refers to the intentions, attitudes, and psychological characteristics of the drug user, while *setting* denotes the physical, social, and cultural environments of drug use. These two modulating factors are not to be underestimated: previous studies had found out that the total drug experience may be more substantially affected by set and setting than by the type of drug used ([Strassman, 2001](#)).

While it may be true that certain drugs are more typically related to certain subcultures than to others, the fast spread of NPS seems to have enabled multiple entry points into societies. With NPS having a high abuse and health risk liability ([Winstock et al., 2011](#)), it becomes also apparent that occasional fatal overdoses or acute toxic symptoms ([Hermanns-Clausen, Kneisel, Szabo, & Auwärter, 2013](#)) are often picked up and grossly exaggerated to the level of moral panic by the public media ([Alexandrescu, 2013](#)). In some countries, NPS have entered into pre-existing intravenous drug user populations, which may further increase risks in unforeseeable ways. Despite a sheer number of NPS, only a few are used by larger numbers of users, or for longer periods, which fortunately limits the harm of most NPS.

NPS-related harms

Risks of the novel NPS market

High profits and minimal risks associated with the trading of temporarily legal drugs have attracted vast masses of new NPS manufacturers, importers, distributors, and sellers. These (mostly online) drug traders have thus formed a novel segment on the supply side of the global drug market, next to “conventional” illicit drug dealers. Some of the NPS vendors have been known to operate as franchises, some utilise a multi-level marketing (MLM) scheme, and some aim at international markets by operating multilingual web shopping applications and by registering their branded domain names in several countries. Strikingly, many of these new entrepreneurs may have no idea about the products they are selling. Even worse, sellers are obviously financially motivated to recommend higher doses and to promote more frequent drug use.

Concepts in NPS harm reduction

Approaches to drug-related harm reduction are highly suggested to be based on wholesome concepts originated from the bio-psycho-social model of health. There seems to be a widespread practice of metaphoric thinking of transferring the agency and responsibility from the “poor victim” drug user to the “evil” drug. In order to avoid

this “materialistic demonising”, pharmaco-chemical properties of a *drug* must be separated from bio-psycho-social consequences of *drug use*. A central claim here is that current drug policies have been incapable of making a difference between these two domains. This prevailing misconception may seriously slow down or stall harm reduction work, if public interest (along with the available resources) is directed at *materia*, not at people. On one hand, a matter-oriented approach to drug-related problems poses a strong limit on any conceptual solutions addressing these problems, as it points a finger at lifeless compounds in an attempt to limit the negative consequences of related human behaviour. On the other, the imbalanced material emphasis may also hinder practical harm reduction measures by overly focusing on drugs instead of drug users.

In theory, each substance *must* have a certain dosage, route of administration, and usage frequency that produces an optimal ratio between preferred main effects and unwanted side effects. Pharmaceutical companies have found optimal dosages also for many “classical” psychoactive drugs in legal clinical use. Some of these drugs have been put under international control with no recognised medical benefits (e.g., heroin), but some are still in clinical use (e.g., cocaine, d-amphetamine, and ketamine). However, the sheer number of NPS makes it practically impossible even to have up-to-date databases with proper drug identifications, which renders pre-clinical dose-response studies to the level of wishful thinking for a long time. This vagueness regarding NPS information is, in fact, a major limitation; nevertheless, it must be accepted as one of the most typical characteristics of NPS-related work. For harm reduction to be able to respond quickly and efficiently – relative to the novel circumstances – it is essential to rely on vague, incomplete, unverified, and anecdotal data. It is indeed a big challenge to make reliable information patterns out of fragmented bits and pieces of NPS data ([Sumnall, Evans-Brown, & McVeigh, 2011](#)).

Risks related to NPS use

From the drug users’ perspectives, the majority of risks related to NPS are not derived from the material properties of a drug *per se*, but from inappropriate drug use, perhaps most importantly dosing. Potential NPS harms stem from the lack of information, as well as from the general *sets* and *settings* of drug use. The following seven-item list of NPS-related risks and subsequent potential harms has been compiled from both academic and anecdotal sources.

Online purchase scams. As much as online ordering has revolutionised also drug trade, the phenomenon came along with some of the negative sides of internet shopping. Sending money in advance and receiving nothing in return is indeed a basic scam also in regular cases of mail ordering. Internet marketplaces for selling items can be set up easily, anonymously, and for free in a few minutes. By using intractable email addresses and money wiring services, orders and payments can be accepted within a short timeframe. Even though online drug purchase scams are not specific to NPS, but due to high demand and legality, operating fake NPS web stores for even a few weeks could be profitable and risk-free.

Drug misidentification. Receiving nothing for money is still safer as compared with receiving a different drug than expected. Misidentification of a substance can be potentially lethal if the dosage of the (absent) intended substance is greater than the

dosage of the actually consumed other substance. This situation may indeed occur also with “classical” drugs, but the market and usage context poses definitely greater risks for NPS users. With a few exceptions of brand-name NPS in pill or capsule form, the majority of NPS appears to be a bulk quantity of white or off-white powder. Lacking laboratory equipment, there is no reliable way of identifying NPS apart from their label provided—if provided.

Drug mixtures. Additional risks are posed due to the “innovative” habit of some vendors to sell mixtures of NPS, which have been confirmed by forensic laboratory analyses of seized NPS batches. Experimenting with multiple drugs at the same time is also a cultural pattern, where the bravest pioneers of “mind exploration” receive appreciation from their peers. NPS mixtures aim to be stronger than its separate ingredients by combining substances that potentiate each others’ effects. However, neuropharmacological processes behind drug effect potentiation are complex in nature and possibly mean more risks for the user. For most NPS, there is no reliable data on pharmacological interactions with other substances, such as alcohol, prescription and over-the-counter medications, herbal products, or recreational drugs. The currently available information on these topics is mostly from online sources, such as drug discussion boards, and hence highly anecdotal.

Substance naming. Beside their proper systematic IUPAC¹ chemical names and CAS² registry numbers, NPS are often known also by colloquial street names and/or vendor-promoted brand names (“fantasy names”). Practically, both of these naming practices are inadequate and potentially risky for proper substance identification. Street names for NPS show great regional variability, with multiple naming appearing in parallel ([Brandt, Sumnall, Measham, & Cole, 2010](#)). Drug mnemonics are often based on “linguistic approximation”, i.e., they are being referred by partially similar-sounding words in the local language. For example, the cathinone derivative mephedrone has been named “Mephisto”, “Katy”, “Cat”, or the further associable “Meow”. Even worse, such approximations of NPS chemical names may result in inaccurately abbreviated street names, such as “PV” instead of MDPV or PV8, but also “AMT” instead of 5-MeO-AMT—a different drug with a different dose range and effects. In practice, constantly ongoing product name changes are largely fuelled by regulatory transitions in the statuses of NPS (i.e., scheduling from legal to illegal). Moreover, newer and/or less known substances are routinely sold under the more popular names of previous and/or better known substances.

(Over)dosing. It is strongly claimed here that the gravest adverse effects of NPS use can be attributed to accidental overdosing in the lack of possibilities to find out about their “normal” dosage. NPS have very serious dosing disadvantages compared with traditional drugs in pill or capsule forms. Common doses for NPS may vary several magnitudes: around 100 mg for mephedrone, around 10 mg for 2C-E, around 1 mg for DOB, and down to the sub-milligram range for NBOMe substances—an amount smaller than a head of a match! Thus it is impossible to measure out exact doses of bulk powders by visual approximation (colloquially: “eyeballing”) without using a milligram-

¹ International Union of Pure and Applied Chemistry

² Chemical Abstracts Service

range precision digital scale. Even more risk is taken by intranasal or intravenous NPS users who, unfortunately, prefer these routes of administration for a more rapid and intense onset. As NPS cannot be sold for human consumption, “plant food” or “bath salt” sellers do not attach dosage (or other) instructions with their shipped packages.

Legal consequences. Rapidly changing (and often incoherent) legislative measures to control the trading and consumption of NPS are also posing serious legal risks. In the lack of proper drug identification, buyers might order a (still) legal NPS, but instead receive an illegal NPS without knowing it. These incidents are in part provoked by the periodical banning of groups of NPS: upon knowing about a forthcoming ban, vendors may start mixing and replacing their other substances with the very-soon-to-be-banned substance—in order to get rid of their stockpiles still legally and in time. Beside the possible physical risks of ingesting a misidentified substance, there could be also serious legal consequences due to possession or consumption of a banned substance that is believed to be legal ([Sumnall, et al., 2011](#)). Furthermore, legislative practices in some countries use *analogue* or *generic* laws in addition to explicit lists of controlled substances. It may be practically impossible for the average NPS user to know whether or not a single chemical is implicitly banned because of “substantial similarity”, or implicitly covered by a general chemical formula.

Psychosocial risks. Drug-related problems are not exclusively caused by certain properties of a drug or its inappropriate use. A comprehensive harm reduction approach should be aware also about psychosocial risks of drug use, some of which originate from drug users’ social environments. Compared with the serious legal risks of “classical” drugs that are controlled by criminal law, NPS users are relatively safe from harsh legal sanctions. However, NPS use may lead to external psychosocial risks such as stigmatisation, marginalisation, and discrimination. These consequences can be also understood as potential moral sanctions against the use of non-mainstream psychoactive substances. It is unfortunate that these negative interactions leading to psychosocial harm are particularly fuelled by an extremely sensation-seeking public media. Unfortunately, the NPS phenomenon cannot be adequately discussed in public due to a lack or biased selection of expert statements and drug user opinions, and to false beliefs and prejudices of the uninformed and misled general population.

NPS harm reduction best-practices

Difficulties of previous harm reduction strategies

As compared with “classical” drug harm reduction, NPS-related harm reduction has got a notably more difficult environment to operate in. To start with the fundamental problem: even the scope of the NPS phenomenon is impossible to know exactly. Unlike neatly compiled international and national schedules of controlled substances, the NPS scenario is scattered with hundreds of chemical formulae, dubious mixtures, street names, brand names, fantasy names, drug analogues, pharmaceutical products and by-products, pro-drugs, precursors, metabolites, and so on. With new substances appearing weekly, this turbulent situation is notably different from the previous operating environments where, for instance, information leaflets about a fixed number of drugs and their constant effects could be printed and distributed year after year. Furthermore, the quasi-simultaneous explosion of hundreds of new drugs has made their differentiation practically impossible. With the exception of a few pre-packaged and

branded products, the majority of NPS are imported and sold as bulk powders that are virtually indistinguishable from each other by their buyers. This is in high contrast with the somewhat manageable situation of the last 10-15 years, when a relative stability of the Ecstasy pill market made it possible to maintain searchable databases that could find a pill by its logo, colour, and shape. Moreover, the pill's ingredients – such as MDMA, amphetamines, or ketamine – were easily identifiable and well-known substances. The recent change toward drug appearance homogeneity poses a huge challenge to harm reduction professionals, who will need fast responses in drug information exchange, and innovative experimental approaches in order to develop and implement novel drug identification measures ([Móró & Rácz, 2013](#)).

European examples of best-practices

In order to summarise ongoing NPS harm reduction activities that can be currently perceived as best-practices, six important attempts are listed below. These approaches are illustrated by European examples involving both governmental and non-governmental organisations, as well as self-help activities initiated by drug users.

Drug checking services. Given the plethora of NPS, proper drug identification is core essential for harm reduction. In practice, NPS testing is a difficult task due to the enormous variety of substances, high laboratory costs, and scarce availability of reference compounds. Apart from using quick field testing kits, the procedure requires professional expertise and laboratory equipment that is difficult to access for drug users. As some of the unidentified drug samples may contain illegal substances (hence cannot be legally returned to the submitting owners), drug checking procedures must be carried out with an official approval and under controlled circumstances. Anonymous drug checking could be offered as a mobile service at electronic dance music events (as provided by, e.g., the municipal ChEckiT! team in Vienna, Austria), or as a stationary walk-in service (as provided by, e.g., the youth advisory service in Zurich, Switzerland) ([Hungerbuehler, Buecheli, & Schaub, 2011](#)), or as an analysis of drug samples sent in by postal mail (as provided by, e.g., the WEDINOS project of Public Health Wales). Drug identification results from forensic laboratories should be unified with relevant data from other licensed drug checking services, and rapidly disseminated via media channels that actually reach drug users.

Public drug databases. Drug checking would not have much benefit without detailed information on the identified substances. For global drug information, the Erowid.org website has served for many years as the most comprehensive source, while promoting also responsible psychoactive drug use ([Erowid & Erowid, 2009](#)). Besides publicly available up-to-date and continuously expanding databases, there is also a need for concise, easy-to-read drug information. This may also include practical hints and tips for harm reduction for the presumably young drug user target audience. For this task, mobile and internet technologies and computer-based programs have been found effective in addressing recreational drug users ([Wood et al., 2014](#)). E.g., the Recreational Drugs European Network (ReDNet) project maintains a New Database on Legal Highs that is based on a Wiki concept for wider collaboration, and is easily accessible via mobile devices ([ReDNet, 2014](#)).

Global and local information. Even though the emergence of NPS is a global phenomenon, notable local differences exist between countries and regions in the

usage of these substances. Epidemiologic data, i.e., reports about the sites of appearance of NPS, is therefore important in finding out drug usage trends. Moreover, local data helps in focusing local harm reduction measures on those substances that are the most probable to appear at or near a certain location. Official networks, such as the Early Warning System of the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA), are established to exchange NPS information mainly between governmental institutions ([EMCDDA, 2014a](#)). However, a huge amount of essential NPS information is going on outside official channels, most notably on internet discussion forums. This local information should be also constantly monitored in order to be up to date and able to appropriately reflect on the local NPS situation. E.g., the Bluelight discussion board allows regional groups to chat about various NPS that are of local interest ([Bluelight, 2014](#)).

Drug user empowerment. It can be safely stated that for all modern societies, there is a notable level of negative emotions against drug users, with not much distinction between occasional or problem use, or between illegal or legal substances. As long as drug users are considered either criminal or ill, it may be extremely difficult to involve them into visible societal activities that aim to improve their own health conditions by reducing drug-related harms ([Goossens, 2008](#); [Hunt, Albert, & Montañés Sánchez, 2010](#)). However, with the help of internet-provided anonymity and of researchers and NGOs acting as “buffers”, there are novel possibilities for information exchange between drug users and mainstream society. This trend could be observed particularly in connection with NPS: drug user groups are increasingly “discovered” and surveyed by those who need more in-depth information than a scarce amount of epidemiologic data. E.g., the Eurasian Harm Reduction Network (EHRN) is a regional network with a mission to promote evidence-based harm reduction approaches to drug use ([EHRN, 2014](#)).

Party harm reduction. NPS are extensively used for recreational purposes by youngsters at public dance events at clubs, parties, and festivals. For the last decade, an increasing number of harm reduction NGOs have operated their peer-help outreach programs at such venues. It is indeed reasonable to offer up-to-date drug information about NPS at the exact sites of their well-assumable purchase and consumption, and to be prepared for handling drug emergencies by a team of trained helpers. Mass dance events offer also good opportunities to peek into the emerging drugs scene by just chatting with party people about drugs; however, for this, a base of trust and good reputation needs to be established first. E.g., the EU-sponsored “Nightlife Empowerment & Well-being Implementation Project” (NEWIP) proposes specific responses to the new challenges in the fields of harm reduction and health promotion, using recreational settings as initial outreach locations ([NEWIP, 2014](#)).

Media regulation. The role of public media in popularising drugs – in particular, NPS – is unfortunately much disregarded. It would certainly not be possible for a drug vendor to publicly advertise a “new, trendy, legal, strong, cheap, and easily available” psychoactive substance that can be delivered home just by googling its name. Nevertheless, the public media is allowed to perform an equivalently blatant marketing act—by calling it a piece of news. Clearly, instead of spreading scary stories and misinformation, the public media could do a lot of useful harm reduction by disseminating practical hints and tips that may reduce actual (and not fictional) risks of

NPS use. For this to happen, it would be essential for drug experts and professional harm reduction activists to step forward and proactively approach the media to have their voices and messages heard. E.g., the Media Monitor program of the Hungarian Civil Liberties Union (HCLU) collects and checks anything published or broadcasted in the media on drugs. When incorrect information or false assertions are found, the program activists publish responses including commentary and references to accurate and credible data ([HCLU, 2014](#)).

Conclusions

From the above analyses of NPS-related harms and harm reduction best-practices, several conclusions can be logically drawn. Evaluations of evidence-based drug policies reveal increasingly that efficient prevention strategies cannot be based on unrealistic ideologies, such as the ideal goal of a “drug-free world”. Instead, it should be admitted that psychoactive substance use as a cultural phenomenon have always existed and will exist in some form within all societies. Thus, it must be accepted that the lifecycle of drugs cannot be stopped by force, but their course may be partially affected by carefully chosen interventions which may also reduce drug use related harms.

By looking at its background factors, ongoing processes and future directions, it becomes clear that the NPS phenomenon should be primarily addressed also as a cultural and economic issue, not as a merely legislative and public health issue. As a first step, the trust of NPS users should be re-obtained by public measures to protect them as consumers, while simultaneously letting them to promote responsible substance use and to develop “smart” drug user subcultures on their own. The risk of overdosing on little-known NPS could be decreased by provision of drug checking services and rapid dissemination of reliable drug information that originates from high-quality academic research. It should be also clear that the public media deserves quality-enhancing regulatory measures that would counterbalance the psychosocial harms caused by its “dirty” scare strategies. Databases on substance legality and vendors may also help to clarify the legal situation and to harness market forces in order to induce competition, which may ideally result in an increased social responsibility and additional resources to harm reduction.

The most difficult overarching strategy would be, however, to reduce the prevailing hypocrisy in alcohol and tobacco policies. Certainly, it goes beyond any rational explanation why NPS with “unknown risks” get banned, while alcohol and tobacco products with well-known grave risks remain legal? Policies toward illegal drugs may also deserve a rethinking: it could be even asked provocatively whether well-known “classical” drugs should be recommended instead of little-known or unknown NPS? A crucial step in handling this core issue would be to orient toward an integrated psychoactive substance policy that is coherent, evidence-based, and proportional. Nevertheless, smaller steps in harm reduction – such as those described above – are more urgently needed to directly protect NPS users. Despite the complex and ever-changing NPS situation, there are plenty of resources and dedication to save lives and health, which gives a reason for optimism concerning the future.

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