



UNODC

United Nations Office on Drugs and Crime

“THE SHORT HISTORY OF NEW PSYCHOACTIVE SUBSTANCES IN UKRAINE”



UNITED NATIONS OFFICE ON DRUGS AND CRIME
Vienna

“The short history of New Psychoactive substances in Ukraine”

Historic overview of the origins, distribution, and patterns of use of New Psychoactive substances/Stimulants and current challenges and solutions for harm reduction programmes



UNITED NATIONS
Ukraine, 2020

This translation was made by UNODC Regional Programme Office for Eastern Europe (UNODC RPOEE). UNODC RPOEE is not responsible for the content or accuracy of this translation. The original English edition shall be the binding and authentic edition.

The short history of New Psychoactive substances in Ukraine.

© **Regional Program Office for Eastern Europe of the United Nations Office on Drugs and Crime, 2020**

Rights protected.

The document may be copied, distributed and adapted for non-commercial purposes provided that reference is made to this document, as set out below. In any case, the use of this document does not imply that UNODC approves any particular organization, product or service. Unauthorized use of the names or logos of the UNODC is not allowed. Adaptation of this document requires permission from UNODC RPOEE. In the case of a translation of the document text, an explanatory note is provided together with the proposed quotation: "This translation was not created by the United Nations Office on Drugs and Crime (UNODC). UNODC is not responsible for the content or accuracy of this translation. The original version in English is a legally binding authentic edition".

Any mediation in disputes is carried out in accordance with the rules of the UNDOC.

Recommended citation. The short history of New Psychoactive substances in Ukraine, Kyiv, 2020

Third party materials. The use of third-party materials in this document, such as tables, figures or photographs, places the user's responsibility for obtaining permission for such use from third parties and permission from the copyright owner. The risk of claims caused by the infringement of the right of a third party in connection with any component of the document rests solely with the user.

General disclaimer. The designations and representations used in this publication do not imply the expression of a UNODC opinion on the legal status of any country (territory, city or district) or its authorities, or on the delimitation of its border. Dotted and dashed lines on the maps indicate the approximate lines of borders, on which there is no full agreement.

Mention of specific organizations, companies or certain goods or programs does not mean that they are approved or recommended by UNODC in comparison with others, similar in nature, not mentioned. Errors and omissions are excluded, the names of patented products are separated by initial capital letters.

UNODC has taken all reasonable precautions to verify the information contained in this publication. However, the published material is distributed without any guarantees, express or implied. The responsibility for the interpretation and use of the material rests with the reader. In no case are UNODC liable for damages resulting from its use.

Design and layout by — Ukraine - de Lage Landen Consulting Group LLC.

Printed in Ukraine.

ACKNOWLEDGMENTS

The paper was commissioned by UNODC.

The document is authored by **Constantine Lezhentsev**, UNODC Consultant on access to care and treatment for key populations.

UNODC staff members who contributed to the document: Dr. **Zhannat Kosmukhamedova**, Dr. **Sergii Rudyi**.

Ms. **Gorica Popovic**, MA in political science reviewed the document and provided valuable feedback.

Contents

Acronyms and abbreviations	8
Introduction and problem statement	9
Methods and analysis	10
A short history of NPS globally and in Ukraine	11
Classification of NPS stimulants available in Ukraine	13
Channels of distribution and characteristics of online market(s) in Ukraine	14
The sources of substances for the production of NPS/stimulants and actual production	15
Set and Settings of NPS use in Ukraine	15
Recommendations for Harm Reduction Programs among NSP users in Ukraine	17
Special considerations for ART adherence support programs in people living with HIV using NPS	21
Adherence programs concerning stimulant users with multiple social and economic problems	22
Conclusion	24
References	25

Acronyms and Abbreviations

DD – designer drugs

LH - legal highs

MLM - multi-level marketing scheme

NPS – New psychoactive substances

NSD - new synthetic drugs

Subculture – specific cultural and social unions characterized by joint trends in fashion, music and preferences in psychoactive substances

Party/club culture – an emerging movement originally invented by gay subculture that is united through the way of life characterized by deep immersion into electronic music production and consumption.

Raves – originally illegal youth gatherings.

Pills – originally referred to MDMA but later relates to all NPS produced in the form of specially designed (stamped) tablets and capsules.

Powders – new formulations that are associated with NPS/stimulants.

Safe clubs – the term that set up safety standards for clubs to minimize negative consequences of raving first introduced in the Ministry of Sound, London, 1992, and marked a new era in Harm Reduction.

Psychonaut – an individual that prefers psychostimulant drugs and their combinations both in individual trips and as part of global gatherings (mainly on psy-trans music events).

Introduction and problem statement

During the last decade, the rapid emergence of diverse range of substances pragmatically clustered under the term novel psychoactive substances (NPS), has significantly reshaped the Ukrainian and global drug scene. There are several factors which characterize this worldwide challenge to traditional 'state of art' within the drug scene. First, the spectrum of psychoactive substances has been considerably expanded, second, there has been a surge of new options to access substances, third, new ways of experimenting with "multiple effects" of the substances have been presented and finally, the current prices of the "classic stimulants" (i.e. amphetamines) have been substantially challenged. Despite the fact that, compared to the EU, Ukraine's drug market has lower velocity, the rates and frequencies with which the new substances and brands appear in the Ukrainian market are quite impressive. For example, as of May 2016, the EU Early Warning System monitors more than 350 new psychoactive substances (EMCDDA, 2016), while there have been up to 80 new substances appearing in 2018-2019¹ in Ukraine, according to press-announce of the Head of State Department for combating drug-related crimes, Andrey Kikhtenko.

The NPS phenomenon prompted fundamental changes in legal and illegal drug markets, in national and international drug policies, due to following factors:

- Rapid appearance of entirely new categories of users (and abusers) that have not been previously accustomed to "classic street drug culture"
- Emergence of new generations of molecules on the market every year (even every month);
- Online marketing and social networking as a universal access tool for all categories of users.

These factors are becoming acknowledged as challenges for Harm Reduction programs that now require new approaches, prompt identification of new subcategories of users with specifically associated risks that need to be addressed.

"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...", Levente Moro, University of Turku, Finland

Moreover, the need to effectively respond to the influence of NPS on the drug stage of Ukraine requires objective vision of the actual impact of NPS (and objective understanding of exact NPSs that are present on the market), clear identification of most vulnerable drug-using groups and commitment from all stakeholders to reform their programmes and ensure effective service-delivery to NPS/stimulant users.

The main goal of this report is to outline key aspects of the NPS phenomenon, the list of known risks of NPS use, and to provide suggestions and recommendations for Harm Reduction and HIV programs on approaches tailored for NPS-using clients.

¹ ` New substances in this case are those not yet included into the List of narcotic, psychoactive substances and pre-cursors of Ukraine due to their operative modification by "researchers"

Method of analysis

In order to understand the context and the main features of NPS, along with health and policy challenges they pose, specifically in Ukraine, the methodology of this report relied primarily on a desk review of the related literature. Such methodological choice was complemented with the review and analysis of online resources devoted to the problem areas of New Psychoactive Substances, including scientific resources on pharmacodynamics, research and evidence-based approaches to monitoring side—effects. The web-resources used vary from strictly academic (e.g. academia.edu) to monitoring discussions and publications on Talkingdrugs.org and drugstore.org.

Hereby, the author will present the comprehensive list of internet resources which were used as part of the desk-review research in developing this report:

Academic:

- Academia.edu resource provided 75 scientific research studies and operational reports through its Premium Account on specific search targeted on: mephedrone, NPS, Ukraine, Eastern Europe;
- Eurasian Harm Reduction Network, harmreductioneurasia.org;
- International Drug Policy Consortium, idpc.net

Policy and epidemiology:

- European Centre for Monitoring Drugs and Drug addiction, emcdda.europa.eu
- United Nations Office on Drugs and Crime, unodc.org

In addition to scientific literature, policy and epidemiological reports, valuable non-academic information has been collected to corroborate primary sources through the following resources:

Discussion groups:

- Central Committee of psychonauts (Centralniy Komitet Psykhonavtov), ruckp.org: an internet forum that has a “membership policy” based on provision of “trip reports” (own experience in testing/using that is presented in user-friendly, exciting and detailed format). Overall 40 “trip reports” have been studied with particular focus on three “brands”: amphetamines (“speed”), PVP (“blue crystals”), mephedrone (“meph”);
- RCclub forum: represents a special forum that promotes products of more than 50 retail and whole-selling online stores in Russia, Ukraine and Belarus. This forum gives an opportunity to get honorarium of 5 USD for detailed “trip report” (test) of the products procured from their “partners”. Ukraine is presented by following stores: grechka.org; kyrnyt.net, medusa, Narkopump.
- www.talkingdrugs.org. – This is a valuable resource that gives people an opportunity to tell their stories of how drugs and/or policies that are related to drugs have affected their lives or their communities. TalkingDrugs is an anti-racist, sex worker allied, trans-inclusive, abolitionist platform that is grounded in a respect for people who use drugs and for those who are most egregiously impacted by punitive drug laws (<https://www.talkingdrugs.org/about>).

The most useful ‘tool’ to get a comprehensive overview and a clear understanding of the distribution channels, associated risks and specifics of each subculture of NSP-users in the context of vulnerability, were the 10 interviews conducted with NSP-users selected from the following groups:

- “Street users” (most marginalized and poor community) - 4 respondents practicing injection of stimulants and NPS (predominantly PVP “blue crystal”) in combination with various “pharmacy drugs” and sporadic methadone injections, participated in questionnaire-based interview whose narrative that corresponded to the main objectives of this report;

- “Dance-culture youth” (users of stimulants and sporadic NSP users in the context of techno-dance-scene) - 6 respondents enrolled by “peers” through FB thematic groups filled structured online questionnaires (6 open questions);

- “Pioneers of NSPs, psychonauts” (individual experimenters and/or adepts of psytrans-culture). This group has been covered mainly through analysis of their most detailed “trip reports” that met the criteria of individual experimenters and could not be associated with specific subculture users.

In addition, there have been three online/telephone interviews with administrators (former and active) of the three most popular online shops in Ukraine (mainly covering the clients in Odessa, Kyiv, Lviv and Dnepropetrovsk): grechka.net, psyLab.ss, and medussa.net. Two of them have been approached through personal introduction by “peers” and the new emerging site (medussa.net) administrator has answered questions as part of “job interviewing” (a volunteer applied for the announced position of the “courier in Odessa”).

A short history of NSP globally and in Ukraine

The advancement of new chemical technologies made it possible to create new substances by tweaking existing compounds, i.e., by taking a basic chemical skeleton and adding, removing, or replacing its atoms and molecules. It is important to emphasize that the creation of new substances is not necessarily “clandestine” underground activity. Alteration of chemical structures in traditional drugs and creation of new analogues is a common part of legal trade, if it is not used or sold for human consumption. In other words, drug development is a vital part of everyday pharmaco-technological processes driven by legal pharmaceutical companies and licensed research institutes.

Some of the NPS on current street markets owe their historical background to 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. “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 for many decades, albeit utilized only marginally. Thus, the novelty here may not refer to the existence of a substance, but only to its recent widespread emergence and use 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. Furthermore, 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. In addition, the term “designer drugs” (DD) is also unnecessary narrowing the wide drug spectrum, along with an artificial separation between synthetic and naturally occurring molecules (which may belong to the same chemical families). Finally, another confusing term to be avoided is “legal highs” (LH) (Corazza, Demetrovics, van den Brink, & Schifano, 2013). Since legal classification is only a temporally and regionally varying characteristic, it is not recommended to use it as a qualifying adjective in substance categorization.

The rapid and massive emergence of NPS creates novel societal challenges which need to be addressed. For adequate health and/or policy 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, often only as a part of “psychonaut” subcultures. 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 triggered by the destabilization of Ecstasy pill markets, precursor regulations, appearance of bulk crystalline MDMA, a high-profile EU ban on some phenethylamines, as well as the low quality of “speed” powders (in some countries including Ukraine, see Set and Settings). At the same time, new forms of psychoactive substance use have become essential cultural elements at certain dance parties due to curiosity, “coolness”, or some other trend factors. The ultimate easiness and anonymity of internet purchase have accelerated legal drug trade in unforeseen ways and created vivid online markets.

Table I shows a chronological outline of the biggest waves of NPS appearing in recent history which correspond (usually) to major socio-economic and legislative changes globally.



Table I.

1920-30s

After big countries had signed in 1925th in terms International Opium Convention the special agreement on special measures for controlling morphine production and distribution, there was a rapid scale-up in the production of diacetylmorphine, oxycodone, and hydromorphone

1960-70s

Following 60-s “psychedelic and sexual revolution” with strict regulations applied for LSD-25, there was a rise in research and production of synthetic hallucinogens such as DOM, phencyclidine (PCP, “Angel Dust”)

1980-1990s

The era of the “heroin boom” mainly induced by the appeal of synthetic opiates, fentanyl- and meperidine-based molecules, which substituted heroin on the black market. This is the time when the most potent and dangerous analogue of heroin, “China white”, was presented on the black market

1990-2000

«Revolt of methamphetamine» in the US was strongly associated with Enforcement of measures for controlling precursors that at the end has led to developing synthetic analogues to classic stimulants – meth-cathinone and 4-methylaminorex

The 2000s

In this period multiple forms and molecules of designer drugs appeared that included a whole spectrum of new psychostimulant drugs (MPVP, MDMC, 4-MMC) as well as psychedelics and antidepressants (methylnmethaqualone, premarzepam)

New agents on the market coming in 2006-2012 – 4-MMC (mephedrone), 5-APV, methylone, MPVP, usually mixed in different proportions with other substances

If we look at the most recent history of the NPS (1990-2000s) we can assume that the raise in synthetic analogues of classic stimulants has been driven in many ways by an emerging subculture of a techno-dance scene (rave generation) and also by the peak of legal market of antidepressants. That was (and still is) a historic period when the concept of “new hedonism” called for a new medicines market to enhance all aspects of life quality in general— not only for restoring health. Therefore, modern-day demand for modern-day drugs that fulfil age-old functions should not be surprising at all. Several global NPS use trends seem to be 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, the 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. Therefore, proper interventions should definitely take into account and understand the fundamental appeal of NPS as an important cultural factor. (Siegel, 1989).

In Ukraine, the history of NPS in some ways mirrors the evolution of the market in the EU. However, after initial raise in “legal highs” (predominantly synthetic cannabinoids, “spices”) in 2007-2010 there was a rapid shift to cheap forms of synthetic analogues of stimulant drugs. As a consequence, the market for cannabinoids and classic psychedelics became stable (with a specific group of users identified) whereas the market of “salts” and various mixtures of stimulants scaled up reaching to various groups and populations, including a well-formed group of people who inject drugs.

It is important to note that access and popularity of NPS in Ukraine (as in other countries of post-Soviet Union) followed the famous “heroin boom” of the 1990s and with it associated HIV-epidemic and the whole generation of people affected by criminalization.

Classification of the NPS/stimulants available in Ukraine

As it was noted, the NPS is an ‘umbrella’ term which encompasses wide and diverse range of substances which add to the definitional complexity of the NPS. Therefore, for the comprehensive overview of this phenomenon, in this chapter, we will go through the classification of NPS on a global level and will specifically focus on groups of NPS that became popular in Ukraine. In addition, we will provide some of the reasons and drivers behind such popularity.

The “classic” modern classification of NPS provided by *National Drug and Alcohol Research Centre, Australia* (<https://ndarc.med.unsw.edu.au/>) suggests that there are specific groups of NPS/stimulants based on their chemical characteristics, types of synthesis and molecular origin:

I. Phenylethylamine (similar to phenylethylamine) includes:

- 2C-x (mescaline similar): 2C-B, 2C-I, 2C-E, 2C-B FLY <https://ndarc.med.unsw.edu.au/>
- Psycho-amphetamines (DOx, similar to 2C-x, amph): DOB, DOC, DON, BROMO_DRAGON FLY
- β -ketones (similar to cathinone, MDMA, amph): mephedrone, Butylone, Phlephedrone, Mephedrone, MPVP
- Cyclic amphetamines (similar to MDMA, amphetamines): MDMAI, MDAI

II. Triptamines (similar to DMT, serotonin)

- 5-substituted (similar to psilocin): 5-MeODMT, 5-MeO-MIPT
- 4-substituted (similar to psilocin): 4-AcO-DMT, 4-HO-DPT

III. Piperazines: BZP, MBZP

IV. Opiates: methylfentanyl

V. Synthetic cannabinoids: JWH, HU-210

Providing the linkage between these chemical groups and the chronology of NPS entering our market, along with the ongoing changes in regulatory policy(ies) towards narcotic substances in Ukraine, we can create the following Stages of NPS wave in the country:

2005-2007

During this period the most popular NPS have been synthetic cannabinoids as there was a trend of legal stores selling spices. This period was characterized by a proposal of a “healthy alternative” to cannabis as certain populations who previously did not have sustainable access to quality, potent cannabis discovered a great and safe (in terms of logistics) opportunity of getting high. Spices attracted not only youth but middle-class society. Especially for Ukrainian middle-class, this period was also associated with the exploration of traveling and tourism opportunities enabled by a closer integration with the EU, by visiting festivals and immersing into a culture of “alternative highs”. The reduction in popularity was strongly linked to criminalization and closing of stores/kiosks and (actually) triggered by unforeseen negative effects of spices which discouraged most of the clients from use.

2007-2015

This period was the rise of “psychonauts” – the whole subculture of mostly young users who promoted experiments with their consciousness, either individually or as part of trans-culture. The socio-economic type of user of NPS included the following features: young, usually educated (student), from middle-income class (higher middle-income), in most cases has his/her income, access to the internet (advanced user). In this period the substance of choice became Phenylethylamines and Tryptamines.

2015-ongoing (and scaling up)

This period is characterized by the fact that with sustainable popularity of synthetic stimulants the “salts” have hit the already developed and broadened society of people who inject drugs. Such tendency has been determined by limited access to standard opiates and home-made methamphetamines (incl. precursors for its production), inaccessible prices for synthetic opiates (street methadone) and adjustment of the online market to the needs of more marginalized clients (appeal of telegram channels, hand-in-hand selling, etc.). With this group of users appearing on the scene the actual leaders of the market became: mephedrone, MPVP and other cathinone known as “salts”.

Channels of distribution and characteristics of online market(s) in Ukraine

At the beginning of this chapter, let us to shed some light on the key characteristics of online drug supply in the context of healthcare risks. High profits and minimal risks associated with the trade, sometimes temporarily, of legal drugs have attracted vast masses of new NPS manufacturers, importers, distributors, and sellers in Ukraine. These (mostly online) drug traders have thus formed a novel fraction on the supply side of the global drug market, next to “conventional” illicit drug dealers.

Based on the interviews with admins of the three most popular websites in Ukraine for individual and in-bulk purchases, we identified the following features of the emerging online drug market in Ukraine:

- The most popular and trusted sites in Ukraine operating in Lviv, Odesa, and Kyiv are franchises (logged-in to international dark.net)
- Online websites are proposing individual and in-bulk dosages, promoting in-bulk procurements and motivating them to start their own businesses under their umbrella.
- Such multi-level marketing scheme (MLM) ensures access to the products for every ‘class’ of users, with special focus on the street users who are main clients of the small, in-bulk dealers able to deliver “klad” (marked location with the hidden substance of choice) close to the client (as there are limited transportation possibilities), and who could provide the small dosing (usually a low-quality mixture of small weight for a very small amount of money).

- In the MLM scheme, currently there is a logical tendency to shift to a wide distributor's network of mobile telegram applications providing close-to-client delivery. At the same time, "in-bulkers" operating through websites are serving them and/or create their own application networks but also provide direct selling to the customers (that have more economic resources and tend to buy bigger quantities).

There is also a gradual change in the popularity of products that are sold online, with MDMA, methamphetamine, and amphetamine (classic stimulants) becoming an appealing option for websites with direct selling to rich customers. In addition, this group sometimes prefers imported brands from the EU (Poland, Netherlands). The in-bulk selling of "salts" and its mixtures are going to small retailers (telegram applications) but becoming the most popular product which gives the main profit.

The sources of substances for the production of NPS/ stimulants and actual production.

Through the last decade there has been a gradual shift from international import of final products and substances for production, to a wide network of "production factories" in Ukraine. The usual scheme is that the production of substances (for example, nitropropen, 1-phenyl-nitropropen, "Pro-Fen") for all stimulant-type drugs occurs in rural areas, usually villages and small towns around industrial cities. The chemistry labs for the actual production of in-bulk substances are located in a city area, close to storage facilities. From these sites, the in-bulk batches are being dispatched to online purchasers for a final retail distribution.

The respondents assume that, "imported final products" possess around 17% of the NPS/stimulant market (predominantly "branded" MDMA and amphetamines) and are procured directly from web-sites and/or from the "individual dealers" that serve "elite users" (higher middle class)².

According to respondents³, there is a clear distinction between the products that are delivered in-bulk for retailing (via telegram networks) and those sold from web-sites. Usually, the products for in-bulk are so-called "dirty salts" – mixed substances with low quality amphetamine and cathynones.

The emerging Harm Reduction problem caused by the online distribution network is that the most vulnerable group (street injectors) often does not know what they get and the mixture they procure as PVP (for example) could contain multiple substances with various effects and toxicity. Such "harm" is determined by following factors: - the principle of online marketing itself where the client procures promoted "brand" rather than substance; - the economic factor where the best price guarantees adequate "quantity" but not "quality"; - identical organoleptic qualities of powders representing different "substances" (esp. when the key "street mark" is the colour).

'Set and setting' of NPS use

Here it is important to introduce and apply the concept of set and settings of drug use, first presented by Zinberg in 1981, to develop objective and evidence-based Harm Reduction intervention for NSP users. According to Zinberg, set refers to the intentions, attitudes, and psychological characteristics of the people who use drugs, 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.

² Interviews with admins of psyLAB, medussa, grechka.org online stores (Odessa, 2019)

³ RCclub forum, "street users" respondent group interviews (Odessa, 2019)

The list of identified set and settings for Ukraine includes the following integral characteristics:

- Current NPS use is strongly associated with the developed subculture of marginalized injecting drug-users, who are the leading clients of the Telegram application channels and, despite multiple drug-use options (with a preference for opiates still), the economic accessibility of “salts” remains a major driving factor for this group. People who inject drugs constitute especially vulnerable subpopulation among users of new psychoactive substances. The data gathered from our respondent group is consistent with previous research (Murphy et al., 2010; O’Reilly et al., 2010), where it was noted that a greater incidence of ulcers and abscesses is associated with the use of these substances. Rapid and dramatic weight loss is also reported and is considered more pronounced than that associated with other stimulants. In addition to the physical and psychological impact of the new psychoactive substances on individual users, there are also public health implications related to the use of such substances.
- The established subculture of the techno-dance community is one of the main targets for innovative Harm Interventions. The history of “raves” is associated with the development of localised guidelines for good practice in harm reduction in the night time leisure scene and with the development of “healthy dancefloor” approach that had given start to: - “access to water” policy in clubs; - awareness campaigns; - drug testing services (London Drug Policy Forum, 2008).
- The current menu and settings of “recreational NSP use” in Ukraine facilitates effective harm-reduction activities in pubs and clubs, together with the promotion of “safer clubs” involving constructive engagement and collaboration with club owners.
- The new psychoactive substances scene is also part of a general trend towards the emergence of online communities of interest. The findings of this report and others appear to give support to measures which enable the development of non-invasive and non-directive outreach work in online spaces for the purposes of harm reduction, such as in-chat boards and Facebook to mitigate the NSP online purchase related risks (Window I)



Window I.

NSP online purchase related risks

1. Drug misidentification.

Receiving nothing for money that is the most popular scam in “classic street markets” 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 contexts definitely pose greater risks for NPS users. With a few exceptions of brand-name NPS in pill or capsule form (again, mostly promoted for “rich visitors”) 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.

2. Drug mixtures.

Additional risks are present due to the “innovative” habit of some vendors to sell mixtures of NPS. 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 their separate ingredients by combining substances that potentiate each other’s effects. However, neuropharmacological processes behind drug effect potentiation are complex in nature and possibly bring 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.

3. **Substance naming.**

Besides 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. Drug mnemonics are often based on “linguistic approximation”, i.e., they are being referred to 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-MeOAMT—a different drug with a different dose range and effects. In practice, constant changes of the product name are largely fuelled by regulatory transitions in the statuses of NPS (i.e., switching 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.

4. **(Over)dosing.**

Here it should be emphasized that the gravest adverse effects of NPS use can be attributed to accidental overdose due to 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 range precision digital scale. Intranasal or intravenous NPS users assume even more risks since they, unfortunately, prefer these routes of administration for more rapid and intense effect.

5. **Psychosocial risks.**

Drug-related problems are not exclusively caused by certain properties of the drug or its inappropriate use. A comprehensive harm reduction approach should also take into account psychosocial risks of drug use, some of which originate from people who use drugs’ social environments. NPS use may lead to external psychosocial risks such as stigmatisation, marginalisation, and discrimination. In other words, the NPS phenomenon cannot be adequately discussed in public due to the lack or biased selection of expert statements and opinions among people who use drugs, and to false beliefs and prejudices of the uninformed and misled general population.

Recommendations for Harm Reduction interventions in NPS-user communities

While structuring Harm Reduction response to NPS drug scene, it is important to ensure all effective and relevant approaches are taken into account. In addition, for this group of users it could be very beneficial to consider Set and Settings of NSP use, along with risks associated specifically with them. Having all this in mind, in this chapter we will try to outline key approaches and interventions which need to be considered by Harm

Reduction stakeholders in Ukraine. Harm Reduction interventions should be specific and determined by the settings and categories of users that consume them.

Injecting drug-users community (also referred as “problematic NPS users”).

Injecting drug-users community is becoming one of the most vulnerable to the negative effects of NPS use and it is associated with multiple social, economic and legal problems. In injecting drug use category, NPS is characterized by a strong immediate effect (“rash”) that (unlike methamphetamine injection) quite quickly turns into psychological discomfort, including paranoia and severe craving for the next shot. Most adult people who use drugs turn to “salts” use due to the nostalgia for “pervintine” (home-based methamphetamine). However, effects of NPS are more toxic and associated with psychological discomfort (false rash). It is also important to underline that this group of users remains committed to opiates and their interest in “salts” is mainly driven by economic factors. Therefore, injection of pharmaceutical opiates (nalbuphine + lidocaine + sulfocamphocaine cocktails), as well as sporadic use of methadone, is an integral part of this community. Besides urgent healthcare risks of increased incidence of abscesses (that respondents associate exclusively with “salts” use), progressing weight loss and exhaustion, the social functioning of users also appears to be impacted, mainly in terms of accommodation, inability to save money and/or adhere with hostel/shelter rules as a result of the new psychoactive substances use.⁴

Based on the interviews provided by the respondent groups during the development of this report, regular feedback from social workers and considering personal experience of the author in regular counselling of NSP-injecting clients (as part of author’s responsibilities in “Era of Mercy” NEP site, Odessa) the list of specific risks associated with NSP injection in this group of users have been developed:

- New psychoactive substances in powder form are being used at very high doses, thus increasing the risk of adverse effects and overdose. New psychoactive substances in powder form are being used daily by the majority of users, thus increasing the likelihood of negative health outcomes. The route of administration (injection) poses specific risks to users, including abscesses, ulcers, infections and a risk of blood-borne viruses, if safer injecting practices are not adhered to.
- Reports from users indicate that some new psychoactive substances in powder form are not easily injected, may clog in the vein, or create an acid-like burning sensation on the skin. Users may also need to use larger needles in order to inject themselves.
- New psychoactive substances in powder form (notably ‘blue crystals’) are reported by users to have very high strength. An association appears to be between the use of new psychoactive substances in powder form and the appearance/bigger incidence of psychotic symptoms among problem drug users. This link was highlighted by service-providers and substance users themselves. User reports of compulsive redosing and tolerance effects are indicative of the abuse potential of new psychoactive substances in powder form.
- The use of new psychoactive substances in powder form appears to have led to a change in pattern of use of opiates (pharmacy cocktails, see above). There is a trend to mix “powders” in one 5 ml syringe with nalbuphine and/or opiates and “powders” interchangeably in order to cope with negative effects of each one.
- Problem drug users with existing comorbid mental health conditions (i.e. cranial traumas in anamnesis) are at particular risk of negative psychological effects associated with the use of new psychoactive substances in powder form.
- Reports from service providers highlight the potential risk posed by possible abandonment of safer injecting practices by users.

⁴ Interviews with “street drug-users” respondent group: respondents stressed the fact of extremely negative effect of NPS injecting initiation on their health and social status comparatively to prior “stable” life on opiates and “classic amphetamines”, Odessa, 2020

In this group of NSP users following certain principles should be considered for Harm Reduction programs

1. **Responding to the primal needs.** Social marginalization sometimes progresses very quickly for many users and results in “sudden” loss of accommodation, means to survive and exhaustion after several days of “stimulant binge or marathon”. It is important to ensure low-threshold access to safe space where food, hot drinks, a place to stay (even daily stay), warm clothing could be provided. In this approach, Ukrainian Harm education programmes should get back to the basics and ensure that community-based low- threshold daily centres are an integral part of any HR intervention.

2. **Learning from experience of other drug epidemics.** In many ways, heavy injection NPS drug-scene resembles “crack”-smokers subculture with its features of fast marginalization, usual shift to “new substance” from opiates (due to economic reasons) and long-term circles of continuous “rans”. The key element of any intervention should be a provision of services (including pharmaceutical support) for slowing down the process of “continuing marathons” and having the possibility to rest in safe and calm space as a basis for more specific long-term interventions in perspective (resolving juridical problems, accommodation, HIV and HCV treatment etc.). Most effective models are from Low-East Side Harm Reduction Project (NYC, US)⁵ and Columbia Presbyterian “Jumpstart” Program (NYC, US)⁶.

3. **Entry through the pharmacy:** In the context of the current street drug scene 24-hour pharmacies are becoming more than a simple source of injecting paraphernalia as they also perform functions of substance suppliers (i.e. pharmacy drugs) and even serve as a social centre and meeting point⁷. The main reason behind such multi-layered role of pharmacies is the fact that pharmaceutical drugs are the key element in the “salt injection” circle.

4. **Building a strong “opinion-leaders” community.** The outreach team from the community of “salt injectors” is an important component of any HR initiatives for this category of users. “Opinion-leaders” are not only the ones who perform outreach, they are also vital for regular feedback on emerging changes on drug market, they are key experts in developing “awareness” materials and (what is most important) they have to act as “immediate response” group for information sharing and spreading messages about particular harms and risks associated with “salt” injections in non-invasive and mentoring ways. Due to a variety of telegram-like applications (medusa.net alone has around 40 telegram channels, see above) the NPS injection drug scene is widespread but the map of actual “locations” is changing frequently. It is also common that the “new player on the block” is shifting the territory inside one district requiring all communities to move their “activity spot”. Therefore, “opinion-leaders” are vital for effective feedback to HR programs to change the routes respectively.

5. **Establish a network of low-threshold daily drop-in centres** where clients could “calm down” and have access to satisfying their basic needs; - abscess care and prevention; - weight loss and exhaustion coping; - initial psychological care in case of most common “come-down” disorders (see Window 2).

To address these effects the special Guidelines should be developed for the staff of Harm Reduction sites and the algorithm for actions to be taken must be in place. Strong collaboration with a network of “trusted physicians” is also vital.

⁵ <http://www.leshrc.org>

⁶ Intensive Intervention and Ongoing Adherence Support Yields High Success Rate in Salvage ART, Jay F. Dobkin, Columbia Presbyterian Hospital, 2014

⁷ As many of “street users” often do not have mobile telephones it became a common practice to make appointments and/or wait for “peers” nearby local 24-hour pharmacy. The author has been meeting his respondent group on a regular basis nearby the pharmacy without prior appointment as the frequency of their visits were up to 7-8 times a day. Odessa, 2019-2020



Come-down effects associated with use of NPS/stimulant

- Insomnia
- Low mood, sadness, depression
- Fear, anxiety, distress or panic
- Paranoia/delusions/hallucinations
- Palpitations
- Chest pain

“Recreational users” and NSP/stimulant users in techno-dance subculture.

1. Developing policies and standards for ensuring safety of the party events and implementing best models of Party Harm Reduction. In this context, a number of broad secondary measures focusing on key populations at particular risk are appropriate: The development of localized guidelines for good practice in harm reduction in the night-time leisure scene along the lines of those developed in the City of London (London Drug Policy Forum, 2008). This approach requires collaborative efforts involving health services, drug task forces, harm-reduction agencies, entertainment industry interests, police and the emergency services. The provision of information, training and harm-reduction activities in clubs, together with the promotion of safer clubs involving constructive engagement with club owners.

- Example: On municipal level a special task force (working group) might be established that involves club-openers, festival producers, healthcare/HR experts (including international consultants), law enforcement agencies. Its main role is to develop and adopt special standards for all “cultural events” in terms of access to information sharing, awareness campaigns, medical services “on spot”, drug checking services (pills test). These standards have to be a pre-condition for any event certification and/or club licensing⁹.
- In 1996, the London Drug Policy Forum (LDPF) published *Dance Till Dawn Safely* a guide that echoed Manchester’s Safer Dancing Guidelines, and led to the formation of partnership with Release to create the Safer Clubbing campaign, which included a poster campaign and distribution of literature on reducing drug-related harm across London. A newly engaged Home Office, with Bob Ainsworth MP as the minister responsible for drugs, worked with Release and the LDPF to jointly produce the Safer Clubbing Guide in 2002. <https://volteface.me/publications/2-brief-history-reducing-club-drug-related-harm-uk/>.

⁸ Kelleher, C., Christie, R., Lalor, K., Fox, J., Bowden, M., & O’Donnell, C. (2011). An overview of new psychoactive substances and the outlets supplying them. Dublin: National Advisory Committee on Drugs (NACD)

⁹ Bar Entertainment and Dance Association (BEDA), and marking the beginning of a brief and partial rehabilitation process between government and the night life industry, particularly in relation to drugs. Besides Lifeline in Manchester, a number of organisations began delivering outreach support to club drug using communities during the 1990s, most notably HIT in Liverpool, Release in London, which had historically delivered both welfare and drug-related advice at free parties and festivals alongside its legal work, and Crew2000 in Scotland. By the time club harm reduction was introduced in London, support from Manchester City Council and elsewhere had legitimised the practice

2. Drug checking services. Anonymous drug checking (pills testing) 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) 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 people who use drugs.

3. National databases and information sharing. Drug-checking results, when unified, are a strong tool for developing comprehensive national databases. There is a need for a 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. Our online resource monitoring shows that many users report strong negative reactions to consumption of 'highs'. There is an option for developing an online community of (mostly) young people who are willing to discuss new psychoactive substances. In addition, a system of routine reporting of new psychoactive substances intoxication to the National Database is recommended in order to facilitate the building of a knowledge base and interventions to be designed to specifically target this pattern of substance abuse.

4. Drug user empowerment. It can be safely stated that in all modern societies, there is a notable level of negative attitudes against drug users, without much distinction between occasional or problem use, or between illegal or legal substances. However, with the help of internet-provided anonymity and of researchers and NGOs acting as "buffers", there are novel possibilities for information exchange between people who use drugs 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.

Cross-cutting issues for Harm Reduction activities in different NPS communities.

Historically, NPS use (first of all, mephedrone) has been closely associated with sexual activity. The term "chemsex" has been introduced as part of growing popularity of this particular drug in gay community, while also noticing that sex is becoming one of the associated pleasures for heterosexual NSP users.

Therefore, special programs might be launched to assess the magnitude and subcultural preferences of "chemsex" in gay community. The key risk is mostly associated with transmission of HCV, HBV and STIs, while taking into consideration that PreP programs and other targeted interventions for this community are not yet well-developed in Ukraine, which presents another challenge for Harm Reduction programs.

Finally, gender considerations seem to be of particular importance. Consistent finding across research studies is that males are at least twice as likely as females to use new psychoactive substances. More severe negative effects of new psychoactive substances have been reported in females and have been attributed to differences in body weight between males and females (Wilkins et al, 2008), preferences to combine NPS use with alcohol, much younger age of NPS-use initiation and bigger stigmatization of women using "salts" (interviews with respondent groups, Odessa, 2020).

Special considerations for ART adherence support programs for people living with HIV using NPS

Shift to NPS injecting in the community of adult injecting users with long-term experience of injecting opiates is mostly associated with a potential risk of ART adherence failure (for those on ART). Parallel to the development of the current report the author was leading the analysis of risk factors for adherence failure and getting lost to follow-up among people living with HIV and on ART in Odessa region ("Lost and Found", 2020).

Analysis of risk factors for ART interruption and getting lost to follow up among people living with HIV in

Odessa region (“Lost and Found” report, “Era of Mercy”, Odessa, 2020) has identified following categories of PLWHAS that have been observed in order to reveal main socio-psychological features that determine risk factors for adherence failure and unstable collaboration with HIV-service (risk of getting lost to follow up):

1. Women who had been receiving ART during pregnancy but terminated ART after delivery.
2. Women and men that had been tested positively for HIV in the penitentiary system.
3. Women and men on progressing HIV stages and those with TB co-infection.
4. Men and women that do not trust the HIV-service system (and healthcare system in general) due to objective reasons (stockouts of ARTs, delivery of expired ARTs, proposals to substitute adult forms to syrups etc.)
5. Men and women with specific social problems (problems that are not resolved due to lack of comprehensive approach in case management programs).

Although the majority of respondents in all groups had an ongoing experience with narcotic substances, the group of clients with specific social problems stated that “shift to using salts” became a factor for failing to collaborate with HIV-service and for terminating their ART course.

During regular conversations and ART trainings for Odessa clinicians on issues related to managing ART in active drug-users we used to discuss current changes in the drug scene and its impact on ART programming. The phrase “we start to miss our old school opiate users” is nearly an exact quote of what we had heard from colleagues in Columbia Presbyterian Hospital (“Jumpstart community adherence program”, Columbia University, US, 2004-2005) in relation to “crack epidemic” substituting heroin on the streets of NYC.

Sudden shift in a drug of choice and immersion into an entirely new set and settings of injection and associated lifestyle have a significant impact on decisions regarding ART course. In many ways, when “drug of choice” is determined by economic reasons due to inability to support opiate addiction, the person can do very little to control and sustain his/her treatment adherence and, therefore, special support measures are required in this case.

Unfortunately, the available evidence on ART and NPS use is very scarce, especially in the area of drug-n-drug interactions and appropriate intensive adherence support courses for NPS users on ART. However, similarities of injection NPS drug scene patterns with those of the “crack scene” gives merit to the belief that key principles of Managing HAART in this community could be of help.

Adherence programs concerning stimulant users with multiple social and economic problems.

Following principles are proven to be important when structuring ART programs for NPS-users living with HIV and in need of ART.

1. **Step-by-step approach.** Gradual increase in complexity of interventions from “meeting basic needs” to more long-term interventions (like ART);
2. **“Supermarket principle”** – integration of most needed services at one spot with special focus on availability of psychiatric assistance, social support services (besides managing HIV).
3. **Innovative intensive adherence support** – concentrating maximum resources to support clients during the first 6 months on ART, including delivery of ARTs under Modified Directly observed Course (DOARTS).

Besides these obvious recommendations, we must acknowledge that there is very little done to meet the challenges caused by “salts” in terms of ART management and understanding the set and settings of NPS.

Preparing community experts and using a Harm Reduction approach in counselling of these clients is a goal that shall be reached urgently.

Furthermore, there is a need to develop and adopt, on national level, a Manual/Guide outlining most appropriate algorithms and scenarios on how to ensure that social, psychological and behavioural specifics and needs of NPS users (in the context of new emerging drug scene) will be aligned with modern standards of optimized ART initiation and management.

For example, the principle of Intensive adherence support has been proven to be an effective approach that includes:

- Assessment of risk factors and needs.
- Structured treatment literacy peer counselling (1)
- Joint development of the adherence support plan (list of interventions)
- Modified ARV distribution (pre-packed weekly pillboxes)
- Weekly meetings during the first month;
- Monthly supply (upon decision)
- 3 months - laboratory assessment (VL)
- Follow up with client after a year of receiving ARV therapy
- Assessment (check list) to identify whether patient who is on ART > 1 year is stable or unstable (check list added)
- Adherence assessment and symptom screening in unstable patients (NPS continued use)
- Planning “jumpstart” (re-charge) of adherence (Instrument for planning adherence support course)

Conclusion

As it was noted, the primary goal was to review, synthesize and analyse the available information related to the novel psychoactive substances and shed some light on the health and policy conundrum this novel phenomenon created. In addition, the underlying hypothesis leading this research was the belief that the lack of (proper) information on every level of creation, distribution and use of these substances creates high risks for the users, healthcare professionals and legislation as well. In addition, it is particularly important to underline that long-term benefits of ART in patients who are using NPS\stimulant substances depend on how effectively and quickly national healthcare authorities and NGO sector (first of all HIV and Harm Reduction activists) could develop and implement comprehensive package of Harm Reduction services for NPS users in order to mitigate social, economic and healthcare crisis among most vulnerable to HIV NPS-users community.

References:

- Grund J-P, Coffin P, Jauffret-Roustide M, Dijkstra M, de Bruin D and Blanken P (2010) The fast and furious: Cocaine, amphetamines and harm reduction. In T Rhodes and D Hedrich (Eds) Harm reduction: evidence, impacts and challenges, pp.191–234. Luxembourg: Publications Office of the European Union.
- Hammersley R (2010). Dangers of banning Spice and the synthetic cannabinoid agonists. (letter). *Addiction*, 105(2), 373.
- Hasse T and Pratschke J (2010) Risk and protection factors for substance use among young people: A comparative study of early school leavers and school attending students. Dublin: National Advisory Committee on Drugs)
- Health Service Executive (2010) Severe adverse reactions to new head shop drug 'WHACK'. Retrieved on 01 August 2010 from www.hse.ie/eng/services/newscentre/2010archive/june2010/whack.html
- Henderson G (1986) Designer drugs: The new synthetic drugs of abuse. In: Proceedings of Controlled Substance Analog Leadership Conference. (A Church and F Sapienza (Eds) US Department of Justice, Drug Enforcement Administration, Office of Diversion Control).
- Hillebrand J, Olszewski D and R Sedefov (2010) Legal highs on the internet. *Substance Use and Misuse*, 45 ,330–340.
- Hughes B and Blidaru T (2009) Legal responses to new psychoactive substances in Europe. Lisbon:European Legal Database on Drugs.
- Erowid, F, & Erowid, E. (2009). Fundamentals of Responsible Psychoactive Use. *Erowid Extracts*, 9(16), 21.
- Goossens, S. (2008).
- Drug user activism: an overview. In G. Bröring & E. Schatz (Eds.),
- Empowerment and self-organisations of drug users: experiences and lessons learnt (pp. 117-124). Amsterdam: Foundation Regenboog AMOC.
- Griffiths, P., Sedefov, R., Gallegos, A. N. A., & Lopez, D. (2010).
- How globalization and market innovation challenge how we think about and respond to drug use: 'Spice' a case study. *Addiction*, 105(6), 951-953. doi: 10.1111/j.1360-0443.2009.02874.x HCLU. (2014).
- The Drug Policy Website of the Hungarian Civil Liberties Union. Retrieved 1 March 2014, from <http://drogriporter.hu/en>
- Hermanns-Clausen, M., Kneisel, S., Szabo, B., & Auwärter, V. (2013).
- Acute toxicity due to the confirmed consumption of synthetic cannabinoids: clinical and laboratory findings. *Addiction*, 108(3), 534-544. doi: 10.1111/j.13600443.2012.04078.x
- Hungerbuehler, I., Buecheli, A., & Schaub, M. (2011). Drug Checking: A prevention measure for a heterogeneous group with high consumption frequency and polydrug use - evaluation of zurich's drug checking services. *Harm Reduction Journal*, 8, 16. doi: 10.1186/1477-7517-8-16
- Hunt, N., Albert, E., & Montañés Sánchez, V. (2010). User involvement and user organising in harm reduction. In T. Rhodes & D. Hedrich (Eds.), *Harm reduction: evidence, impacts and challenges*. Luxembourg: Publications Office of the European Union.
- NPS: Mapping the extent and nature of New Psychoactive substances among people who use drugs heavily. Gean-Paul Grunde, Barbara Yanikova, Amsterdam, 2016.
- "Jumpstart community adherence program", Columbia University, US, 2004-2005



UNODC

United Nations Office on Drugs and Crime