NPS

New Psychoactive Substances among People Who Use Drugs Heavily. Towards Effective and Comprehensive Health Responses in Europe.

5-country RAR report

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February 2016

JUST/2013/DPIP 4000004774 (1/3/2014 to 28/2/2016)

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1. Preliminary final report.

Note: Final versions will be submitted when all deliverables are published, including those currently under review for publication in a scientific journal. When these are published and the web addresses of all deliverables are known, the final versions will be hyperlinked to one another and published collectively on the project website (www.NPSinEurope.nl***) and submitted to the European Commission.***

Acknowledgements

Financial support for this study was provided by the Drug Prevention and Information Program of the European Union under the EU-DPIP project: "New Psychoactive Substances among PUDH - Towards Effective and Comprehensive Health Responses in Europe" JUST/2013/DPIP/AG/4774. Institutional support was provided by Charles University in Prague No. PRVOUK-P03/LF1/9.

We would like to thank both our core partners APDES, Porto, Portugal and Federation Rainbow Group in Amsterdam, The Netherlands and our implementing partners, Sananim, Prague, Czech Republic; Praksis, Athens, Greece; Monar, Krakov, Poland; APDES & Vila Nova de Gaia, Portugal; and Carusel, Bucharest, Romania, the local RAR teams, focus group participants and external (peer) experts for their contributions and dedication to the project. It was a pleasure working with you all.

Contents

2. Introduction

New Psychoactive Substances (NPS) are becoming a major challenge to public health and drug policies in Europe and have become a high priority in Europe. The "new psychoactive substances in Europe" project (NPSinEurope.eu) aims to contribute to the development of innovative and effective health promotion interventions targeting emerging NPS use in Europe, in particular in response to more hazardous patterns of use and in vulnerable populations. The overall project objectives are:

1. provide an overview of the use of new psychoactive substances (NPS) in populations of People Who Use Drugs Heavily (PUDH) in the EU28 countries and identify the associated risks for harm and the existing legislative, preventive and harm reduction responses;
2. assess, identify and describe harmful patterns of NPS use among PUDH, NPS related risks and harms in 5 selected countries, as well as identify and prepare adequate tailored public health responses;
3. develop and implement targeted pilot interventions for prevention, demand reduction and harm reduction targeting NPS use among PUDH;
4. build best practice guidance and capacity among harm reduction workers towards improving harm reduction responses; and,
5. disseminate the results of the Europe-wide inventory, 5 country assessment and local pilots on public health responses, through an online resource centre and a training manual, and at regional and national conferences.

This document concerns the second objective, a "Rapid Assessment and Response" (RAR) of harmful patterns of NPS use and the associated risks and harms in the 5 selected countries, as well as the identification and preparation of adequate tailored public health responses.

2.1 Aims of the RAR study

The RAR aimed to identify and document the emergent use of new psychoactive substances (NPS) among People Who Use Drugs Heavily (PUDH, see above) in the five participating EU member states and map the developing response in these countries.

These five national assessments provide an overview of the experiences with NPS of consumers, service providers, policy makers and other stakeholders in their countries. The results of the assessments will inform the development of effective prevention and harm reduction responses in Work Stream 3.

2.2 Key RAR questions

In each country the assessment concerned the following set of questions:

(i) What is the extent and nature of NPS use among PUDH in the selected countries?
   a. What are the recent trends and developments in NPS use among PUDH?
   b. What patterns of use can be distinguished?
   c. Which factors influence the choice for NPS?
      i. What do PUDH report on the positive and negative effects of NPS?
   d. Are NPS considered "drugs of first choice"?

(ii) What is the (offline & online) availability of NPS and where are NPS acquired by PUDH in the selected countries?

(iii) How is NPS use associated with the consumption of other (traditional) illicit drugs in these countries?
   a. Are NPS substituting current illicit drugs (such as cannabis, heroin, crack or amphetamines) or used in addition?

(iv) What health-related consequences are experienced by NPS users?
   a. What – somatic & mental health problems are observed among NPS users by public health and harm reduction services?
   b. What are the risks of NPS use for HIV, HCV transmission?
   c. What are the risks of (non-fatal) overdose?
   d. What measures are users taking in order to control their use of NPS and reduce the potential harms?

(v) What interventions and policies exist with respect to the use of NPS?

2.3 Target countries and partner organizations

Because of the variety in NPS use, 5 EU countries with diverse patterns of NPS consumption in PUDH populations were included in the RAR – the Czech Republic, Greece, Portugal, Poland, and Romania. Four of these five countries have noted the increased availability and consumption of NPS among PUDH, synthetic cathinones in particular, while in Athens, Greece the 'controlled' synthetic stimulant methamphetamine is replacing heroin.

The RARs were implemented by the following partner organizations:

- **APDES** (Vila Nova de Gaia, Portugal) is an NGO and promotes sustainable development among the communities and countries where it works.
- **PRAKSIS** (Athens, Greece) is an NGO, aiming to provide humanitarian focused support in a wide span of fields to socially vulnerable groups in need.
- **CARUSEL** (Bucharest, Romania) is an NGO that aims to improve the quality of life of people who use drugs or alcohol, sex workers or individuals who have multiple sex partners, persons who live on the streets and marginalised groups.
- **SANANIM** (Prague, The Czech Republic) is an NGO, providing services to people who use drugs.
- **MONAR** (Krakow, Poland) is an NGO that supports marginalised groups, such as people who use drugs, homeless people, and people living with HIV/AIDS (PLWHA).

2.4 Key concepts of the project

2.4.1 Operationalizing the project definition of NPS - New to Whom?

UNODC defines new psychoactive substances or NPS as: "Substances of abuse, either in a pure form or a preparation, that are not controlled by the 1961 Single Convention on Narcotic Drugs or the 1971 Convention on Psychotropic Substances, but which may pose a public health threat" (UNODC, 2012). The harms of NPS are described as 'multi-faceted' and may present themselves as physical, mental and/or social harms, although few studies into the potential harms of NPS have been conducted. NPS are marketed as "designer drugs", "legal highs", "herbal highs", "bath salts", "research chemicals", and "laboratory reagents."

However, this definition puts the burden of proof determining 'NPS status' solely on the substance's legal status, while very different substances are classified as NPS, which, in structure and/or effect, are closely related to controlled substances, synthetic stimulants or Amphetamine-type stimulants (ATS) in particular. UNODC defines ATS as follows: "*…a group of substances comprised of synthetic stimulants, including amphetamine, methamphetamine, methcathinone, and ecstasy-type substances (e.g. MDMA and its analogues)*." But synthetic cathinones (such as methcathinone), for example, comprise 25% of the global NPS market (UNODC, 2014). Likewise, the definition includes many substances related to MDMA in structure or effect. Furthermore, actual scheduling of psychoactive substances varies by country and changes constantly. Thus, the boundaries that determine whether a substance is an NPS are rather ambiguous.

Furthermore, as UNODC points out in the explanatory note to the 2014 Global Synthetic Drugs Assessment, "*the term 'new'* [psychoactive substance] *does not necessarily refer to new inventions but to substances that have recently become available*." This is where the confusion starts, as here NPS are equated with a linked concept of new or emerging drug trends. But where NPS in most cases qualifies as a new drug trend, the reverse relationship is not necessarily true, as new drug trends ("*that have recently become available*") may well include substances which in some countries are completely new, but well-known in others.

This project includes a practical example of the ambiguity in the definition of NPS described above. Praksis in Athens is confronted with the use of Sisa, a homemade methamphetamine that is smoked by people whose main drug used to be heroin. This results in new set of (mental health and other) problems, untypical to the period before the emergence of Sisa and is in need of appropriate responses. But Sananim,

our Czech partner, has decades of experience with methamphetamine use, leaving ample opportunity for cross-partner knowledge diffusion.

In developing appropriate policy responses and, when needed, interventions, the actual scheduling status – NPS or controlled substance – seems less relevant to understanding the actual substance that may newly emerge in a community. Therefore,

> ***in this project the focus is on 'new drug trends,' which includes the emergent availability and use of substances new to a community, country or culture, independent of their legal status.***

Thus, the study was focused on the use of new drugs among PUDH, but the project definition of NPS allowed for the inclusion of new, disconcerting trends in drug use that are of particular importance to the implementing partners and the communities they represent. The local RAR studies included a desk review on the national NPS situation in the participating countries, an assessment of NPS availability in offline and online drug markets and focus groups. In Romania, the Czech Republic and Poland the focus groups investigated the (injecting) use of synthetic methcathinones and in Greece the focus groups looked into smoked homemade methamphetamine.

2.4.2 Defining Target Groups – People who Use Drugs Heavily (PUDH)

Defining the Project's target audience or end beneficiaries comes with considerable difficulties. The official project title, "New Psychoactive Substances among Problem Drug Users - Towards Effective and Comprehensive Health Responses in Europe" clearly points towards the goals and objectives of the project, to contribute to health, but is less clear about who is meant by "Problem Drug User."

The EMCDDA defines problem drug use as *"injecting drug use or long duration or regular use of opioids, cocaine and/or amphetamines"* and notes that this definition specifically includes regular or long-term use of prescribed opioids such as methadone but does not include their rare or irregular use nor the use of ecstasy or cannabis. This definition labels both drug injecting and specific (classes of) drugs, opioids, cocaine and amphetamines in particular, as problematic by and in themselves and, as Stallwitz notes (2012), has no regard for how drug, set and setting (Zinberg, 1984) interact in shaping the risk environment of drug use (Rhodes, 2009). Furthermore, the term problem drug use(r) is loaded with negative moral connotations. Language and medico-moral membership categories, in particular, are instrumental in the stigmatization, and criminalization of people who use drugs (see e.g. White, 2007).

We acknowledge that for a significant minority of people engaging in drug use, the outcomes are not always favourable. But, unfavourable outcomes present themselves on a sliding scale and they may change over time, subject to the various risk and protective factors interacting in the risk environment of drug use. In this project, we focus on the emergence of new drug trends, NPS in particular, in populations where the outcome of drug use tends to go towards the more unfavourable end of the scale. The project aims to develop practical harm reduction interventions that may help individuals who use drugs habitually or heavily, and who seem more prone to their negative consequences, manage their drug use, reduce risks and improve their quality of life.

Finding a morally neutral term that describes their behaviours without moral connotations rather than defining the whole person, as with the term 'PUDH,' is challenging. As Eliot Albers, director of INpeople who use drugs, notes, "*we have to be very careful when dealing with the NPS phenomenon that we don't replicate the old demon drug narrative that we've seen before with crack, methamphetamine and with other drugs*."

For these reasons, we speak of people using drugs habitually or heavily (PUDH) (Cf. Cohen, 1990; Stallwitz, 2012). We realise that these terms are rather unspecific, but practically they also reflects the diversity of the issues and populations targeted in the five partner cities.

3. Methodology

The local RAR studies consisted of three parts:

1. a desk review on the national NPS situation;
2. an assessment of NPS availability in offline and online drug markets; and,
3. focus groups with stakeholders in NPS use that explored specific questions more in-depth.

3.1 The Desk review

Each partner organisation collected and reviewed published and unpublished information pertaining to the key RAR questions on NPS consumption, consulting all relevant national and EU sources of information. The data reviewed included:

(i) peer reviewed and "grey" scientific literature;
(ii) government publications;
(iii) statistics and estimates of the number of NPS users, the overall number of people who use drugs and of those who inject (PWID), including from the EMCDDA, REITOX and National focal Point databases;
(iv) studies by service providers;
(v) local and national media reports – both offline and online;
(vi) web forums and social media where people who use drugs discuss their experiences with and views of NPS users.

The outcomes were reported using RAR grids. CUNI project staff designed reporting grids for each key question of the RAR and, when needed, for each sub-question.

3.2 Assessment of NPS availability in offline and online drug markets

Offline availability of NPS was determined by literature review, inspection of data from early warning systems, drug testing programmes (where available), law enforcement or other relevant data sources, as well as in the separate focus group discussions. Online availability was assessed using the EMCDDA Snapshot Methodology. An Internet Snapshot is a rapid assessment of the availability of psychoactive substances online, conducted within a limited time frame (see the text box) (EMCDDA, 2011).

Although methodologically rather straightforward, the partners experienced a number of methodological difficulties during the implementation of the Internet Snapshot. The UNODC classification of NPS, for example, and the toxicological complexities involved sometimes exceeded the professional skills of the project team members – see yellow marks in the tables. Importantly, often the physical location of online shops could not be identified.

The EMCDDA snapshot methodology - core components

Scope:

- Online websites (retailers and wholesale) easily accessible to a random Internet user interested in buying psychoactive substances;
- Targeting and addressing an audience and potential clients in the selected countries.

Exclusion criteria:

- Websites selling only paraphernalia or seeds or non-psychoactive mushrooms;
- Websites not shipping psychoactive substances to an EU Member State;
- Discussion forums and/or drug-related chat rooms, social networking sites or tools such as Skype, Messenger, Facebook, Twitter, etc.

Identification of killer string:

Select the search string to achieve the maximum coverage. Identify 'killer' term or a 'killer' combination of terms for each search ('killer' = more relevant hits on the search performed).

Sampling to exhaustion:

Mandatory look at the first 100 links and after 101, 'sample to exhaustion' (ceasing when 20 successive links are irrelevant).

Use of multiple search engines:

Coverage and performance (in terms of accuracy of search) is enhanced with the use of multiple search engines. E.g.: Metacrawler.com + Google(.national) + 1 additional specific national search engine (the most relevant for the country and national language).

Common reporting template:

Search results reported the same way in different languages.

3.3 The Focus Group Methodology

In each country focus groups were organised in two different cities/regions with evident NPS use with (i) knowledgeable professionals; and, (ii) with PUDH involved in NPS consumption (Table 1.) In total, 19 focus groups were conducted; nine with professionals and nine with PUDH.

Focus group participants. The partner organisations identified and selected the focus group participants, using the criteria for participation in the RAR guideline developed by CUNI (REF), such as personal experience with NPS use or being knowledgeable about NPS use or expertise on the local/national drug policy context. People who use drugs heavily were involved in all countries, except Portugal, where NPS use has barely been reported among known PUDH populations (e.g. those in contact with drug treatment or harm reduction services via which the participants in the other countries were recruited). In Portugal the focus groups were conducted primarily with party goers. These participants may or may not consume drugs heavily, but this was not an inclusion criterion.

PUDH participants were 18 years or older and all had experience with NPS. Over half of these participants used NPS at least 3 times in the past 30 days before the focus group. They were active consumers and recruited at different drug services, mostly at harm reduction programmes. Participants from residential drug treatment were excluded from participation. Balance in gender was taken into consideration.

Professionals were 18 years or older, worked at relevant professional institutions, were involved in NPS, or were service providers, for example, at harm reduction, prevention, social, outreach programmes, medical doctors, or drug treatment providers, law enforcement professionals, drug policy makers in public health or law enforcement from the national, regional or municipal authorities.

Focus group location. The focus groups took place in eight different municipalities: Prague and Pilsen in the Czech Republic (CZ), Athens and Thessaloniki in Greece (GR), Krakow and Warsaw in Poland (PL), Porto and Lisbon in Portugal (PO) and Bucharest in Romania (RO). In total 20 focus groups were attended by 3-10 participants each. In total, there were more than 110, predominantly male, participants.

Table 1 Focus groups overview

Country	City	Length Session (min)	Participant's Gender (F/M)	Expertise
CZ	Pilsen	147	3F/6M	People who inject Vendal (diverted ER Morphine)
CZ	Prague	116	8F/2M	PUDH with current or past cathinone experiences
CZ	Prague	168	1F/9M	Professionals, all regions
CZ	Prague	150	2F/8M	Professionals, capital city
GR	Athens	N/R	N/R	N/R
GR	Athens	N/R	3 additional Interviews; 1 Professional and 2 Clients of Praksis	
PL	Krakow	150	8M	PUDH
PL	Krakow	170	1F/5M	PUDH with long experience in NSP
PL	Warsaw	170	3M	Drop-in centre clients, diff experience
PL	Krakow	130	3F/3M	Professionals
PL	Krakow	120	4F/1M	Professionals
PL	Warsaw	120	3F/1M	Professionals
PT	Lisbon	N/R	4F/2M	Party setting consumers, mainly cannabis; experimenting with NSP
PT	Porto	N/R	5F/1M	Recreational users
PT	Lisbon	N/R	3F/3M	Professionals
PT	Porto	N/R	3F/2M	Professionals
RO	Bucharest	43	0F/5M	PUDH
RO	Bucharest	56	0F/4M	PUDH
RO	Bucharest	113	1F/5M	Professionals
19 FGs in 8 cities		**Mean: ±2 hrs**	**111 participants**	

Although the RAR guideline was rather detailed and discussed with the partners beforehand, not all recommendations were followed. As a result, the number of focus groups and the number of participants differ across the sites. In Greece, only three focus groups were held, whereas six focus groups were conducted in Poland.

Implementation of the Focus Groups. The focus groups were led by a moderator and a chairperson; notes were taken by one or two other team members. The focus group discussions were recorded and electronically transcribed. Oral informed consent of all participants was recorded before the actual focus group commenced. Each focus group ran for two hours on average, but this information was not recorded for each focus group (see Tab. 1).

3.4 RAR analysis

After its collection, the RAR data were subjected to a stepwise content analysis centring on the research questions in paragraph 1.2. In the first step, the local RAR teams used RAR grids and other instruments, standardised across the five sites, and prepared their national RAR reports. RAR grid analysis allows for describing cultural interpretations and meanings of NPS use across user populations and national borders. It quickly uncovers the various viewpoints and needs of the affected communities and other stakeholders that need to be addressed for successful service development.

In the second step, these national RAR reports and the corresponding grids and data forms were entered into a largely qualitative content analysis across the five sites in search for similarities and differences; consensus and dissent between the countries. Where useful and feasible, data were quantified using a "quasi-statistics" approach (Becker, in Bergman, 2008). Each data source – the literature reviews, the data on the offline and online availability of NPS and the focus group data – were first analysed separately. Subsequent triangulation of the various sources aimed at finding "consensus and dissent" between the various data sources and across sites.

3.5 Study Limitations

The limitations of our study centre on missing data or lack of detail and deviation from the research guidelines. The EMCDDA Snapshot Methodology presented several members of the RAR team with difficulties. In many cases it could not be established whether websites selling NPS were hosted and run by companies within the investigated countries or elsewhere in or outside the EU. When products were offered in the local languages, this often involved computer-aided translations.

We, however, found extensive similarities (Lincoln and Guba, 1985) across the five research sites on most of the core questions of this RAR, in particular concerning drug use patterns, consumer preferences, market factors and the health consequences attributed to NPS, while differences between countries were explained by local peculiarities or variations in the risk environment of these drugs. Overall, the findings do not vary substantially from the data reported to EMCDDA. To various degrees the drug services in all partner countries have suffered funding cuts resulting from the economic recession. In Greece and Romania drug services have faced budget cuts of 40-50% or more and many services have been terminated. These are not really enabling conditions for implementing a RAR on top of regular activities. The variety in the data does not allow for estimations on the number or proportion of PUDH that use NPS or Sisa, but the desk review, the assessment of the offline and online NPS availability in the participating countries and the focus groups bring together important and up-to-date new information on the actual trends in NPS consumption and the NPS market in the Czech Republic, Greece, Poland, Portugal and Romania.

3.6 Report structure

The remainder of this report consists of three chapters in which the outcomes of respective elements of the RAR are presented, followed by a discussion of the findings. First we present the findings from the desk review on the national NPS situation. We then move on to the assessment of NPS availability in offline and online drug markets and present the results from the focus groups with stakeholders in NPS use thereafter. Within these sections, we first present the results for each of the participating countries followed by a discussion of the findings. These are followed by the study's overall conclusions and recommendations.

4. Findings

4.1 Five-country desk review of the national NPS situation

We collected and analysed information pertaining to the key RAR questions concerning NPS from implementing partner organisations. Each partner collects and reviews published and unpublished information on NPS consumption and use: peer reviewed and "grey" scientific literature; government publications; statistics and estimates of the number of NPS users, the overall number of people who use drugs and of those who inject (PWID), including from the EMCDDA, REITOX and National focal Point databases; studies by service providers; local and national media reports – both offline and online; and web forums and social media where people who use drugs discuss their experiences with and views of NPS users. Examining existing information and access and sampling it, such as the first step of RAR methodology, makes it possible to define gaps in knowledge and also identify key informants and information context.

4.1.1 The Czech Republic

After 2009 the use of new psychoactive substances increased significantly in the Czech Republic. A number of online stores offering NPS emerged during this period and they also became available at what are known as "Amsterdam shops". These smart shops have often been covered and discussed in the media. The easy availability and relatively low cost of the NPS on offer, their legal status and assumed safety, as well as a desire to 'try something new' attracted many customers to the shops. In 2011, municipal drug policy coordinators and experts counted a total of 41 Amsterdam stores in 24 cities.

In 2012, 0.7% of the general population had at one time used new herbal drugs and 0.4% NPS. 0.2% and 0.1% of the Czech population had used these drugs in the last year. During the last 30 days the use of new herbal drugs was 0%, but NPS use was 0.1% - equal to the prevalence last year (National Focal Point, Annual Report on Drug Situation 2012), suggesting one or more small groups of committed consumers.

Four and a half percent of the respondents to an Internet survey, aged 15-34 years (N=1,091), had used NPS. These NPS users had higher rates of use on all legal and illegal drugs monitored in the Czech Republic than their peers in the general population. Although the various (unknown) substances in mixtures and blends and the many and often changing brand names for identical substances justifies a degree of caution, at least one third of people who use NPS had used mephedrone and/or other synthetic cathinones, 15% had tried synthetic cannabinoids in herbal mixtures. Most of them were considered "experimenters" (Surveys of National Focal Point in 2011, Internet users, municipal coordinators and experts and within local stores). Reportedly, NPS are popular among "drug experimenters" and "psychonauts", who often purchase these materials at international online stores or otherwise and generally do not inject, but they have also gained considerable attraction from PUDH known to services.

Availability of NPS in the Czech Republic

At the end of 2010, NPS were widely available in the Czech Republic. Mephedrone, for example, was sold in 20 brick and mortar stores in 11 Czech cities. In 2011, the Czech Republic responded to the increasing availability of NPS with an amendment to e its drug law (No. 167/1998 Sb., effective from 22.4.2011). The list of narcotic and psychotropic substances was expanded with 33 new substances (cathinones and synthetic cannabinoids in particular). The national drug police subsequently raided and closed the Amsterdam shops, leading to a significant reduction in the availability of NPS, even of those that were not actually banned by the measure.

Since these law enforcement interventions, cathinones are no longer available in brick and mortar stores. Only four online shops that used the Czech language sold (at the time of measurement) a number of less known cathinones. One sold MPPP and its presence was confirmed by the analysis of samples from PUDH in Prague. Czech outreach workers suggest that these substances are ordered in larger quantities from foreign websites and subsequently distributed among PUDH.

A rather recent phenomenon in the Czech Republic is a grey market in opioid-based pain medications into which opioids prescribed for pain relief, such as Fentanyl or Vendal Retard (Extended Release Morphine), are diverted into PUDH markets.

Extent and nature of NPS use among PUDH

Between 2009 and 2011, NPS were increasingly taken up by PUDH known to services. As many of these people injected methampthetamine, they started injecting mephedrone and other synthetic cathinones in particular (such as Funky, Cocolina, El padrino or Magico). In June 2015 we detected in Funky alfa-PVP (Alpha-pyrrolidinovalerophenone) and also mixtures of alfa-PVP and MDPBP and mixtures of methamphetamin and alfa-PVP. Among known PUDH the use of NPS is significantly higher than in the general population, 10.5% nationally and 32.5% in the capital Prague. But only a small part of PUDH named NPS as their primary drug (National Focal point report, 2013). Registration data from SANANIM's outreach programmes suggest that 2.11% of outreach clients inject NPS regularly. In this group mephedrone raised particular interest. Some low threshold drug services distributed warnings among potential users about the potential risks of these substances and the media increasingly reported on problems related to NPS.

After 2012 NPS use became less common among PUDH, but a small group of PWID in Prague continued to inject new synthetic stimulants with names such as "Funky" or "Magico," which analysis of samples suggests may contain the synthetic cathinones "MDPBP" and "MαPPP". But the actual substances are mostly unknown as only few samples are analysed, substances are sold under multiple brand names and a (popular) brand name may be used for various substances. Reasons cited for the spread of synthetic cathinones are the unstable quality of the traditional stimulant drug, methamphetamine, the lower price of the new substances and the strong intoxication they induce. But people also reported health problems, such as exhaustion and skin infections.

At the end of 2012 less than 6% of all PWID in Prague regularly injected NPS and the trend seems to be toward further decline. According to a 2012 national survey, 50% of those belonging to the drug scene have tried NPS, but a significant part of these users evaluated this experiment as unsatisfactory or negative. Reportedly, many PWID perceive these substances as dangerous and inferior to their traditional stimulant, methamphetamine. Information campaigns in the national journal "Dekontaminace" (Decontamination), which is very popular among PUDH, may also have contributed to this negative opinion. According to methamphetamine consumers that frequent the Prague open drug scene NPS may be increasingly used to cut or substitute methamphetamine.

Injection of pharmaceutical opioid drugs

Of similar concern is the emergence of the injection of diverted opioid pain killers, such as fentanyl which emerged after 2010 in west Bohemia, south Bohemia and north Moravia in particular. In the last 12 months 5.1% of Czech PWID had injected "fentanyl patches", in the Pilsen region 23.6% reported doing so. Fentanyl and "Vendal retard" (morphini hydrochloridum trihydricum) are popular for their stable quality, their low cost and strong intoxication. Their increasing use is likely associated with a decrease in heroin quality or its lack of quality, and the low availability of substitution treatment with methadone and buprenorphine in these locations.

Factors in choosing NPS

Important factors in choosing NPS were changes in the availability and quality of traditional illicit drugs, reduced availability and variable quality of methamphetamine and heroin in particular, while the relatively low price of these substances and reduced income among PUDH may also be drivers in substituting the traditional drugs. The often strong impact effect when injected, the euphoria and intoxication these high-grade drugs provide may also add to the popularity of NPS and diverted medications. Some of the cathinones reportedly have longer lasting and more intense effects, compared to the methamphetamine usually injected. Likewise, diverted opioid medications are (far) stronger and of stable quality, compared to the low-quality heroin. Insufficient opioid substitution treatment capacity and the absence of substitution treatment for methamphetamine dependence may be another factor, while sanctioning practices in substitution treatment programmes may explain NPS use among programme participants. Positive urine

tests for methamphetamine may result in (temporary) expulsion from treatment, but the test does not measure the presence of cathinones. The legal status of these substances may be of less concern to the average PUDH, as they are obtained in similarly structured markets.

Positive and negative effects reported; health consequences

NPS and pharmaceutical opioids have a mixed status among Czech PUDH. They are, for example, praised for their superior and constant purity, shorter duration of their effects and because they are not detectable in drug screenings commonly used. But heavy NPS consumption has its price tag, involving a wide array of negative, both physical and mental health consequences, including risks for blood-borne viruses (BBVs), overdose, intense craving and (rebound) depressions.

Positive effects of NPS reported

Czech PUDH reported several positive effects of NPS and diverted opioid medications, such as the intensity of the impact effect, the strong intoxication and relatively long duration of some of these substances. People injecting diverted opioid medications report spending less money on drugs, freeing up money for other things, and time not spent on seeking (illicit) drugs, resulting in an overall stabilization of life and an improvement in social relations. That NPS are not detectable by urine tests used in substitution programmes is viewed as an advantage, preventing problematic interactions with programme staff or treatment interruption. Whereas methamphetamine might keep them up several nights, the shorter half-life of some of the cathinones reportedly allows people to sleep more frequently. Those injecting diverted opioid medications appreciate the lower injection frequency and the associated condition of their veins. Diverted opioids became a drug of first choice for local PUDH in Pilsen, but this trend emerged among a lack of alternatives. People searched – and found - alternatives for their drug of choice, heroin, when it was unavailable or of poor quality.

Negative consequences of NPS reported

Despite these positive experiences, PUDH also reported negative effects from taking cathinones, including the risk of fatigue, exhaustion or collapse, increased injection frequency, resulting in collapsed veins and skin problems, mental health problems and poor mood, isolation and loneliness, and withdrawal symptoms (e.g. rebound depression). Negative effects associated with injecting opioid medications reported included the risks of NPS use for HIV, HCV transmission and overdose.

The risks of NPS use for HIV, HCV transmission

Injecting of cathinones may, according to PUDH, result in intense cravings once the substance is purchased and injecting at the point of sale. In these places clean syringes are usually absent and used equipment might be shared.

Cathinones are mostly packaged in plastic bags, containing 0.5 or 1 gram, which is more than one or two doses. When money is short, PUDH may pull their money together for a pack and, in the interest of a fair split, the drugs are prepared and injected together. The behaviours involved in collective drug preparation, such as collective use of drug injecting equipment and 'syringe mediated drug sharing,' have been associated with HIV transmission elsewhere (1–11).

The risks of (non-fatal) overdose

Injecting fentanyl patches represents a high risk of overdose. PUDH reported several factors associated with overdose, such as the strength of the substance, their failure to correctly estimate the strength of the drug, the desire for intensive intoxication – to be unaware of oneself and poor physical health due to illness or prolonged intensive use.

The respondents further mentioned constipation, loss of sexual interest/virility among men and, with reference to diverted pharmaceutical opioids, a profoundly more severe withdrawal syndrome. Overall, despite their attractions many PWID perceive these substances as dangerous and inferior to their traditional stimulant methamphetamine. Finally, according to methamphetamine consumers that frequent the Prague open drug scene, NPS may be increasingly used to cut or substitute methamphetamine.

Interventions and policies targeting NPS

Between 2009 and 2011, NPS were increasingly taken up by PUDH known to services. Several low threshold drug services distributed warnings about the potential risks of these substances among their clientele and the media increasingly reported on problems related to NPS. The national journal "Dekontaminace" (Decontamination) distributed via drug services and online, is well-read and very popular among PUDH. Its information campaigns on NPS and the experiences of clients reported therein may have contributed to the negative opinion on NPS among PUDH, but these interventions have not been (independently) evaluated.

Testing of drug samples is also implemented in the Czech Republic by the Department of Addictology in collaboration with low threshold services in Prague. The outreach programmes regularly submit drug samples to the Toxicological Centre at the First Faculty of Medicine of Charles University. The programme is funded by the EU-funded I-Trend project and serves prevention, harm reduction and research goals, including the development of a comprehensive toxicological database and NPS detection methods.
Nonetheless, overall the responses to NPS in the Czech Republic seem to rely more on legislative and law enforcement responses than on harm reduction, prevention and treatment responses. Substantial changes were made in 2013 to the legal framework governing the issue of psychoactive substances and precursors. With effect from 1 January 2014 the list of substances is no longer included in the schedules of *Act. No. 167/1998 Coll., on psychoactive substances*, as was the case from 1999 to 2013, but has been incorporated into *Government Regulation No. 463/2013 Coll.*, which includes several lists of psychoactive substances. With this measure, the Government and the Parliament expect a more rapid and effective response to any emerging psychoactive substance on the drug market. *Act No. 272/2013 Coll., on drug precursors*, in conjunction with an implementing regulation in the form of *Government Regulation No. 458/2013 Sb., on the list of initial substances and adjuvants and their yearly threshold quantities*, has also been in operation since January 2014. Detailed lists of psychoactive substances or drug precursors are included in bylaws since 2014. This change has effectively excluded the issue of drug precursors from *Act. No. 167/1998 Coll.* and placed it within the remit of a stand-alone legal regulation, *Act No. 272/2013 Coll.*

In addition to allowing easier and prompter control over the handling of addictive substances by moving the lists of narcotic and psychotropic substances to government regulations, the above changes streamlined the previous legal controls of precursors, which was inconsistent and confusing, as the European primary and, in particular, secondary legislation, represented by EU regulations, was applied in parallel with the existing national norms (http://www.drogy-info.cz/data/obj_files/1347/628/AR_2013_en_v2015-02.pdf , s. 18)

4.1.2 Greece

The term NPS first appeared in media reports in Greece in 2013 when a large number of them were first reported to have been detected across the EU by EMCDDA. Until then there had been extensive reports about Sisa (crystal methamphetamine), which has a specific position on the drug scene in Greece and could be interpreted as a new trend on the drug scene.

Availability of NPS in Greece

Synthetic cathinones and cannabinoids in Greece started around the end of 2010. The most frequent number of substances among seizures (from 2011 until 2014) is the synthetic product of cathinone 4-MEC and the synthetic cannabionoids AM-2201. According to media reports and blogs NSPs are available on the Internet. They can be easily purchased and they are very discretely packed and delivered to your door. According to a blog, "Head Trips" (a synthetic cannabinoid) is also available in a very nice package in a mini market in Thessaloniki. Police know about it but they don't interfere. However, according to some media reports and statements from PUDH, Sisa seems to be produced in the centre of Athens, in self-made laboratories and is distributed on the open drug scene.

Extent and nature of NPS use among PUDH

According to the Greek Reitox (EKTEPN) the number of PUDH in Greece (between 15-64 years old) is 16,162, and 5,284 inject their drugs (mostly heroin).

The Greek RAR suggests that few PUDH have experience with: synthetic cathinones, synthetic cannabinoids or other NPS. However, for some years now Sisa, a homemade methamphetamine, has widely penetrated the Greek hard drug scene. It is produced from legal precursors in kitchens and basements by people with little chemical knowledge. Sisa is mostly smoked in a glass ("sisa") pipe by some 80% of PUDH, while up to 20% mat inject this crude version of methamphetamine. The drug is cheap and a substitute for cocaine and heroin (The average price of heroin is 30 euros, Sisa costs only 3 euros) in the present time of austerity. Its association with the economic crisis in Greece resulted in frequent local and foreign press coverage, which portrays Sisa as the "drug of the poor."

Factors in choosing NPS

PUDH (heroin users) are smoking Sisa just because it is cheaper and easy to get hold of. None of them are thinking of using Sisa as a substitute for heroin or other known substances. Media reports about Sisa users say that they are multi-users (pills, Sisa, heroin/cannabis). Additionally it is worth mentioning that due to massive NPS production they have "found their way" on to the illicit drug market, where they are sold like ecstasy, cocaine, heroin, ketamine, or LSD to unsuspecting users. In most cases there is no data about the ingredients on the packaging.

Positive and negative effects reported; health consequences

Positive effects of NPS reported

Greek PUDH reported several positive effects that NPS have, such as stimulation, the ecstasy feeling, self-confidence, they didn't want to eat much, dancing mood (Salt Baths); they cannot be traced in toxicological examinations, stronger effects on the brain than THC and cannabis, and in smaller amounts (Head Trip); in small doses euphoria, severe hallucinations, out-of-body experiences, near-death-experiences, while at the same time you are very conscious, lack of pain (Ketamine); and according to the Sisa stimulation, tension and hyperactivity.

Negative consequences of NPS reported

PUDH also reported negative effects from taking NPS. It causes nervousness, trembling, dementia, anorexia, exacerbated senses, intense hallucinations, aggressive behaviour, high fever, cardiac arrhythmia, loss of weight (especially fat), a skinny face, dilated pupils, insomnia. You scratch furiously; you injure yourself because you think that there are bags all over your body.

The risks of NPS use for HIV, HCV transmission

Information on HIV or HCV transmission associated with NPS use is not available, but the minority (some 20%) injecting Sisa may be at increased risk of HCV or HIV. Nonetheless, despite these concerns, research suggests that the HIV outburst in the centre of Athens has not been directly associated with either injecting or smoking Sisa. However, recent increases in HIV infection have been associated with economic austerity politics, resulting in interrupted or substandard HIV prevention and harm reduction service provision (12).

The risks of (non-fatal) overdose

PUDH reported a tendency towards non-fatal overdose (Salt Baths and Head Trip). On the other hand, Sisa causes such damage to the body that deaths are not connected to an overdose but to the toxicity of the substance itself as severe harm is caused to the internal organs.

Interventions and policies targeting NPS

Greece has been constantly having elections since 2009, after being forced to implement austerity measures. The Ministry of Health has changed leadership 7 times as of the current date (May 2015). Politicians want to be re-elected and as they know that a government under these circumstances cannot last for 4 years (as is usually the case) they try to organize interventions that can help their image and lead to re-election. The Greek Government has reduced social programmes and welfare down to 40%, added an

economic fee/ticket for every patient receiving outpatient treatment and reduced the salaries of hospital employees. As a result the country has faced an increase in the injecting use of drugs generally, in sex work and in HIV infections. According to the data published by KEELPNO (The Hellenic Centre for Diseases Control) out of the 25,000 drug users in Greece, more than 10,000 live in Athens. Outreach work that should be done by the prevention and treatment services cannot be provided in the necessary amount, due to the financial cuts.

NPS are mentioned as a new phenomenon that is spreading across Europe, providing some information from the annual report of the EMCDDA but there are no concrete proposals for interventions or political leadership concerning NPS use. We only need to add the statement from the National Coordinator on Drugs, on the above mentioned occasion that "there is a lack of funds to buy chemical equipment by the State Laboratory", which in a way could be associated with the need to trace and learn more about NPS. We can only suppose that NPS users talk to each other and go on forums concerning the effects of the substances they circulate.

Greece has witnessed an HIV outbreak among PUDH in the centre of Athens, which started to become apparent in 2011. From 7-13 positive diagnoses among PUDH per year, in 2011 there were 241 diagnoses reported and in 2012 522 diagnoses. As the epidemic was mostly concentrated to PWID in the centre of Athens, NGOs, such as OKANA KEELPNO and KETHEA, increased their harm reduction interventions (needles and syringes distribution/exchange, testing for HIV and HCV, advising pregnant women, who use drugs, on safe delivery methods, etc.). One of the most important scheduled interventions was the project funded by European Commission that had been operated by OKANA from October 2013 till August 2014. The project did not have a clear legal status and prompted an intervention by the public prosecutor. On August 1, OKANA was forced to close the project and removed all data from its official webpage (http://www.okana.gr/2012-04-03-07-49-40). According to the offline data, more than 50 people were saved from overdosing by Praksis.

4.1.3 Poland

Among the general population in Poland the NPS prevalence rate oscillates between 1.4% and 2% (in the 15-64 age group, NPS use in a lifetime). The rate of NPS use prevalence increases when we focus on the 20-24 age group (8%). There are much higher rates of lifetime cannabis and sedative use (Jabłoński P., Malczewski A., 2014). The survey among university students (n=734) provided interesting findings, 77% (552 persons) had used NPS at least once in their life, 51% had used NPS within the last 12 months, 27% had used NPS within the last 30 days.
Out of 552 respondents who had tried NPS at least once 65% rated this experience as "good" or "great"; 10% described it as "bad" or "terrible". The ways of buying/getting NPS: 67% - offline shops, 47% - online shops, 33% - from friends, 20% - from dealers (Pisarska, A., Moskalewicz, J., 2013). NPS prevalence among PUDH is not officially monitored. In this group we can assume the predominant part of use.

Availability of NPS in Poland

In 2009, in Poland there were 42 shops selling NPS, by July 2010 the number of shops increased to 260 and in October 2010 the Sanitary Inspection closed more than 1300 shops. A legal regulation led to the closure of shops and does not punish NPS users, but rather the producers, manufacturers and sellers **(**Sieniawska A.**,** 2013).

The NPS market in Poland is diverse, having far more options than the traditional drug market. Many factors probably have an influence: legality of substances (or foggy legal status), lack of a method and proper technology to detect certain NPS, the progress of the Internet and other communication possibilities. Two categories of online shops are noticeable: (1) shops with research chemicals – giving the impression that they are professional sites where chemists make purchases; selling pure chemical substances; (2) smart shops – colourful, forceful advertising and encouraging clients to buy products with fancy names; selling also mixed and plant-based substances. The current offline market operates in various

ways and there are shops specializing in selling NPS. Because of unclear legal status they change locations in a city and in general the buyers have to be known by the staff (or be recommended by a regular customer). Some of the offline NPS shops also offer things other than NPS: sex shops, small casino points, stores for bodybuilders and so on.

Extent and nature of NPS use among PUDH

The web-site of the Main Sanitary Inspectorate presents the top 10 NPS most frequently detected by sanitary services in selling products. At the moment they are: UR-144; 3-MMC; PENTEDRON; 5F-UR-144; 25I-NBOME; AM 2201; alfa PVP; ETKATYNON; MDPBP; AB-FUBINACA. NPS users receive no information from NPS dealers. Often the information is misleading. Most of the NPS on the Polish market is a mixture of two, three or more psychoactive substances. An especially dangerous model of NPS use is in combination with other legal substances such as alcohol or medicines (Jabłoński P., Malczewski A., 2014).

Factors in choosing NPS

Polish PUDH have decided to use NPS because of the legality and availability of these substances. Polish drug law is so restrictive that legal psychoactive substances filled a loophole by entering NPS on the market. The reason was not connected with the unusual attractiveness of these substances, but there is a clear connection with the law which punishes the possession of traditional drugs. The number of traditional drug users decreased because many of them decided to use NPS. Patients in methadone maintenance programmes reportedly use NPS because these do not show up in urine test. Shops selling NPS appeared near hospitals with methadone maintenance programmes and outpatient treatment (Sieniawska A., 2013). Many PUDH reportedly started to use mephedrone or other substances in the synthetic cathinone group due to the unavailability of opioids on the black market (Sieniawska A., 2013).

Positive and negative effects reported; health consequences

Positive effects of NPS reported

(Not reported in Polish literature review.)

Negative consequences of NPS reported

The impact of NPS on the human body (especially when use is long and regular) is still less known. (Jabłoński P., Malczewski A., 2014). A manganese compound used for the synthesis of methcathinone from pseudoephedrine is highly neurotoxic and causes severe encephalopathy. Therefore methcathinone users have serious difficulties even with the simplest physical activities. Disorders of posture, walk, speech, and movement are the most common symptoms of poisoning (Habrat B., 2013). One product has an average of 6-7 substances, so it is really hard to determine which the worst is. People hope that if it is legal it should also be less harmful than traditional drugs. Ways of consumption have not changed. People who snorted traditional drugs have certainly snorted NPS. The situation is the same with other ways of using, injecting or smoking. Usually people mix the NPS with alcohol or other substances which is still very problematic. It often happens that users do not realize what they are using. (Sieniawska A., 2013). In summary, NPS are not a milder version of the (traditional) drugs but they are "far more dangerous for users" (State Sanitary Inspectorate, 2011).

The risks of NPS use for HIV, HCV transmission

(Not reported in Polish literature review.)

The risks of (non-fatal) overdose

In the last two years the number of non-fatal overdoses has doubled in Poland. There is no information about particular NPS or about persons who overdosed on them. NPS poisoning data in different regions of Poland vary greatly. These differences may be due to non-uniform data collection methods (Annual statistics on poisonings NPS, 2013, 2014). On the Main Sanitary Inspectorate's website – for the top 10 NPS there is only negative information – a black vision of NPS use. No positive or neutral information which can make this source more credible for users.

Interventions and policies targeting NPS

Currently the government's project expanding the list of prohibited substances for a further 114 NPS is waiting for approval in the Polish parliament. According to the new law the sale of medicines containing pseudoephedrine will be limited. Some gaps allowing the import of NPS to Poland will also be removed. Current laws prohibit their production and marketing, but there is no ban on their import. It will also no longer be possible to buy wholesale quantities of pseudoephedrine-containing medicines which are used to produce methcatinone. These regulations are also related to the fact that Czech methamphetamine producers make wholesale purchases in pharmacies in southern Poland.

Most of the publications describing the NPS market in Poland is based on quite outdated information about the liquidation of smart shops (this took place in 2010). Before then almost 1,500 online shops operated in Poland legally selling various NPS. In fact, the changes in the drug law and in the Act on State Sanitary Inspection in October 2010 almost immediately closed them. Since that moment, the NPS market has changed and online shops have undoubtedly gained an advantage. Also the traditional way of drug trafficking (individual dealers) have come into play. In fact, in 2014 there started to be a revival in online shops, but on a much smaller scale. Prevalent at the moment are online NPS shops where users pay for NPS by credit card, bank transfer – in advance or on delivery and NPS are sent to clients by post or delivery services.

4.1.4 Portugal

"Few Portuguese people (more men than women) have tried NPS in their lifetime (0.4%, Balsa, Vital & Urbano, 2013). Although the percentages vary between different studies, NPS use is more prevalent among younger people (The Gallup Organization, 2011; Balsa et al., 2013), while the continuation rate is higher among university students (Ribeiro et al., 2013) than in the general population (Balsa et al., 2013)." NPS seem mostly to be used occasionally in Portugal and there are only few anecdotal reports of "heavy" use or "regular" NPS use.

Availability of NPS

In Portugal, the NPS phenomenon is intrinsically linked to the emergence of *smart shops* (Calado, 2013), open from 2007 to 2013. During this period, the most usual way of obtaining NPS was through these specialized shops, followed by people who obtained them through friends or through the Internet (Balsa et al., 2013; Ribeiro et al., 2013; The Gallup Organization, 2011). At that time, legal substances were described as cheaper and easier to acquire, as well as more affordable and available in greater variety (Alves, 2013). According to the Ministry of Health, after smart shops were banned, the Portuguese authorities reported that there was no evidence that the sale of these substances had moved to the Internet or to the illegal market (Ministério da Saúde, 2013), although other studies and sources reported different conclusions. A decline in the supply of drugs was not noticeable in Portugal and offline smart shops were replaced by online shops; however, in Madeira, a slight increase of NPS on the black market was reported (Sarosi, 2014). The shops that remained open after the new law had been passed continued to sell some more diversified products (SICAD, 2013), with a more reduced offer (Silva, 2013, April/May) and, according to a representative of ASAE, with other denominations (Porto Canal, 2014, April 21).

Extent and nature of NPS use among PUDH

The PUDH community in Portugal mainly consists of men (80.9%) between 25-44 years old (34.6%) and mostly overlaps with low income communities. PUDH live on social benefits (35.2%), are employed (24.4%) or cared for by their family (19.6%). Most live in classic family households (58.9%), but an incredible 33.5% reported being homeless or living on the streets (19.1%). The majority of PUDH frequent OST and harm reduction projects (Carapinha, 2012). According to a recent study of PUDH attending harm reduction projects in Portugal (Carapinha, 2012), the vast majority had at one time used heroin (77.1%), cocaine (69.2%) and cannabis (61.6%), as well as prescribed or diverted methadone, buprenorphine or benzodiazepines. As some of the respondents noted, in Portugal heroin and illicit substances can be relatively easy obtained 24/7 (Balsa, Vital e Urbano, 2014). Injecting of NPS has not been reported in

Portugal (Sarosi, 2014) and neither is the issue raised in recent Portuguese studies or by harm reduction and treatment services. Accordingly, the impression in the country is that NPS are not well-known among PUDH. In other words, they have few reasons to turn to NPS.

Factors in choosing NPS

However, when NPS were sold in *smart shops*, legality and free access were frequently assumed to be important factors in choosing NPS (Alves, 2013; Ribeiro et al., 2013), more than the price or the quality of the substance.

Motivations for NPS use are mainly related to curiosity and pleasure (Alves, 2013; Ribeiro et al., 2013) and according to the analysis carried out by Calado (2013) in cyberspace, few users seem to consider that NSP are safer than illicit drugs. Also, Ribeiro and her colleagues (2013) concluded that among Lisbon university students, only a small percentage (11%) consider that NPS have a lower risk for health than illicit drugs, while 87% consider that NPS do not have a lower risk and 12% even consider that NPS have a higher risk (Ribeiro et al., 2013).

Positive and negative effects reported; health consequences

Positive effects of NPS reported

Only one study discussed whether or not NPS are considered a "drugs of first choice". Regarding the positive effects of NPS, this study reported empathy, unique and memorable experiences, increased perception and laughter (Alves, 2013).

Negative consequences of NPS reported

Many risk practices still continue to be performed by users, but they are often undervalued. The negative effects, however, are more aggressive and immediate than those from their corresponding illicit drugs and the hangover is also stronger (Alves, 2013). The author concluded that NPS users prefer illicit drugs, which the participants consider more natural and regarding which they possess greater knowledge and information (Alves, 2013). Regarding the measures that users are taking in order to control their use of NPS and reduce the potential harms, only the cyberspace analysis carried out by Calado (2013) has shown that there is a considerable lack of information and, even more important, a lack of interest in increasing knowledge about NSP. Many risk practices still continue to be performed by users, but they are often undervalued. The official registries identified people whose excessive use of NPS resulted in physical and mental problems (Nogueira, 2012; Silva, 2013, April/May). In more concrete numbers, the Secretary of State for Health even revealed that over 30% of the occurrences led to neurological or mental consequences (JN, 2012, December 28).

The risks of NPS use for HIV, HCV transmission

As far as the health-related consequences of NPS use are concerned, such as HIV and HCV transmission, key Portuguese experts frequently point out as risky NPS use that leads to unprotected sexual activity (Sarosi, 2014).

The risks of (non-fatal) overdose

Data on the (non-fatal) overdose associated with NPS use were not available for the RAR.

Six months after the production and selling of NPS in smart shops were forbidden the Ministry of Health stated that there were fewer younger people admitted to the emergency services due to NPS use (Ministério da Saúde, 2013, November 4). Also in Madeira, a Portuguese service provider mentioned the positive effects associated with the end of smart shops, measured by the reduced number of emergency cases associated with NPS use (Sarosi, 2014; Goulão, 2013, April/May).

Interventions and policies targeting NPS

In 2001 Portugal was a pioneer in decriminalising the use of illicit psychoactive substances and changes in the legal framework allowed the consequent reinforcement of the existing interventions concerning

prevention, treatment and reintegration, and support for the development and implementation of Dissuasion Services and Harm Reduction projects.

Services specifically aimed at NPS consumers are absent in Portugal, but there are many governmental and non-governmental services targeting drug users.

Other local approaches were implemented regarding NPS. In the context of the Plan for Health Promotion and Prevention of Diseases in Prison, in 2012 354 actions were promoted in prison settings, focused on themes such as NPS use and its associated risks and harms (SICAD, 2013). There are also reports of regional interventions in some schools in Madeira, mainly on prevention and information, in addition to other interventions in the community in general, with other social partners (Dependências, 2012, October). Moreover, drug testing programmes are available in Portugal (Sarosi, 2014).

4.1.5 Romania

The National Report on Drugs 2014 of the National Antidrug Agency shows an estimated number of 6,288 PUDH in Bucharest for 2013. 9.4% of them have declared NPS as the main drug of use. Most PWIDs use substances sold as legal drugs of "ethnobotanicals", NPS (49.6%) such as "Pure by Magic", "Special Gold", "Insomnia" etc. In general, 55% of such PUDH are represented by heroin users, 43.6% by NPS + amphetamines (most of them NPS) users and 1.3% by cocaine users.

Availability of NPS in Romania

In Romania, NPS "ethno botanicals" consumption began in 2009 and since then it has grown and developed rapidly, with variations determined by government control measures. NPS sold as "legal highs" come in two variations: 1) plants and chemicals blended for smoking – "Spice" products; 2) Chemicals blended for injecting or sniffing – psychoactive synthetic substances with energizing or hallucinogenic effects, sold under various names and mixed with well-known stimulants: caffeine, creatine, etc. The active substances are mostly synthetic cathinones (Risk assessment of new psychoactive substances consumption among children and adolescents in Romania, EMCDDA, 2014).

One of the most common categories of NPS sold under the name of legal drugs is that of "Spice"-type substances. There is a large number of 27 products for inhalation/smoking sold under the brand "Spice", such as Spice Silver, Spice Gold, Spice Diamond, Spice Arctic Synergy, Spice Tropical Synergy, Spice Egypt, Spice Maraciuca, Ganja, M6, Diesel, Katana. The speed with which these names change and the emergence of new market mixtures hinders classification efforts, which are often redundant compared to the dynamic supply of such substances. Products sold under the name "Spice" are usually herbal blends designed for smoking (e.g. Turnera Afrodisia, Passiflora Icarta, Rata Graveolens), sprayed with synthetic cannabinoids. Although some of these synthetic cannabinoids are prohibited by law, new chemical combinations, crossing the limitations imposed by the regulatory framework, emerge often. Another mixture of substances with an energizing effect, perhaps more popular among users after the issuance of two Government Decisions is "Pure by Magic". The study does not give any reliable information on the active substance contained, although there are empirical evaluations that make it like another relatively new product on the market, NRG1, which contains, according to the source mentioned, Naphyrone (O-2482 or naphthylpyrovalerone). This is a derivative of MDPV/ pyrovalerone and has similar effects. Also, the trade name changes very quickly, so that associating a substance with a particular brand is often a difficult task.

Under pressure from legislation, by the end of December 2012 only one specialised store was still functioning in Romania (the so-called "dream shops", known as "Spice Shop", "Smart Shop" or "Weed Shop"), compared to the 158 existing shops identified when the legislation was adopted (March 2011). This legislative measure makes the sale of NPS in offline shops even more difficult.

Extent and nature of NPS use among PUDH

The published data only relates to PUDH from the capital city Bucharest. There is a lack of evidence partially due to the fact that drug-related harm reduction and treatment systems are not developed outside Bucharest.

31% of the PUDH in Romania declare NPS to be their main injected drug. NPS use is associated with a higher injecting frequency and with an increase in the ratio of those sharing injecting equipment. When we focus on injecting frequency by drug use, we notice that NPS-using PUDH have the highest rate among those injecting more than 5 times a day, 72.6%. The situation is similar for those who inject 3-5 times/day, of which 55.1% are NPS users.

Factors in choosing NPS

Romanian veteran PWID (injecting drug users, especially with heroin) are mixing new and old drugs or have previously been users of injecting heroin and now switched to NPS (BSS 2012). There is conclusive evidence of the existence of polydrug use of NPS among heavy users. More than half of respondents stated they had used more than one kind of "legal high" in the last 30 days. Besides alcohol, "legal high" are consumed with illicit drugs or drugs: heroin, amphetamines, glue, cocaine, marijuana, prenadez-like inhalants, diazepam, Valium, rofedex, Tusin.

Positive and negative effects reported; health consequences

NPS in Romania are obtained from pharmacological and chemical substances and blends are made in unauthorized factories. Therefore, information is scarce regarding content and effects on human subjects. NPS are mixed and divided into envelopes for sale, under untested recipes and concentrations.

Positive effects of NPS reported

The Romanian Desk review did not identify reports on or references to positive effects of NPS use in the published research conducted in Romania.

Negative consequences of NPS reported

NPS use can cause serious health problems: weight loss, appetite loss, personality disorders, psychotic disorders, prolonged insomnia, physical exhaustion. After a period of time, and depending on the way they are administered, frequency of use and lifestyle, death may occur. PUDH mentioned cases of PWIDs who died during the transition from heroin to NPS. These deaths were not confirmed by forensic tests, one reason being the limited capacity of analysis (lack of necessary technical equipment for conclusive tests).

Long-term use involves the risk of exclusion and social self-marginalization, school dropout, and can affect the career and moral values. Delinquent behaviour appears as abusive use or addiction becomes severe. Delinquency may occur due to the high costs required to maintain use.

The risks of NPS use for HIV, HCV transmission

Changing drug use patterns or increasing stimulant use appears to contribute to a high spread of HIV in Romania because of more frequent injecting and needle sharing. According to BSS 2012, when injecting frequency by drug users was analyzed, it was noticed that NPS-using PUDH have the highest rate among those injecting more than 5 times a day (72.6%). The highest HIV prevalence was registered among NPS users, 71.4% as compared to 39.3% among heroin users (approximately half of the NPS users) (BSS 2012).

The risks of (non-fatal) overdose

According to the National Report on Drugs 2013, more than two thirds (68.2%) of the 2012 emergency cases caused by illicit drug use (N=2043) reported exclusive NPS use, while another two thirds (66.7%) of the total emergency cases caused by multiple drug use reported such use in combination with other psychoactive substances.

In 2013, 45.5% out of the total 1501 nonfatal hospital emergencies were caused by NPS abuse signalling a decreasing trend but still being the number one cause of nonfatal drug related hospital emergencies.

Interventions and policies targeting NPS

NPS consumption began in 2009 and has experienced accelerated growth and diversification in recent years, with declines and recoveries due to the implementation of legislative measures that impose control initiated by the government (at the beginning of 2011). The legislative measures made the sale of NPS in "Spice shops" more difficult. The National Antidrug Strategy 2013 – 2020 shows that through legislative, operational and preventives measures, the sale of NPS has reduced, both through offline "Spice shops" and the Internet.

Availability and access to health and social services in Romania is low, which increases the risk of progression of medium and long-term medical and social problems among NPS consumers. Also, the 2011 assessment recommended the discarding of legal barriers that impede specialized harm reduction services being accessed by children and young people at risk. The Government made no legislative change in this regard so people under the age of 18 cannot access needle exchange and OST without their parents' approval.

The assessment made in 2011 recommended a legal framework to allow the initiation of effective control measures for NPS and reduce the risks associated with NPS use, based on scientific studies and taking into account respect for human rights, prioritizing interventions focused on children and young people. The Romanian Government banned the online and offline sale of NPS and also included another 40 substances (found in NPS) on the illegal drugs lists. This led to no offline store selling NPS in 2014 and 6 online "spice shops" registered in another country. Still, the decline in NPS use is not that significant and we can speak more of a stabilization of the trend.

4.2 Assessment of NPS availability in offline and online drug markets in the participating countries

In this part of the report, we report on the availability of NPS in the partner countries; those distributed via offline channels, such as brick and mortar outlets or in traditional drug supply structures, and online, via websites that market and/or deliver NPS to the partner countries.

In each partner country – the Czech Republic, Greece, Poland, Portugal and Romania - the RAR teams assessed the offline availability of NPS using various methods and sources and in online drug markets using the EMCDDA Snapshot Methodology and submitted a national report on the availability of NPS in their country. The national reports included (i) key findings on the country's NPS market; (ii) an inventory of NPS available online to customers in the respective countries, (iii) an inventory of NPS available offline in the country.

In the following sections we present the key findings on the NPS markets in the partner countries and the national inventories of the NPS most frequently identified in offline and online markets.

Integral parts of this section are tables reporting NPS identified online in each partner country in 2014. Tables are sorted by number of shops identified by participants. In the tables, we present the 10 most frequently offered drugs, based on the number of online shops that sell and deliver the compound in the participating countries. These tables do not necessarily correspond to the NPS use data quoted elsewhere in the report. Indeed, the 2014 Flash Eurobarometer suggests that in that year only 3% of the respondents (13,000 young EU adults aged 15-24) bought NPS on the Internet (EMCDDA, March 2015, p. 7).

Column 3, "Drug type (1-7)" in the tables is based on the UNODC classification before 2 new groups (aminoindanes and tryptamines) were added in 2014:

1. synthetic cannabinoids,
2. synthetic cathinones,
3. ketamine,
4. phenethylamines,
5. piperazines,
6. plant-based substances,
7. miscellaneous substances.

4.2.1 Czech Republic

Key findings:

- The NPS most frequently offered in the Czech Republic are currently plant-based substances (Kratom, Kola, Salvia Divinorum) and synthetic cannabinoids, followed by synthetic cathinones.
- NPS are no longer sold in brick and mortar stores.
- 24 NPS were offered by online shops in many different mixtures of substances under various brand names, especially synthetic cannabinoids, such as *5F-AKB48* or *AKB48*.
- Online shops are not usually using the '.cz' domain. It is difficult to determine where online stores are located. They Czech language is generally very poor, suggesting the use of computer translations.

New Psychoactive Substance identified offline

NPS are no longer sold in brick and mortar stores in the Czech Republic. The offline sale of NPS ended in 2011 when the list of prohibited narcotic and psychotropic substances was updated and the police closed the "Amsterdam Shops" (smart shops) in the country. As noted in section 3.1.1, NPS, synthetic methcathinones in particular, continue to be available to both recreational consumers and PUDH via traditional drug distribution structures. Bought in larger batches online, the NPS are subsequently distributed via commercial dealers or through friendship networks. The legal status of NPS seems less relevant in these black market-like transactions on the street, in meetings arranged using mobile phone or simply at a friend's house, as unmarked substances change hands in anonymity.

Opioid medications are not sold without a prescription in the Czech Republic, and sales are recorded and strictly monitored. Nonetheless, people who use drugs either obtain pharmaceutical opioids from people who have them prescribed for pain treatment or directly from doctors who write prescriptions for opioid medications for (under-the-counter) extra payment. As the Czech National Focal Point reported, *Medicines can be obtained illicitly from friendly pharmacists or medical orderlies or on forged prescriptions*." (Mravčík et. all., 2014, p. 81).

New Psychoactive Substance / legal highs most frequently identified online

The results of the Internet snapshot only represents a first screening of the online NPS trade in or targeting the Czech Republic. Online shops are not usually using the .cz domain and it is difficult to determine where these companies are physically located or registered.

Table 2 New Psychoactive Substance identified online most frequently in the Czech Republic in 2014 (sorted by number of shops)

Brand Name	chemical name of compound	drug type (1-7)	No. of shops offering compound	price in € per 1g
Kratom Bali, Kratom Maeng Da, Kratom Thai, Fenix Black, Lounge-E, Fly High Amsterdam	Kratom (Mitragyna speciosa), plant-based substances	6	7	1 – 20
Kola	colanut, plant-based substances	6	4	1 – 2
Salvia divinorum, Salvia sage extract, #SLICE Magic Thunder, #SLICE Trance Sensation	Salvia divinorum, plant-based substances	6	4	8 – 22
Pentedrone	1-phenyl-2-(methylamino)pentan-1-one	2	4	X
MDPV	Methylenedioxypyrovalerone	2	3	X
3-MMC	3-Methylmethcathinone	2	3	X
2-FMA	1-(2-fluorophenyl)-N-methylpropan-2-amine	4	3	X
Ethylphenidate	ethyl 2-phenyl-2-(piperidin-2-yl)acetate	7	3	X

The NPS on offer change frequently and cathinones sold on websites hosted in the Czech Republic were different from the cathinones found in lab tests of samples submitted by or seized from PUDH in Prague, with the exception of MPPP, which was offered by one shop. Only one shop with a '.cz' domain, the "Mephedron shop", offers mephedrone. Some sites seem to focus on spiritual or ritual drug use, selling Salvia, Kratom, psychedelic cactuses and other herbal products. But reportedly, online purchase is not the primary mode of NPS acquisition among PUDH, who often do not have the means for making international electronic payments required in ecommerce.

4.2.2 Greece

Key findings:

- The assessment of NPS availability produced only incomplete and sometimes inconsistent data. NPS availability or use are not mentioned in the 2014 Greek annual report to the EMCDDA.
- Although a scheduled substance, homemade methamphetamine is the new drug trend presently of most concern in Greece. No longer able to afford heroin, many Greek PUDH have switched to this new synthetic stimulant.
- Online shops accessible in Greece mostly offer synthetic cathinones, such as mephedrone.

The assessment of NPS availability in Greece was unfortunately incomplete. The online availability of NPS was, for example, not assessed with the EMCDDA snapshot methodology. This resulted in incomplete and sometimes inconsistent data. NPS availability or consumption are not mentioned in the 2014 Greek annual report to the EMCDDA either. Therefore, the Greek data should be read with caution.

New Psychoactive Substance identified offline

Use of homemade methampthetamine, termed "Σίσα" (Sisa or glass) in Greece, has become quite widespread among people who traditionally used heroin and benzodiazepines, in particular among homeless people living on the streets of Athens.

Methamphetamine is a scheduled drug (Schedule II, 1971 Convention on Psychotropic Substances). Sisa is reportedly sold in solid form and mostly smoked while injection is less common. The information on the ingredients from media reports and discussed on online drug forums suggests that the drug is made with the "Shake'n'Bake" method, a crude variation of the Birch reduction that does not require much knowledge of chemistry (Brzeczko et al., 2013; Caldicott et al., 2005). In Shake'n'Bake, ephedrine or pseudoephedrine is mixed in a PET bottle with commercially available sodium, potassium or lithium metals in anhydrous ammonia. In some 45 minutes, multiple simultaneous chemical reactions convert the pseudoephedrine hydrochloride into methamphetamine but the rudimentary conditions under which the drug is produced result in a crude, low quality methamphetamine, polluted with caustic remnants of the reactants used (Hearne et al., 2015).

Greek police has reportedly seized all types of NPS defined by UNODC, with the exception of phenethylamines, piperazine and plant-based substances (group no. 4 – 6). Analysis of wastewater samples of five wastewater treatment plants on Santorini Island established the presence of the synthetic cannabinoids JWH-210 and JWH-122, the pyrrolidinophenone 'a-PVP' and CP47,497 or cannabicyclohexanol, a bicyclic cannabinoid analogue with potent analgesic activity (Melvin et al., 1984).

New Psychoactive Substance most frequently identified online

Table 3 New Psychoactive Substance identified online most frequently in Greece in 2014

Brand Name	chemical name of compound	drug type (1-7)*	No. of shops offering compound	price in € per 1g
bath salts or Aura Hurricane Charlie, NOLA Diamond, Bright Lightening,White Girl, Vanilla Sky, Bliss, Purple Wave, Cloud Nine , Ivory Wave	Not identified online	1	Not mentioned	25 euros per 50 mg
M-CAT, MEOW MEOW, DROW	Mephedrone	2	Not mentioned	30
Flower Magic Crystal, Pure by Magic, Special Gold-Bath Salt Sea	MDPV	2	Not mentioned	48 (12 per 0,25 g)
Head Trip	JWH-122	1	Not mentioned	X

4.2.3 Poland

Key findings:

- The NPS most frequently available in Poland are currently the synthetic cathinones Pentedrone, Metaphedrone, alfa-PVP and Buphedrone.
- Before 2010 there were almost 1,500 online shops legally selling various NPS. Since the passing of the "Act on State Sanitary Inspection" (October 2010) these have disappeared.
- Online shops using the Polish language are usually hosted on '.pl', '.nl', '.sk', 'es.' or 'eu.' domains.
- Some online shops sell "research chemicals" (perhaps in an effort to emulate professional chemistry supplies sites). Other online shops use advertisements and products with fancy names.
- In Warsaw and other Polish cities, the NPS market uses the local Internet.

New Psychoactive Substance identified offline

The current offline NPS market operates in various ways. There are shops specializing in NPS. Because of the unclear legal status, these shops regularly change locations around town.

In general, the customers must be known by the staff or recommended by a regular customer. In some offline shops NPS are only one among many products on sale, including bodybuilding supplies, and they may double as a sex shop, lottery points or convenience store. The NPS on offer are very similar to those most frequently offered online.

New Psychoactive Substance most frequently identified online

Table 4 New Psychoactive Substance identified online most frequently in Poland in 2014

Brand Name	chemical name of compound	drug type (1-7)*	No. of shops offering compound	price in € per 1g
PENTEDRON / PENTHEDRONE / CRISTAL / POWDER	Pentedrone α-methylamino-valerophenone 2-(methylamino)-1-phenylpentan-1-one	2	15 +	7,5 – 10
3MMC, METAFEDRON, KOKOLINO, CHERRY KOKOLINO (3MMC or ethcatynone + penthedrone) EXCLUSIVE KOKOLINO (3mmc or 3DMMC or 4DMMC + lidocaine)	Metaphedrone 3-Methylmethcathinone, 2-metylamino-1-(tol-3-ylo)propanon	2	12 +	8 - 17
ALFA PVP, ABC ALFA, THOR HAMMER (probably alpha PVP), MOUNTAIN CRYSTAL probably alpha PVP)	α-PVP α-Pirolidynopentiofenon 1-fenylo-2-(1-pyrolidynylo)-1-pentanon	2	12 +	7 – 14
ETYLOFENIDAT / EP / EPH	Ethylphenidate (RS)-ethyl 2-phenyl-2-piperidin-2-ylacetate	?7	12	8 - 9
ETH-CAT , ETKATYNON, EKO-GROSZEK	Ethcathinone N-Ethylcathinone, 2-Ethylaminopropiophenone (RS)-2-ethylamino-1-phenyl-propan-1-one	2	11 +	6 – 8
BUFEDRON	Buphedrone α-methylamino-butyrophenone 2-(methylamino)-1-phenylbutan-1-one	4	11 +	5 – 15
3,4-DMMC	3,4-DMMC 1-(3,4-dimetylofenylo)-2-(metyloamino)propan-1-on	2	9 +	3 – 5
ALFA PFT, A-PVT	alpha-PVT, a-PVT alpha-pyrrolidinopentiothiophenone 2-(pyrrolidin-1-yl)-1-(thiophen-2-yl)pentan-1-one	2	8 +	9-12,5
MXP, Metoksetamina, Blue Sky, Candy	Methoxphenidine (MXP) 2-MeO-Diphenidine (±)-1-[1-(2-methoxyphenyl)-2-phenylethyl]piperidine blue sky	7	8 +	17 – 25
5-APB	5-APB 5-(2-aminopropyl)benzofuran, 1-benzofuran-5-ylpropan-2-amine 5-(2-Aminopropyl)benzofuran	7	8 +	12 – 15

4.2.4 Portugal

Key findings:

- Like in the other countries, it was not always possible to determine whether some of the websites identified were actually selling NPS to Portugal because the information on the subject was unclear.
- 24 NPS were identified, on offer in 5 or more online shops.
- The NPS identified most frequently are synthetic cannabinoids (10), followed by phenethylamines (2), piperazines (1) and tryptamines.
- Benzodiazepines are frequent.
- Apparently there is no sale of new synthetic drugs in brick and mortar stores.

New Psychoactive Substance identified offline

Since the law changed, in April 2013, the Portuguese smart shops have closed down or stopped selling NPS. Information on NPS sales in traditional offline drug trafficking structures in Portugal was not available. However, in 2014 the APDES drug checking service identified NPS being sold as more traditional drugs. For example, a quarter of all the LSD analysed in 2014 was identified as 25xBOMe or DOx (DOB, DOM or DOC). This suggests that NPS are circulating in the black market being mixed with or substituting more traditional drugs. This is particularly dangerous, since the user expects another kind of drug and this will influence the dose taken and also make experience management more difficult**.**

New Psychoactive Substance most frequently identified online

Out of the 165 NPS/legal highs identified online, 24 are sold in five or more online shops. Of these 24 NPS, the most frequent are synthetic cannabinoids (10), followed by phenethylamines (2) and piperazines (1) as well as tryptamines. Most of them are only sold in one shop. Other substances found that are not included in the UNODC NPS list, were benzodiazepines. We also identified a list of substances being sold with comercial names instead of the chemical name of the compound.

Table 5 New Psychoactive Substance identified online most frequently in Portugal in 2014

Brand Name	chemical name of compound	drug type (1-7)*	No. of shops offering compound	price in € per 1g
Ethylphenidate/EP	(RS)-ethyl2-phynyl-2-piperidin-2-ylacetate	7	12	19-21
BK-2C-B	2-amino-1-(4-bromo-2,5-dimethoxyphenyl)ethanone	4	11	50
3,4,-CMT	3,4_Dichloromethylphenidate	4	10	43
Nitracaine	3-(diethylamino)-2,2-dimethylpropyl4-nitrobenzoate	4	10	24
NM-2AI	N-Methyl-2-indamine or NMAI	1	10	21
5F-AKB-48	N-(adamantan-1yl)-1-)4-flourobutyl)-1H-indazole-3-carboxamide	1	9	13
Methiopropamine / MPA (Powder and Crystal)	N-methyl-1-(thiophen-2-yl)propan-2-amine	2	9	19
AB-FUBINACA	N-[(1S)-1-(Aminocarbonyl)-2-methylpropyl]-1-[(4-fluorophenyl)methyl]-1H-indazole-3-carboxamide	1	8	19
STS-135	*N*-(Adamantan-1-yl)-1-(5-fluoropentyl)-1*H*-indole-3-carboxamide	1	8	13-19
Diphenidine/DPD	(±)-1-(1,2-Diphenylethyl)piperidine	6???	8	25

4.2.5 Romania

Key findings:

- The substances found are predominantly synthetic cannabinoids with prices between 5-15 euros per gram and synthetic cathinones with prices between 10-25 euros per gram.
- 6 online NPS shops, called spice shops, were identified in Romania. All online shops use non-Romanian domains but have product descriptions in Romanian.
- NPS are no longer sold in brick and mortar stores.

New Psychoactive Substance identified offline

Offline stores selling new psychoactive substances/legal highs (known as "dream shops," "Spice Shop", "Smart Shop" or "Weed Shop") were not identified in Romania in 2014. According to the 2013 National Report on Drugs, the implementation of the "Action Plan to counter the trade and use of new psychoactive substances/products that are health damaging, No 5/1194 of 18.2.2011" has led to the rapid closure of offline shops**.** In March 2011, when the new legislation was adopted, there were 158 shops. By the end of December 2012, the last specialised store in Romania was closed.

New Psychoactive Substance most frequently identified online

Table 6 New Psychoactive Substance identified online most frequently in Romania in 2014 (sorted by number of shops)

Brand Name	chemical name of compound	drug type (1-7)*	No. of shops offering compound	price in € per 1g
Bonzai Weed		1	3	5-15
Special Gold		2	2	10-15
Pure by magic		2	2	10-15
Ninja		1	2	5-7
Blind Heat		1	2	5-77
Cristal Diamonds		2	2	10-15
Flower Magic		2	1	10

4.2.6 Discussion

The snapshot data should be interpreted carefully. It provides a partial view of the NPS in the investigated countries. As the desk review noted, the online markets corresponds only to part of NPS consumption, as in most of these countries the demand for NPS is also met by local markets. Frequent and rapid changes in the online drug market and its labyrinthine nature furthermore preclude a comprehensive view of online NPS purchase in the countries. Use of English language sites not specifically targeting the investigated countries of Darknet drug markets were not examined. Variation and methodological difficulties may further limit the representativeness of the snapshot data.

Nonetheless, these data point into the same direction as the desk review. In all participating countries (excluding Greece) the NPS offered most frequently online were synthetic cathinones, phenethylamines, synthetic cannabinoids and various other substances. Synthetic cathinones and phenethylamines were relatively often encountered online in the Czech Republic, Poland and Portugal. Synthetic cannabinoids were reportedly frequently available online in Portugal and Romania.

The price of NPS per gram may vary considerably, for example the price per gram of Ethylphenidate is 8-9 euros in Poland but 19-21 euros in Portugal.

The variety of NPS brand names is enormous and it is very difficult to identify a relationship between brand names and chemicals, within and between countries. The chemical names of the compounds on sale are often incomprehensible without chemical expertise and sometimes it is impossible to match the brand name with the correct chemical name. The drug type of newly emerging branded NPS is generally unclear.

The actual number of online shops could not be assessed, nor could their hosting location or ownership.

4.3 NPS stakeholder focus groups

4.3.1 Czech Republic

In the Czech Republic – a country known for its long history of homemade methamphetamine use – NPS emerged primarily via the “Amsterdam shops”, a chain of smart shops selling the drugs as “collectibles”. NPS availability went down after their closure, nevertheless they continue to be available through different sources and are used by a substantial minority of Czech PUDH, who mostly inject these drugs. Three of the Czech focus groups concerned NPS and one involved the current trend of injecting diverted pharmaceutical opioid pain killers (extended release morphine pills and fentanyl patches). New trends in drug consumption among PUDH vary across the country. While cathinones are used mainly by PUDH in the capital city of Prague, injecting pharmaceutical opioids is reported in the regions, in Pilsen in particular. The actual formulae of new psychoactive drugs may vary over time. For example, under the name of the best known NPS, "Funky" has included a variety of substances (cathinones), varying in texture and effects.

NPS do not seem to influence the way PUDH administer the drugs, most inject the new drugs as well. The reasons for using cathinones are their strong intoxication effect, the instability of both the quality and purity of methamphetamine available in street markets and the very low price (100 CZK -3euros-one dose). Methadone users report no problem with toxicological tests while using NPS and attending a methadone programme. Funky is nowadays available in street-based black market-like distribution structures, and is used by a specific group of users. Reportedly, people who primarily inject NPS have significant mental health problems and tend to get isolated from their peers who are less interested in NPS. They seem to have lost contact with their natural social environment (the traditional PUDH scene/market) and are subject to negative social pressure from their old drug-using associates.

People who inject NPS report more negative impacts compared to those injecting traditional drugs. The drug is described as destructive and having a multiple negative impact in all areas of the bio-psycho-social model of addiction. Most do not consider NPS as their drug of choice, but as a substitute for methamphetamine. Preference for methamphetamine is particularly associated with its predictability, controllability and pleasure. A typical coping mechanism while on NPS is to use another substance to obtain relief from complications.

Consequences of cathinones use that were reported include lack of control over drug intake, strong cravings, psychological dependence and serious mental health problems, resulting in deviant behaviour such as destruction of public or private property and aggression. Skin and soft tissue infections (SSTIs) are more frequently seen and these wounds take longer to heal. The main risks of NPS consumption, cathinones in particular, are associated with gaps in knowledge about the active substances actually injected and their effects, as well as proper preparation techniques. The main risks for opioid medicine drugs are non-filtering preparation, unhygienic storage, sharing doses and reuse of the remains of earlier application, overdose.

According to professionals, resources for obtaining information on NPS are: specialized foreign information sources and direct information from users. There is a lack of any comprehensive publication and there is not enough valid information in the Czech language. The gap in the information available in Czech is being filled with a considerable delay. The lab testing of samples of NSD can be described as insufficient. From the description given by participants it appears that the most prevalent drug in Prague (Funky) changed its appearance and structure over time. It is not proven whether the active substance remains the same over time or if it is changing. The challenge for the future is greater cooperation between toxicological laboratories and facilities providing acute care for clients. According to experts the medical procedure was usually determined without knowing which new substance caused the toxic psychosis. PUDH have no information about these substances or their risks.

The existing services feel that there is a slow reaction to NPS. Syringe distribution and harm reduction is not provided at places where NPS users meet; also users need more attention and patience from the workers. A substitution programme for stimulant users is considered potentially useful.

Pharmaceutical opioids, such as "Vendal Retard" and Fentanyl patches, have reportedly become the drug of choice for people into opiates in the city of Pilsen (the capital of the South-Western region). In that region heroin users moved to diverted prescription medications due to heroin's poor quality and limited availability (push factors), as well as the lower cost of opioid medications and the superior intoxication these pharmaceuticals provide. As a result of the lower price of these substances, the lifestyle of people that switched to pharmaceuticals has become less hectic. PUDH obtain these opioid medications from people with certified doctor prescriptions for pain relief, but who trade (part of) their stock in the grey market. Others reportedly obtain these drugs directly from medical doctors against extra, under-the-table, payments. Injecting pharmaceutical opioids is associated with overdose, while injecting crushed tablets is associated with, for example, serious venous damage, endocarditis and embolism. Other health effects are constipation and strong physical withdrawal syndrome.

4.3.2 Greece

In Greece, three focus groups were organized in Athens, two with PUDH and one with professionals. The focus of the research was Sisa, a homemade methamphetamine, which, by the UNODC definition, is not considered a NPS, but represents a recent and disconcerting trend among PWID in Greece. PWID previously injecting heroin/cocaine (and using benzodiazepines) reportedly have switched to this cheap homemade 'alternative' as they could no longer afford imported heroin/cocaine, due to the austerity brought about by the economic crisis in the country.

After 2010, Sisa rapidly spread among people who traditionally injected heroin in the centre of Athens. Sisa is cheap (3-5 euros per dose), easily obtained, and manufactured with little effort from its precursor (pseudo)ephedrine, a common ingredient in cold medications. It is mostly smoked in a glass pipe (1-1.5 euros) but some 20% of the PUDH in Athens reportedly inject the drug.

Side effects reported frequently include weight loss, internal chemical burns, open wounds on the body and in the mouth, insomnia, psychosis and other mental health problems, increased sexual drive, but also violence.

Sisa is available in all open drug scenes in Athens. According to both harm reduction workers and PUDH, the use of Sisa is very damaging when compared, for example, to cocaine. This has contributed to the PUDH's awareness of the harms. Sisa is the drug of homeless people. Another newly widespread NPS (that is not even new) is called "thai", unfortunately the substance type is not known (was not reported). Producers of Sisa are based in Athens. It seems that they have understood the very harmful side effects of the first years of use (2010-2012) as users stopped using it. The new Sisa production is improved and more expensive (from 3-5 to 7-10 euros).

Direct associations between the use of Sisa and the increase of HIV and HCV prevalence among PUDH in Athens have not been established in studies, but some authors suggest that both are associated with the austerity measures in response to the economic crisis in the country – drastic reductions in both people's income and in harm reduction services (Please check for references, Barbara). Notwithstanding the grim financial situation of harm reduction services in the country, the focus group agreed on the need to better adjust harm reduction interventions to Sisa smoking. The increased sex drive attributed to Sisa use would, for example, warrant widespread distribution of condoms.

4.3.3 Poland

In Poland focus groups were organized with 32 participants in total. The most commonly used substances in Poland fall into two groups - synthetic cannabinoids and synthetic cathinones. NPS are easily available in

Poland. NPS shops in different cities have synthetic cathinones and other stimulants in their assortment and their prices are relatively comparable. Moreover, NPS are easily prepared for injection.

There are many significant differences in their approach to NPS between two users groups: (1) opioid users (especially with a long period and (2) non-opioid users (heavy NPS users, without experience with traditional drugs) –. Opioid consumers have tried fewer different NPS (3-5 compared to 10-20 in the second group, they mainly use them intravenously, buying NPS mainly offline, they stay with one or two cathinones for longer time, and have a very low level of NPS knowledge. The second group use different ways of administering, use various NPS with one leading substance for some period of time and spend a lot of time searching for information about substances and effects.

Use of methcathinone has reportedly reduced in the last few months in Krakow and Warsaw. It seems that opiate users who are on Opioid Substitution Therapy (OST) use NPS as often as those who do not attend OST. Many NPS are attractive because they are a potent aphrodisiac; even for heavy drug users the sexual stimulation from NPS plays a big role. NPS gives a bigger choice of different drugs/substances for former traditional drug users, people who used traditional drugs earlier had a limited choice. Regarding the traditional drugs and NPS, clearly the amphetamine is replaced by synthetic cathinones. Taking into account the risks, new psychoactive substances lead to more psychotic problems for users than "traditional" drugs did. The main positive aspect for users is that using NPS does not entail any legal problems. In Poland, there are no harm reduction activities in rehab centres, so patients in treatment get no information about NPS risks or how to avoid or reduce them. The focus group with professionals revealed that there were no links between NPS consumption of and clients' behaviour and attitude during the rehabilitation.

4.3.4 Portugal

Compared to the other partner countries, in Portugal the respondents were more likely to be nightlife participants or party goers than PUDH, their use was more often occasional than regular. Both workers and PUDH had difficulties in understanding what it is included in the NPS phenomenon (having experience with synthetic cannabis only) and associating it mainly with substances sold in smart shops. Generally, in one focus group with users, cannabis was pointed out as the main psychoactive substance used in Portugal. Nevertheless, the most common pattern of use is associated with stimulants (mainly cocaine, MDMA and amphetamines) used in party settings; other types of substances (e.g. LSD, ketamine, salvia and others) used both in party settings and private settings (mainly by psychonauts) were also mentioned, but they are less prevalent. Heroin is mainly used among people with a long history of heavy drug use, often from vulnerable and stigmatized communities.

In terms of the use of NPS, most users had little experience, but they did not continue to use them. They did not like the effects and they do not trust these drugs, because they consider them to be more harmful than others and/or because smart shops had closed, thus the availability decreased (in comparison with traditional drugs). Regarding the main NPS used, substances such as cathinones, synthetic cannabinoids and salvia were mentioned.

In terms of patterns of use, and considering not only NPS, but also more traditional drugs, we can distinguish different drug use patterns: people mainly interested in stimulants, but also in psychedelic substances, use them in party settings (who also used NPS, only when the smart shops were open); psychonauts and other people interested in specific experiences and altered states of mind - this is the group that most frequently search for NPS on the Internet; and problem drug users in stigmatized settings, addicted to heroin and cocaine. These drug users are highly associated with the traditional market, so they depend on the substances their dealers are selling at that moment. Either in NPS or more traditional drug use, the most common ways of administering use is smoking, snorting and per-os, injecting is usually associated with heroin. In general, people who tried NPS did not like the effects because they considered them stronger, worse and more harmful than other more traditional or equivalent substances. The few positive effects were linked to salvia and other psychedelic substances.

4.3.5 Romania

There were 3 focus groups and one interview done in Romania, in total 15 participants attended. The recent trends and developments in NPS use among PUDH in Romania could be defined as stabilised, the use of NPS is not so significant nowadays. Accordingly, it has become less visible since NPS have been placed under law control. Between 2009-2012 NPS were largely available and legal, heavy users were mostly switching from heroin to pure NPS or directly adopted NPS. After the legislative changes, these substances suddenly became more expensive and available only on the black market. Thus, apart from their online availability, NPS are now distributed in dealing networks, similar to traditional drug trafficking structures, catering in heroin, cocaine or cannabis, exposing people to (ongoing) contacts with organised crime.

NPS are often mixed either with heroin or with methadone. Two factors play a role: price and availability and the 'speedball' effect of combining a stimulant with a depressant, which could be similar to the cocaine-heroin effect. Most of the previous heroin users stated they used NPS to avoid heroin withdrawal. With NPS, injecting drug use is dramatically increasing, *"motivated by the short period of active effects perceived after using a stimulant dose."* The frequency of injecting in one day may vary from 10 up to 40 times a day – when drugs or money are plenty. Between 2009-2012, the choice of NPS was influenced by (low) price and by the legal status. Since the changes to the law, NPS have become a more hidden phenomenon.

Several adverse effects were reported: vomiting, nausea, dehydration, loss of appetite, stomach-ache, painful body/bones, fatigue, insomnia, nervousness, dizziness, headaches, memory loss, paranoia, depression, chest pain, irascibility, uncontrollable fast walking, decrease in weight, memory and concentration disorders, panic attacks. Among some people involved in NPS, decay in personal hygiene was observed. People injecting NPS reported various complications such as acute infection, gangrene following NPS injecting.

NPS consumption may lead to serious health problems: weight loss, appetite loss, cachexia (wasting syndrome), prolonged insomnia, (resulting in) mental health problems, including personality disorders, and psychotic disorders. There is no data on the type of substances which led to intoxication, since emergency units have very poor forensic labs. The focus group respondents suggested that the risk that consumption of legal highs will increase is quite high, since consumers are very skilled in using new media where people share their drug experiences, while ordering drugs online from their home computer or mobile phone.

When the availability of NPS was high during the existence of the smart shops, the frequency of some people's injecting went up to 30-50/day, but the diminished supply of NPS and price increases resulted in decreasing injecting frequency again. Risks of NPS also include accidental overdosing because the purity of the drug is unknown. Predictors of stimulant overdose, such as rapid heartbeat, panic attacks and fainting were often reported. The risk of overdose may increase with poly-drug use. Users have no knowledge of how to control the use of NPS and associated harm. Heavy users reported related deaths among friends and relatives, including heroin use by mistake instead of NPS. Among the interventions needed are consumption rooms, psychological help and good coverage of needle/syringe programmes.

4.3.6 Discussion

In the following paragraphs, we compare the outcomes of the national focus groups by the research themes discussed.

Extent and nature of NPS use among PUDH in the selected countries

According to the focus groups, NPS are used by PUDH in Poland, Czech Republic, and Romania. NPS are mostly used by recreational users in Portugal. The information about use among PUDH is limited as PUDH did not take part in the focus groups. In Greece, NPS use was not discussed in the focus groups, as the questions concerned the new drug trend of "Sisa", locally produced methamphetamine and the mix of cheap heroin and sedatives known as "Thai", which is not new for Greece but newly emerged. There is very

limited information in NPS use in Grece but there are signs of legal NPS, such as AM2201, available in kiosks and mini markets. cathinones, methedrones and synthetic cannabinoides are also reported in Thessaloniki.

The availability of NPS increased with the opening of smart shops, but decreased with new legislation in each country. The coverage of smart shops and the availability of NPS in Poland is still very high even after the introduction of regulations. NPS are used intravenously (PL, CZ, RO) or also snorted, smoked, swallowed (PO). In Poland and Romania the majority of users who inject NPS are former opioid users (including current OST patients), as are many of the Sisa users in Greece. Nearly all non-opioid users take NPS orally, by snorting or by smoking. There are heavy NPS non-injectors who have modest experiences with intravenous use of NPS.

Recent trends and developments in NPS use among PUDH in the selected countries

The main new trend in Athens, Greece is Sisa,which is a locally produced crude form of methamphetamine, a stimulating drug and used instead of expensive cocaine. Psychoactive medication is often used along with Sisa, and mostly these medications are prescribed.
The increase in the incidence of new psychoactive substances in the Czech Republic is associated with the opening of on-line stores (2009) and especially with the development of smart shops (turn of 2010/2011). After the change in the list of narcotic and psychotropic substances police closed the shops down and there was a radical reduction in the availability of these substances. At the present time new psychoactive substances are distributed only locally. Among injecting drug users in Prague there is a local trend for injecting cathinones. This group, which regularly injects cathinones, is marginal and quite small and even shrinking.

Factors in choosing NPS

In this section we discuss the factors focus group respondents discussed that may encourage or discourage use of NPS among PUDH. These are summarised in **Fout! Verwijzingsbron niet gevonden.**. Price is certainly a factor, as a dose of NPS is quite inexpensive, for example, both “Funky” in the Czech Republic and Sisa in Greece can be obtained for about 3 euros per dose. Several respondents emphasised the constant purity of NPS (and diverted pharmaceutical opioids) and the strong high these produce as important reasons for using them. However, not only price or the effects of NPS play a role in the choice or preference for NPS. The legal status of NPS may add to the perception that these drugs are a safe alternative to illegal drugs, which was observed in Poland. Likewise, in Portugal NPS consumers may have perceived the scheduling of NPS as a message about their risks. In Poland, the ambiguous legal status of NPS seems to be the most important factor in determining whether someone chooses NPS. Smartshop and online purchase allows consumers to avoid contact with criminal drug dealing structures. Conversely, to Czech NPS consumers the legal status of NPS seems less of a concern as they are sold on the streets in dealing networks. Their decision to choose them is determined by the low availability or poor quality of methamphetamine vs. the low price of NPS. In Romania, NPS are under legislative control now, but this does not mean that there has been a strong decline in NPS use, rather that the phenomenon has gone underground.

Table 7 Reasons for NPS use

Factor	Mentioned in:
Low availability and/or quality of methamphetamine (primary drug)	CZ, PL
Legal status	PL, RO
Low price	PL, CZ, RO
Effects of intoxication	CZ, PL
Avoiding street market (dealers)	PL
No urine tests available for NPS (in other words, no risk of treatment programme sanctions)	CZ, PL
Heroin users used NPS to escape from heroin withdrawal	RO
Aphrodisiac effects	PL
Variety of choice	PL, PT

Our Focus group data suggest that NPS are not necessarily drugs of choice for people who are familiar with traditional drugs. In Romania, it is estimated that for half of the PUDH NPS are a drug of choice, often mixed with heroin or other opioids. Among PUDH in the Czech Republic, cathinones are mostly used to substitute the stimulant methamphetamine – the drug of choice for some 2/3 of the Czech PUDH – while reportedly cathinones are sometimes also surreptitiously sold as methamphetamine, or used to cut this illicit drug. Nonetheless, for several reasons, including the intense intoxication and the time these last (depending on the actual substance, benefits of both short and long acting drugs were mentioned), synthetic cathinones remain an interesting alternative for a minority of PUDH on the Czech street drug scene. Polish PUDH highlight the advantages of some of the NPS and mephedrone probably came closest to the status of "drug of choice" in the recent past, but, reportedly, several other factors were involved in the rising popularity of NPS among PUDH, including lack of access to traditional drugs. Finally, NPS do not seem to have penetrated in circles of PUDH in Portugal. Those known at harm reduction services continue to consume their traditional drugs of choice, heroin and cocaine and NPS use is reportedly only sporadically seen. In Portugal, possession of all drugs for personal consumption is not a criminal offence and enforcement of consumer level drug transactions are not an enforcement priority. In this situation, Portuguese PUDH apparently have no reason to switch to NPS at the expense of their traditional drugs of choice.

On the other hand, the focus group participants also talked about some of the attractions of NPS, such as the larger variety of substances in comparison to traditional, illicit drugs, the ease of purchase – in the comfort of a legal shop or at home, without interaction with criminals. Respondents reported buying NPS and being unaware that they are comparable to traditional drugs. Several mentioned the high quality of NPS compared to traditional drugs. Legal issues play a meaningful role as well, especially at a time when the substances had legal status and there was high availability.

In Greece, Sisa could be the drug of choice for a period of time but at the same time one needs a sedative drug to overcome the negative effects of Sisa and according to PUDH, due to the side effects most users soon abandoned the use itself. Also Sisa is used by heroin users or polyvalent users. In the Czech Republic and Portugal, NPS are used as adulterants in traditional (more expensive) drugs.

Positive and negative effects reported; health consequences

Different positive and negative effects were reported in connection to NPS use and are detailed in table 8. Negative effects of NPS mostly concerned synthetic cathinones and were reported from all countries other than Greece. Table 9 presents the positive and negative effects attributed to Sisa use in Athens, while table 10 summarises those for diverted pharmaceutical opioids in the Czech Republic.

Short term health consequences are not monitored in detail in any of the countries studied, nor is there information available about the long-term effect of most NPS. Negative effects described were mostly typical stimulant drug effects, and long-term consumption of cathinones is described in similar terms to those of traditional stimulants and sometimes as more unpredictable and with worse mental health outcomes. Some respondents reported significant weight loss after switching to cathinones.

Table 8 Positive and negative effects of NPS use (all countries)

Positive	Negative	
NPS (cathinones mainly - Poland, Portugal & the Czech Republic)		
Strong intoxication effect and relative stability of the effects of the substance	Nausea, Vomiting	Uncontrollable fast pace
Easier access to dose due to lower price	Perspiration	Decrease in weight
Shorter effect duration, then possibility to stop and go to sleep	Dehydration	Lack of personal hygiene
No availability of urine tests for NPS	Loss of appetite	More applications and faster devaluation of veins
	Stomach-ache	Memory and concentration disorders
	Painful body/bones	Panic attacks
	Fatigue	Risk of exhaustion (even leading to collapse)
	Skin problems	Insomnia
	Fatigue	Nervousness
	Chills, fever	Depression, Irascibility (short temper; rage)
	Headaches	Psychoses
	Memory loss	Dizziness
	Chest pain	Paranoia

Table 9 Positive and negative effects of Sisa use, Greece

Positive	Negative	
Easy to obtain	Fast dependence, craving to buy another dose quickly	Weight loss
Sexual stimulation	Unable to take care of any obligations, losing yourself	Open wounds (body and mouth)
Intense high	Increase in psychotic incidents and mental disorders	Isolation
	Hypertension	Internal feeling of burning

Table 10 Positive and negative effects of diverted pharmaceutical opioid-based pain killer use, Czech Republic

Positive	Negative	
Effect intensity	Risk of overdose	Severe withdrawal syndrome
Lower price (than heroin). More money to buy other items, relief and energy for other things, overall life/social stabilization	Constipation	Loss of sexual interest and loss of virility among men
Less injections and thus better condition of veins		

Heavy NPS consumption may result in serious health problems and these were discussed in all the focus groups. The discussion in all countries focused on the somatic and mental health complications associated with synthetic cathinones and, according to our respondents, these are quite similar to those of the traditional illicit stimulant drugs. Several harm reduction workers mentioned having noticed reduced appetite, weight loss or, in extreme cases, cachexia among their clients. Focus group participants that injected NPS mentioned suffering from several acute somatic complications following NPS injecting, from infections to gangrene. Both professionals and PUDH in the panels have witnessed (or experienced) mental health problems, including prolonged sleep deprivation and insomnia, and, probably as a result (Grund et al., 2010), psychotic episodes, depression and others.

As with other drugs, coping strategies associated with negative effects are particularly evasive and avoidant. A typical coping mechanism is to use another substance to relieve incurred complications. For example, when psychosis is emerging users take benzodiazepines, when fatigue is coming on they take methamphetamine, for bad moods they smoke marijuana, for a withdrawal syndrome they take any drug

possible. Some users mentioned that these strategies do not work well and the user has to go to sleep anyway and interrupt the trip.

Risk of transmission of infectious diseases. NPS injecting results in very high injecting rates (for example up to 30-50 times a day reported in Romania), especially when the brick and mortar shops were still legal. Nowadays the frequency of NPS injecting may be decreasing due to reduced supply and increased prices, but our study suggests that significant minorities of PUDH in these five countries continue to inject NPS.
In general, the participants thought that the risks for HIV infection are quite similar to those of traditional hard drugs: sharing of drugs, injection equipment and material (syringes, needles), as well as unprotected sex while under the influence of these substances.

The use of cathinones may lead to urgent cravings for the substance immediately after purchase, and as a consequence in drug selling places there are usually no clean syringes available and thus users can share them. Use of these substances promotes social and health failure among users, which may lead to a decrease of responsible attitudes and risk behaviour. Drug users who lack finances may put money together for the package and then in the interest of fair division they make the dose together and share it. This represents a risk if the dose is prepared in the same syringe. The main risks for opioid drugs (CZ) (fentanyl patches and morphine-based Vendal Retard) are if they are not filtered, the sharing of doses, the reuse of the remains of earlier application and storage of the substances, materials and paraphernalia. Finally, several focus group participants associated NPS and Sisa with an increase in sexual activity.

Risk of overdose. Some focus group respondents that use cathinones reported escalating their dose or not knowing the concentration or strength of the drug injected. They reported increased heart rates, panic attacks and even passing out when overdosing. In case of overdose, they tend to self-medicate with benzodiazepines or antipsychotics. The professionals mentioned poly-drug use as a risk of overdose. Deaths or mortality rates associated with NPS use are not available in the countries studied.

Drug market related risks. Respondents both in Poland and Greece shared their concerns about the homemade nature of the new drugs. Respectively methcathinone and Sisa contain high levels of extremely toxic remnants of the chemicals used in their synthesis (6,19) and respondents that had used these homemade drugs mentioned having experienced neurotoxic effects from their use or mentioned other people with serious neurological symptoms.

In contrast, Polish focus group members described how commercial cathinones are prepared for injection. The plunger is simply pulled from the syringe and the powder is poured in the back, as well as a little cold tap water. Sometimes water ampoules (distributed by harm reduction programmes) are used. Next the plunger is re-inserted, the syringe shaken and the drug is ready for injection. A simple process and faster than with any drug they used before. Furthermore, unlike black market amphetamine, the 'grey market' cathinones are mostly uncut substances and leave no visible solid remains when liquefied for injection.

We recognized adulteration of more traditional drugs with NPS (for example PMA being sold as MDMA; 25nBOMe being sold as LSD). Other identified risks included a lack of information about these substances and an inclination among some youngsters to look for stronger substances and experiences, poly-drug use and market dynamics, including NPS moving into traditional criminal drug dealing structures, where these are on sale along with their traditional merchandise.

Availability of NPS in the five selected countries

In Greece, Sisa is produced in homemade laboratories and it is dealt to all open drug scenes, specifically from places called Zefiri and Menidi. In those places and on the mainland there are some shops that sell everything (like supermarkets). It can also be produced in a kitchen in 30 minutes.

In the Czech Republic the market with NPS among the target group of PUDH is not different from the traditional drug black market; NPS are sold on the street. The packaging is a plastic bag sold under the brand name Funky and typically contains the amount of the substance for more than two standard doses.

In Poland the NPS market is diverse, having many more options than the traditional drug market. These markets have some elements in common, but it seems that the number of options is much bigger and some of them have never been implemented before. Many factors probably have an influence: legality of substances (or unclear legal status), lack of a method and proper technology to detect certain NPS, the progress of the Internet and other communication possibilities. Clients use the online market, they pay for products by credit card or bank transfer – in advance or on delivery. NPS are sent to clients by post or delivery services. Two categories of online shops are noticeable: (1) shops with research chemicals – giving the impression that they are professional sites where chemists make purchases; selling pure chemical substances; (2) smart shops – colourful, forceful advertising, and encouraging clients to buy products with fancy names; selling also mixed and plant-based substances. There are also cases of local Internet ads. Usually the name of the NPS and dealer's phone number is given. The transaction is made by delivering the NPS to the client or another appointed place. After a successful transaction has been made the client-dealer relationship is stabilized and maintained for a longer period. The range of different NPS in this case is comparable with the previous option. Sometimes special mixes of NPS are offered. Another way of obtaining NPS is to contact vendors on Internet forums for NPS users of TOR ("darkweb") networks. Among offline possibilities there were the smart shops, which for most of the countries represented the first big source of NPS for PUDH users before the changes to the law were introduced. In Poland these shops are still available. NPS could also be bought through sex shops or small casino points ("hot spots", open 24/7).

A combination of buying on the Internet and selling to peers was also described in Poland: "One person buys NPS online and sells part of it to other users he/she knows. According to our research, before the "hot spots" started to sell NPS, this was the most common way of supplying by i.v. users." Unique places for the NPS market are stores for bodybuilders: "they play a certain but probably limited role on the NPS market in Poland. We got information that some supplements sold in those stores are utilized as psychoactive substances. Examples of this are 5HTP (Oxitriptan) and Tyrosine." Nevertheless, dealers sell NPS in all countries.

Potentially useful interventions and policies targeting the use and availability of NPS

Users often experience and use specific harm reduction strategies to protect themselves and consider these as useful:

- having your own paraphernalia (own pipe or making them by yourself)
- using clean syringes in case of injecting
- using a drug with the opposite effect in order to calm down (for example using alcohol or heroin in case of a panic attack)
- staying alone in case of a panic attack can help.

These strategies (mainly using a drug with the opposite effect and staying alone in case of a panic attack) should be taken into consideration only as an individual experience. In the case of mixing drugs, more harm could result from such an experiment.

The focus groups came up with a number of strategies that were considered useful interventions to prevent NPS related harms:

a) drug-checking should be available to ensure the ongoing possibility of analysing substances that are used on the drug scene, drug-checking should be accessible
b) build a communication/reporting line between outreach teams and intervention/reporting/public health services to speed up the process in case of changes in drugs supply
c) implement consumption rooms
d) offer psychological help
e) secure good coverage of already existing needle exchange services and also provide sale over the counter in pharmacies
f) educate the police on how to handle the open drug scenes better
g) avoid waiting lists in substitution programmes, provide sufficient slots in substitution treatment services (for both opioid and stimulant drugs), avoid drop offs due to the programme's strict rules
h) a broad range of treatment should be available

i) users and service workers should be provided with information about each substance and its side effects
j) harm reduction information should be part of the treatment/rehab activities (how to avoid or reduce the risk of NPS use)
k) work with the attitude of willingness or unwillingness to risk the use of an unknown substance
l) promote self-help and exchange objective information between users
m) close cooperation between toxicological laboratories and medical institutions providing care to users in cases of overdose
n) consider the distribution of naloxone and training in the application of naloxone (for users taking new opioid medications)
o) train workers how to communicate with users under the influence of NPS and educate them about NPS and their use in general
p) implement services for experimental users, in nightlife settings as well.

4.3.7 Focus Group Conclusion

NPS use is connected to availability of the substances in each country. The legal aspect of the substances plays a role in the preference between traditional and new substances. Other main factors include the effect expected, lower price and availability. NPS use is connected to unknown and unpredicted side effects over a short and long period of time, nevertheless the negative effects are not far from those of traditional drugs. Mainly due to repeated injecting application, the risk of sharing the equipment, and the increase of infectious diseases, the influence on risky sexual behaviour due to higher sexual appetite should also be taken into account, when planning interventions. The substances are obtained in different ways, legally, via the black market, and (in Poland) the on-line purchase and further resale to peers was reported. The detection of NPS is a problem for emergency units, especially when overdosing. As a result several interventions and strategies were suggested.

5. Discussion: similarities and differences between the five countries

In this chapter we discuss the findings of the desk review, the assessment of NPS availability and the focus groups on the key RAR questions in chapter 1.2, exploring similarities and differences in the consumption and markets between the five countries.

Overall, few studies in the investigated five countries focus specifically on NPS consumption among PUDH. Most of the reviewed literature focused on the substances most popular and most used in the general population. Likewise, NPS brand names and chemical compounds in branded products are not always clearly defined in the literature investigated. The mixtures in various blends and branded products may vary by vendor, over time and by geography. Branded products may contain different chemicals and compounds may be sold under different brand names in different sales channels and countries. This may complicate comparisons between different studies and countries or over time. Triangulation of the results of the three sub-studies therefore allows for a more comprehensive understanding of the findings, a firmer assessment of their validity and more robust conclusions.

5.1.1 Availability of NPS in the participating countries

Key RAR question: *What is the (offline & online) availability of NPS; and, where are NPS acquired by PUDH in the selected countries?*

NPS are available from a variety of sources. Smart shops boosted the popularity of NPS, but following legislative action most were closed or severely restricted their assortment. In the Czech Republic, Poland, Portugal and Romania, NPS availability increased sharply with the introduction of brick and mortar outlets (2007-2009) and decreased again after their closure (2001-2013).

In Greece, NPS emerged in 2010 but gained only minor attention. But since 2010-2011, Greek PUDH has turned to “Sisa” (homemade methamphetamine). The Czech data suggests the existence of a sizable ‘grey’ market in diverted pharmaceutical opioid painkillers, such as Fentanyl and extended release morphine.

Although the closure of physical outlets resulted in important reductions in (novice) NPS consumption, websites targeting the studied countries mail NPS to anybody with a credit card or online banking. A variety of NPS are available via websites; synthetic stimulants prevail. Interestingly, while ‘international’ web shops mostly have fixed (and comparable) prices, which may be displayed in different currencies, at country specific sites NPS unit prices may vary considerably. For example, a gram of ethylphenidate costs between €8-9 in Poland and €19-21 in Portugal.

The variety of NPS brand names is enormous and it is very difficult to identify any consistent relationship between brand names, the chemical these represent, both between and, as the desk review noted, within countries. The chemical names of the compounds on sale are often incomprehensible to the average consumer and sometimes it is impossible to match the brand name with a chemical compound.

After offline NPS shops were formally closed in all five participating countries following legislative changes (between 2011 and 2013), offline sales increasingly occurred in black markets and the “shadow economy”, such as sex shops, casinos or bodybuilding shops, which may be due to the unclear legal status of NPS. These outlets offer synthetic cathinones, phenethylamines, synthetic cannabinoids and various other substances. Synthetic cathinones and phenethylamines were relatively often encountered online in the Czech Republic, Poland and Portugal. Synthetic cannabinoids were frequently available online in Portugal and Romania. Importantly, once bought in bulk online, NPS are increasingly retailed in friendship networks and traditional drug dealing structures and PUDH markets, in particular synthetic stimulants. In these traditional markets, NPS are increasingly used to cut scheduled substances, such as methamphetamine in the Czech Republic.

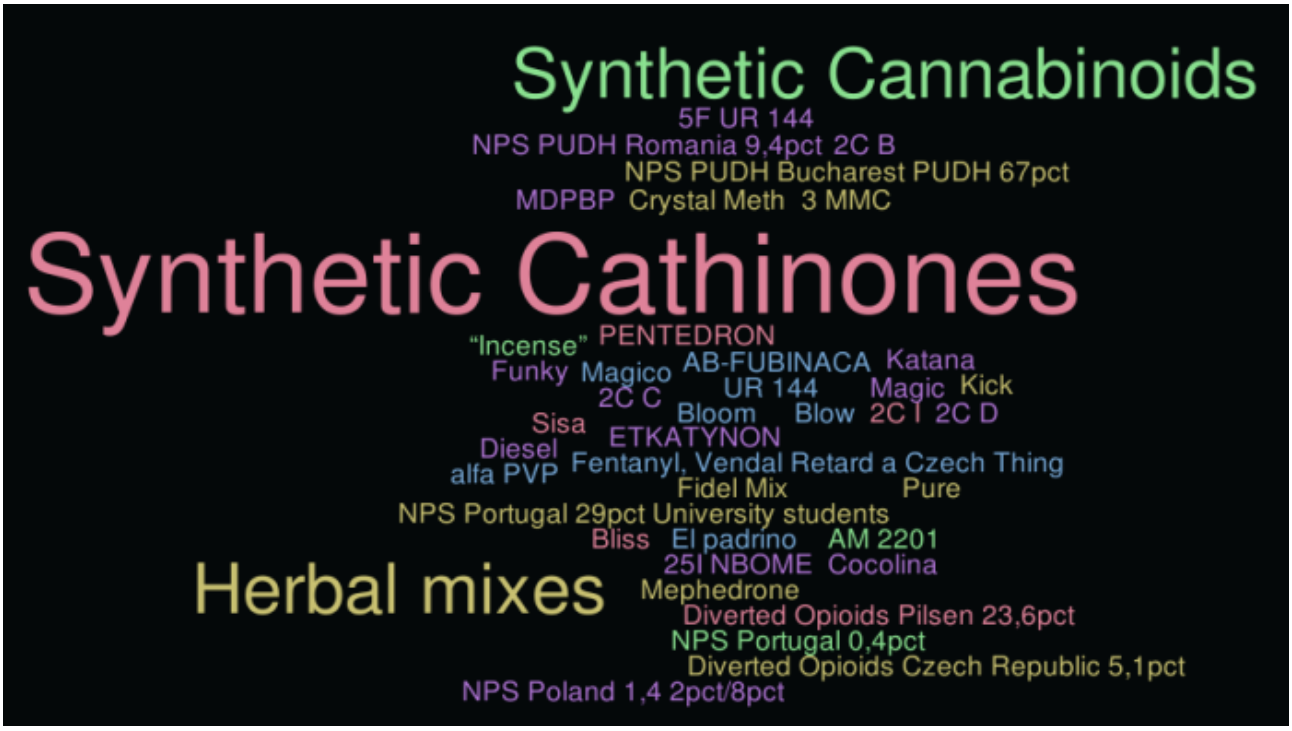
This suggests that 21st century online drug distribution channels, do not necessarily replace traditional distribution channels. In contrast, they seem to seamlessly harmonise with one another. This has relevance for the epidemiology of NPS, synthetic stimulants in particular, and their diffusion into vulnerable populations. The RAR suggests that in Romania, Poland and the Czech Republic this may further be facilitated by changes in the legal status of NPS. Shortly before NPS are scheduled, many web shops start selling-off their remaining stock at drastically reduced (whole sale) prices.

5.1.2 Extent and nature of NPS use among PUDH

Key RAR questions: *What is the extent and nature of NPS use among PUDH in the selected countries?*
What are the recent trends and developments in NPS use among PUDH?
What patterns of use can be distinguished?

Recent trends and developments in NPS use among PUDH. Use of NPS among PUDH primarily concerns injecting of synthetic cathinones and varies widely between the countries, from (nearly) absent in Portugal, to almost one and two thirds in cities in, respectively, the Czech Republic and Romania, to unmeasured, but clearly present, in Poland. A recent regional trend in the Czech Republic concerns injection of diverted opioid pain killers (fentanyl & Vendal-Retard® (extended release morphine). In 2014 5.1% of Czech PWID had injected pharmaceutical opioids (23.6% in the Pilsen region). Injecting of mephedrone, MDPV or other synthetic stimulants among PUDH is reported in the Czech Republic, Poland and Romania, but to varying degrees. In Portugal and Greece, NPS are of less concern. In Portugal, this is associated with the decriminalisation and easy availability of classic drugs, such as heroin and cocaine. In Greece the use of Sisa, a cheap homemade methamphetamine is associated with decreasing heroin use as the opiate was no longer affordable in a time of austerity.

Figure 1. RAR Cloud NPS Types, Brand Names, prevalence figures



Extent and nature of NPS use. Use of NPS is considerably higher among PUDH than in the general population in the Czech Republic, Poland and Romania. Table X in Annex 9 provides an overview of the data from studies reviewed by the partners. In both Portugal and Greece, NPS have reportedly not made a significant inroad into PUDH populations or raised concerns among drug services providers.

The closure of brick & mortal stores in the Czech Republic, Poland and Romania has reportedly resulted in decreases in NPS consumption among PUDH. Lack of access to electronic payment options is perhaps still limiting personal purchase online, but NPS are increasingly obtained in traditional drug trafficking structures and also mixed into and sold as traditional drugs.

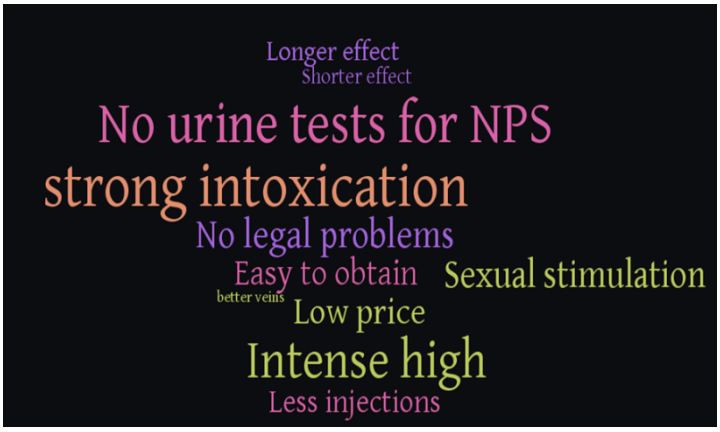
Patterns of use. NPS are primarily injected among PUDH in the Czech Republic, Romania and Poland, while in the last country they are also snorted, smoked or swallowed. In Poland and Romania the majority of people who inject NPS were previously involved primarily in heroin use (including current OST patients), as are many of the Sisa consumers in Greece. In the Czech Republic, synthetic stimulants are mostly injected as substitution for or in addition to methamphetamine. Many Greek PUDH have either replaced or combine heroin with Sisa, which is smoked (±80%) or injected (20%). In all four countries synthetic stimulants are both mixed with or used as replacement for traditional injectable drugs.

5.1.3 Factors in choosing NPS

Which factors influence the choice for NPS?
What do PUDH report on the positive and negative effects of NPS?
Are NPS considered "drugs of first choice"?
How is NPS use associated with the consumption of other (traditional) illicit drugs?
Are NPS substituting current illicit drugs (such as cannabis, heroin, crack or amphetamines) or used in addition
What health related consequences are experienced by NPS users?
What – somatic & mental - health problems are observed among NPS users by public health and harm reduction services?
What are the risks of NPS use for HIV, HCV transmission?
what are the risks of (non-fatal) overdose?
What measures are users taking in order to control their use of NPS and reduce the potential harms?

Factors influence the choice for NPS. The Overall, low price and easy availability have contributed to the emergence and spread of NPS among PUDH, in particular when sold in brick and mortar stores. But, beyond these attractions and curiosity, the legal status of NPS and preventing sanctions when in treatment, seem much more important incentives for (continued) NPS use by PUDH. In particular avoiding heavily policed drug markets is viewed as an important benefit. Legal status seems less of a factor when NPS are bought in black market structures. People in OST reported that NPS were not detected by the drug assays used commonly in programs. Where use of e.g. methamphetamine might result in program dismissal or other sanctions, use of NPS goes undetected. Injection of diverted opioid pain killers in the Czech Republic is associated with the unstable quality and availability of heroin outside the main cities and the lack of opioid substitution treatment in these regions.

Figure 2. RAR Cloud of positive features of NPS noted by PUDH



5.1.4 Positive and negative effects reported; health consequences

Positive effects of NPS. The constant purity of NPS, their strong intoxication effects and longer or shorter duration (both mentioned), seem at least equally important in the popularity of NPS. The intense high of injected synthetic stimulants and their aphrodisiac effects were mentioned in the Czech Republic and Poland. In Greece, these same qualities were attributed to smoked methamphetamine.

People injecting diverted pharmaceutical opioids praised the constant high purity and effect duration, reportedly resulting in decreased injection rates and consequently less damage to their veins and fewer SSTIs (skin and soft tissue infections). They spend less time on injecting and chasing poor quality heroin and more time with family and friends and noted improved social relationships.

Status of NPS vs. traditional) illicit drugs; substitution or a bonus? NPS seem the drugs of first choice for only part of those consuming these. In Romania both PUDH and expert opinion estimate that half of PUDH have a preference for synthetic stimulants. But in all countries NPS are also used because traditional drugs of preference are less available, of low or inconstant quality. Czech PUDH reportedly prefer methamphetamine over cathinones because of its predictability and euphoria and claim that methamphetamine is easier to control. But in Greece smoking methamphetamine is associated with serious loss of control. (We return to this paradox below.) New drugs are also increasingly used in combination, with one another and with traditional drugs. Mixing cathinones with heroin, benzodiazepines and other drugs was mentioned in the Czech Republic and Romania, while Greek PUDH reportedly mix methamphetamine.

Negative effects of NPS. Short term health consequences are not monitored in detail in any of the RAR countries, nor is there information available about the long-term effect of most NPS. Nonetheless, figure 3 shows clearly that PUDH attributed many more negative features to NPS consumption. Both the focus groups and desk review suggest that injecting synthetic stimulants may quickly lead to strong cravings and lack of control over drug intake (psychological dependence) and in strongly increased rates of injection, resulting in collapsed veins and Skin and soft tissue infections (SSTIs).

Figure 3. RAR Cloud of negative features of NPS noted by PUDH

Negative consequences reported further included the risk of fatigue, exhaustion or collapse, loss of appetite and weight loss, sometimes resulting in wasting syndrome. Binging (consuming a drug for days without sleep) on high doses of synthetic cathinones and the associated prolonged sleep deprivation quickly increases peoples' vulnerability to a range of serious mental health problems, including panic attacks, Paranoia, Psychosis and (rebound) depression, short temper or rage, Memory and concentration disorders. Mental health problems go hand in hand with solitude and social isolation.

Negative effects described were mostly typical stimulant drug effects, and long-term consumption of cathinones is described in similar terms to those of traditional stimulants and sometimes as more unpredictable and with worse mental health outcomes. In the Czech Republic and Greece, the use of methamphetamine represents, respectively, a well-established and a new drug trend. The Greek focus group participants reported high levels of mental health behaviours among PUDH, while HIV infection among PWID has recently increased significantly (Greek National Report, may 2015). Greek drug service providers and PUDH seem to consider Sisa as the 'worst drug ever', which means that Greek PUDH have

apparently not yet learned to 'live' with the drug. Although methamphetamine remains problem drug no.1 in the Czech Republic and effective treatment for methamphetamine dependence remains in short supply, our data (indirectly) suggests that Czech PUDH (and service providers) seem to have come to terms with methamphetamine to some extent. In fact, the mental health harms attributed to Sisa in Greece sound very similar to those attributed to synthetic cathinones by focus group participants in the Czech Republic, Poland and Romania. In the Czech Republic, these were often discussed in terms of being worse than methamphetamine. Both in Greece and Romania these new drug trends coincided with recent increases in HIV infection among PWID and appeared in a context of austerity. Studies have not found causal relations between the emergence of Sisa or cathinones and suggested that funding cuts for syringe exchange may offer a better explanation for the surge in HIV infection (REFS). Nonetheless, one could perhaps not imagine a worse moment in time for the introduction of a powerful and unknown stimulant into PUDH communities, in particular those traditionally using opioids. Both the *drug's* pharmacological profile and important social *setting* (13–15) variable have changed drastically, resulting in an increased risk environment (16,17) in which PUDH are unlikely to develop a measure of control over the consumption of powerful and 'alien' drugs.

Risk of infectious disease transmission. NPS injecting is associated with very high injecting rates (up to 30-50 times a day reported in Romania), when sold in brick and mortar shops in particular. More recently, reduced supply and increased prices has reportedly had a moderating effect on the frequency of NPS injecting, but our study suggests that significant minorities of PUDH in these five countries continue to inject NPS. Increased injection frequency and SSTIs can be considered a direct indicator and a proxy for risks for HIV and HCV transmission. Focus group participants suggested that the risks for HIV infection are quite similar to those of traditional hard drugs: sharing of drugs, injection equipment and material (syringes, needles), as well as unprotected sex while under the influence of these substances. According to PUDH, injecting cathinones may result in intense cravings once the substance is purchased and injecting at the point of sale. In these places clean syringes are usually absent and used equipment might be shared. NPS and Sisa were also associated with an increase in sexual activity.

Cocaine and methamphetamine are associated with increased sexual appetite and behaviour. Their use is associated with increases in HIV risk behaviour, such as high rates of injection and sexual activity, unprotected sex, needle sharing and HIV infection. Prolonged heavy use of cocaine and methamphetamine is associated with serious mental health problems, which, in turn has been linked to increased risk behaviours for BBV transmission (18). Whether these risks can be translated one-on-one to synthetic cathinones remains an open question, as few primary studies into the potential associations between these new stimulants or other NPS have been conducted.

Risk of overdose. Injecting of synthetic stimulants may result in dose escalation and repetitive re-administration of drugs of unknown potency. Likewise, the difference between recreational doses and an overdose may be very narrow with some drugs and, in particular when 2 or more substances are combined. PUDH have reported strongly increased heart rates, panic attacks and even passing out when overdosing. They often self-medicate with benzodiazepines or antipsychotics. Deaths or mortality rates associated with NPS use are not available in the RAR countries studied, but, for example in Poland, the number of non-fatal overdoses has increased doubled in the last two years. Injecting fentanyl patches represents a high risk of overdose, for those switching from poor quality heroin in particular.

Importantly, risk of BBV transmission, overdose or, more generally, the outcomes of drug use, do not merely depend on the pharmacological or behavioural characteristics of a substance, but are produced in interaction with the personal characteristics of those consuming these and a wide spectrum of potential environmental contingencies (Zinberg, 1984; Rhodes, 2009; Miovsky et al., 2015). Within this risk environment there may be various factors militating or mitigating health and social outcomes – risk and protective factors. These risk or protective factors may be expressed both at "micro" and "macro" levels (Rhodes, 2002; Rhodes, 2009) and in this study we observed examples of both.

5.1.5 Interventions and policies targeting NPS

What interventions and policies exist with respect to the use of NPS?

In all countries the dominant response to NPS and new drug trends primarily relies on legislative and law enforcement interventions. The public health response to NPS use among PUDH is only starting to take shape.

Legislation scheduling NPS and prohibiting their sales have effectively shut down the brick and mortar outlets and also affected their online availability to Czech, Polish, Portuguese and Romanian nationals. Nonetheless, new NPS continue to emerge on the market, via online outlets in particular. Scheduling was followed in all four countries by NPS in more traditional drug trafficking structures in both criminal and friendship networks.

Novel harm reduction, prevention and treatment responses dedicated to NPS have barely been developed in the five countries. Existing harm reduction organisations have difficulties in adjusting to these new drug trends. Some harm reduction programs have started modest information campaigns on the potential risks of NPS. For example, Monar in Krakow is distributing a deck of (football card style) information cards on a wide range of new and known substances and SANANIM in Prague distributes information on NPS in its journal “Dekontaminace” (Decontamination), which is distributed via drug services nationally and online, and well-read among PUDH. Drug testing is available in both Portugal and the Czech Republic. In Portugal drug testing mostly focuses on nightlife and festivals. In Prague, outreach programmes and low threshold services collaborate with the Department of Addictology and the Toxicological Centre at the First Faculty of Medicine of Charles University in testing NPS samples from the PUDH market. Funded by the EU I-Trend project, the programme contributes to prevention, harm reduction and research goals.

Adaptation to the changed consumption patterns and the associated chaotic behaviours and mental health problems are complicated by economic conditions and political priorities in all five countries, but in particular in Greece and Romania. This has resulted in drastic budget cuts for drug treatment, needle exchange and harm reduction services. Both countries have faced rapid increases in HIV prevalence among PWID.

Given the increased rates on injecting associated with NPS injecting, the cuts in syringe exchange funding are particularly disturbing. On the other hand, the substitution of poor quality heroin in Czech rural regions seems an intriguing but clear indicator of the potential health benefits of substitution treatment.

5.1.6 Pointers for intervention and policy development

In each of the five countries the focus groups discussed what types of interventions could best be implemented in response to heavy NPS use. Focus group participants suggested the importance of existing evidence-based interventions, such as needle exchange and OST. They emphasised that sufficient “personal” supplies of syringes and other injecting paraphernalia are a requirement for people to be able to protect themselves and their injecting partners. They furthermore emphasised the need for drug-checking programs targeting PUDH scenes. Short communication and reporting lines between the drug scenes, outreach teams and public health services and policy makers should speed up the distribution of information on changes in the NPS market, consumption and potential risks – *in both directions*. Where NPS are used on the street and resulting in public health and public order problems, drug consumption rooms may help to both stabilise chaotic drug consumption patterns and reduce public nuisance, civic anxiety and moral panic.

Overall, the project established a clear need for training and education on NPS among both PUDH and service providers. Law enforcement should be educated about more effective and humane policing options for handling use of synthetic stimulant consumers in the public domain/open drug scenes. Services for

experimental NPS consumers in nightlife or festival settings are important to reduce the harms from drug incidents.

Low threshold opioid substitution treatment will likely benefit PUDH involved in NPS and heroin. Stimulant substitution treatment, e.g. with dexamphetamine should be investigated for heavy consumers of synthetic stimulants. Substitution programs should have evidence-based and person-centred rules. In principle, failure to comply is a reason for increasing treatment options, not for limiting access or dismissal. The use of powerful diverted pharmaceutical opioids and the increasing number of legal synthetic opioids notified to the EMCDDA suggests that naloxone distribution and training should target not only classic heroin consumers, but also be available to those taking newly emerging opioid agonists.

Harm reduction education should be made a compulsory part of discharge protocols in all treatment – irrespective of treatment philosophy. Peer support and education strategies may reach heavy NPS consumers presently not connected with services. Closer cooperation between toxicological laboratories, medical institutions harm reduction services can facilitate proper and timely intervention in overdose cases.

6. Conclusions

Trends in NPS use vary greatly across Europe. In the Czech Republic, Poland, Portugal and Romania, NPS availability increased sharply with the introduction of brick and mortar outlets (2007-2009) and decreased again after their closure (2001-2013), but these legal interventions have not put the genie back into the bottle. In Greece, NPS emerged in 2010 but gained only minor attention. But since 2010-2011, Greek PUDH have turned to “Sisa” (homemade methamphetamine).

NPS are available from a variety of sources. Smart shops boosted the popularity of NPS, but following legislative action most were closed or severely restricted their assortment. A variety of NPS are available via websites; synthetic cannabinoids and synthetic stimulants prevail. Although the closure of physical outlets resulted in important reductions in (novice) NPS consumption, websites targeting the studied countries mail NPS to anybody with a credit card. Importantly, (once bought in bulk online) NPS are increasingly retailed in traditional drug dealing structures.

The RAR suggests that the uptake of NPS among PUDH varies between the investigated countries, from (nearly) absent in Portugal, to almost one and two thirds in cities in, respectively, the Czech Republic and Romania, to unmeasured, but clearly present, in Poland. We can distinguish both *pull* and *push* factors in the attraction of NPS. Strong intoxication, stable purity and availability but also avoiding law enforcement or sanctions when in drug treatment seem to fuel the popularity of NPS, in particular where traditional drugs of poor quality are sourced in unreliable, high risk drug markets, effective treatment is underdeveloped or retracting economies have made illicit drugs no longer affordable. In this context, NPS increasingly attract both aging populations of heavy opiate and stimulant consumers and new generations of vulnerable youth.

PUDH have a preference for substances that emulate their traditional drugs of choice, opioids and in particular stimulants. Use of NPS among PUDH primarily concerns synthetic cathinones. Injecting of mephedrone, MDPV or other synthetic stimulants among PUDH is reported in the Czech Republic, Poland and Romania, but to varying degrees. In Portugal and Greece, NPS are of less concern. In Greece the RAR was focused on the use of Sisa (smoked methamphetamine).

A regional trend in the Czech Republic concerns injection of diverted opioid pain. The use of powerful diverted pharmaceutical opioids and the increasing number of legal synthetic opioids notified to the EMCDDA suggests that naloxone distribution and training should target not only classic heroin consumers, but also be available to those taking newly emerging opioid agonists. Harm reduction education should be made a compulsory part of discharge protocols in all treatment – irrespective of treatment philosophy. Closer cooperation between toxicological laboratories, medical institutions harm reduction services can

facilitate proper and timely intervention in overdose cases. As the epidemics of heroin injecting stabilised in Europe, the attention for drug injecting and HIV prevention is waning in many member states.

Emerging drug trends are increasingly unpredictable and subject to availability – in traditional drug dealing structures, friendship networks and, increasingly, online – legal status and law enforcement action; personal preferences, access to traditional substances, such as cannabis, MDMA, amphetamines, cocaine or heroin and other environmental contingencies.

Note: Based on the outcomes of work stream 1 (EU-wide NPS assessment), work stream 2 (5-country RAR) and work stream 3 (intervention development), A "*Research Summary and Recommendations for Policy and Intervention from the NPSinEurope.eu project*" has been prepared.

This document can be downloaded from:
http://www.NPSinEurope.eu/ PolicyRecommendations
http://adiktologie.cz/en/NPSinEurope_PolicyRecommendations

These links are, of course, FAKE and should be replaced with the real weblinks!!!

7. Country Summaries

The Czech Republic

After 2009 the use of NPS increased significantly in the Czech Republic. A number of online stores offering NPS emerged during this period and they also became available at what are known as “Amsterdam shops”. These smart shops were often covered and discussed in the media. The easy availability and relatively low cost of the NPS on offer, their legal status and assumed safety, as well as a desire to ‘try something new’ attracted many customers to the shops. In 2011, municipal drug policy coordinators and experts counted a total of 41 Amsterdam stores in 24 cities. Rapid intervention by law enforcement authorities has greatly decreased this offer (almost to extinction). It is clear that the number of people who have tried the substance is increasing, but on the other hand, the number of those who use the substance on a regular basis is decreasing.

Since 2010 the register has increased the reported incidence of NPS with stimulant, hallucinogenic and sedative effects imported from Asia. These are synthetic cannabinoids, phenethylamines, cathinones, tryptamines and piperazines. Other detected NPS that PUDH inject are opioid medications (pain relieving opioids drugs), but so far only on a local scale. Among PWID in Prague there is a local trend for injecting cathinones (Funky, Magico etc.). At the end of 2012 this group accounted for less than 6% of all injecting drug users, and probably this number has further declined. Among PUDH in western and southern Bohemia there is a local trend for injecting opioid medications prescribed by doctors to relieve pain among chronic patients. This is the medication “Vendal Retard” based on morphine and also fentanyl patches.

Key findings from snapshot

- Currently the NPS most frequently available in the Czech Republic are plant-based substances (Kratom, Kola, Salvia Divinorum) and synthetic cannabinoids, followed by synthetic cathinones.
- NPS are no longer sold in brick and mortar stores.
- 24 NPS were offered by online shops in many different mixtures of substances under various brand names, especially synthetic cannabinoids, such as *5F-AKB48* or *AKB48*.
- Online shops do not usually use the ‘.cz’ domain. It is difficult to determine where online stores are located. Their knowledge of the Czech language is generally very poor, suggesting that they use computer translations.

Quotes from the NPS stakeholder focus groups

"Immediately after application (cathinones) I have auditory hallucinations that the whole village is here with me in Prague and they are commenting on what I'm doing. So I try to escape from them, I go to the edge before I fall.";
"I am not able to be with other people, I start to flee, for example I can’t travel by tram.";

"He became crazy and was taken away by ambulance.";

"You intoxicate together ... you are together 5 minutes ... then you run away, you cannot be together.";

"Malicious (fentanyl) ... it depends on how much material you have in the part of the patch (from the whole patch). You can easily get it wrong and overdose.";

"People think I took so much heroin ... so I can handle it (vendal) but he can’t ... it is 10-15 times stronger than the normal diluted heroin"

"Because everybody knows that you have to be careful (fentanyl), people are aware that you can overdose. But not with vendal.";

"Thank you for saying that fentanyl is a strong substance that can kill you .... They do not take so much, they take less.";

"I take care when using fentanyl. I don't fluctuate so much."

Greece

There are no data available to give us the extent of NPS use among PUDH in Greece. We can summarize that current trends in Greece include Sisa (widely used in the open drug scenes in Athens) and two categories of NPS: synthetic cannabinoids and synthetic cathinones. In the National Plan on Drugs 2014-2016 NPS are mentioned but there is no concrete step or proposal aimed at prevention or harm reduction interventions. Existing harm reduction interventions in most cases work in a grey legal zone and this makes it even harder to use them to introduce new harm reduction approaches based on use of NPS.

Sisa, a kind of crystal methamphetamine, was widespread among active heroin and benzodiazepine users in the centre of Athens mostly after 2010. It is cheap (at the beginning the price was 1-3 euros, now it is 6-10 euros), easily found, and an easily made NPS that seems to be used as a substitute for cocaine. It is mostly smoked in a pipe made of glass and in a 20% solution it is injected.

Key findings from snapshot

- The assessment of NPS availability produced only incomplete and sometimes inconsistent data. NPS availability or use are not mentioned in the 2014 Greek annual report to the EMCDDA.
- Although a scheduled substance, homemade methamphetamine is the new drug trend presently of most concern in Greece. No longer able to afford heroin, many Greek PUDH have switched to this new synthetic stimulant.
- Online shops accessible in Greece mostly offer synthetic cathinones, such as mephedrone.

Poland

In Poland we can distinguish two categories of NPS users among PUDH:

1. PUDH who experiment with a number of different substances but generally limit their use to one or two substances (usually synthetic cathinones) and, if it is possible, they use them by injection. They use them every day (a few times daily) over a longer period. Their knowledge of NPS is quite low and they have no need to improve it. Usually they have a long history of using traditional drugs (amphetamines, opioids).
2. PUDH who have experiences with a large number of NPS and who use a few of them at the same time. The NPS tend to be sniffed, snorted and smoked (depending on the type of substance) rather than injected. They know much more about NPS and share their knowledge with others, spend a lot of time on the Internet searching for NPS and information about them.

Probably the most important factor which plays a role in determining NPS choice is the fact that many of these substances are legal. People have decided to use NPS because they are legal. People hope that if it is legal, it should also be less harmful than traditional drugs. The decreasing availability to traditional drugs like opioids or amphetamines is having an impact on choosing NPS. Or, if they are still available, the quality is decreasing and is not accepted by users. A specific group of NPS users in Poland are people participating in opioid substitution treatment. According to them, NPS use cannot be detected by urine tests.

Key findings from snapshot

- Currently the NPS most frequently available in Poland are the synthetic cathinones Pentedrone, Metaphedrone, alfa-PVP and Buphedrone.
- Before 2010 there were almost 1,500 online shops legally selling various NPS. Since the "Act on State Sanitary Inspection" (October 2010) was passed, these have disappeared.
- Online shops using the Polish language are usually hosted on '.pl', '.nl', '.sk', 'es.' or 'eu.' domains.

- Some online shops sell "research chemicals" (perhaps in an effort to emulate professional chemistry supplies sites). Other online shops use advertisements and products with fancy names.
- In Warsaw and other Polish cities, the NPS market uses the local Internet.

Quotes from the NPS stakeholder focus groups

"NPS give me more possibilities. Never before in my life have I used so many different drugs.";

"How do I measure the dose? I pour EVERYTHING into the syringe and draw the water (into the syringe).";

"The police have been looking for me since I started using a "Thor Hammer";

"This drug gives me enormous sexual excitement. Then I have to masturbate to relieve the tension. I really like it!

"Since I've been on methadone (treatment) I have never been as clean as I have been in the last two years. How do I do it? Instead of amphetamine I use cathinones.";

"*I read on one of the forums that I should take at least 300 mg (of the drug). I took half that and almost died. Then on another website I read that I should take a maximum of 50 mg…"*

Portugal

The "Portuguese Model on Drugs" has decriminalized drug use. This is an important fact, since, if substance use is not criminalized, people are less likely to engage in the NPS substitutes market. The use of NPS occurs mainly in party settings.

In Portugal, the use of specific psychoactive substances is related to their availability on the offline market. In this sense, the use of NPS had more expression when smart shops were open. In terms of demand, drug users are highly connected with the traditional illicit market, specific dealers and substances (mainly cannabis, cocaine, MDMA and speed), and the online market is highly used by psychonauts or users interested in specific experiences. In this sense, it is important to monitor the illicit drugs market (because some NPS can be sold as more traditional drugs), but also to analyse the availability of specific substances (e.g. What would happen if the availability of cocaine or other drugs decreased?).

Key findings from snapshot

- Like in other countries, it was not always possible to determine whether some of the websites identified were actually selling NPS to Portugal because the information on the subject was unclear.
- 24 NPS were identified, on offer in 5 or more online shops.
- The NPS identified most frequently are synthetic cannabinoids (10), followed by phenethylamines (2), piperazines (1) and tryptamines.
- Benzodiazepines are frequent.
- Apparently there is no sale of new synthetic drugs in brick and mortar stores.

Quotes from the NPS stakeholder focus groups

"There are also several youths appearing with polydrug use and who are using some substances without knowing the composition, because someone told them it was good so they tried it. What did you use? I don't know, it was a cristal.";

"Considering our experience in CheckPoint Lx [a project intervening with Men who have sex with men], excluding the oral or sniffed use of ecstasy, we reported cases of the use of new drugs that maybe are not yet there [in Portugal]. We are aware, people travel… and use a substance, I don't know the name but it is a substance that they inject to increase sexual pleasure";

"I think that the majority of the users have tried synthetic cannabinoids and are thinking about replacing cannabis with these substances. However, it was connected to the availability of the substance, if they couldn't ask friends for cannabis they would go to a smart shop.";

"I got sick, I was trembling all over, cold sweats, paranoia, arrhythmia are things that sit in the heart"; "It was only a failed attempt to substitute other drugs."; "Since the smart shops have closed I have never heard about these drugs again."

Romania

The analysed data only relates to PUDH from Bucharest. There is a lack of evidence partially due to the fact that drug-related harm reduction and treatment systems are not developed outside Bucharest.

NPS have gained in popularity in Romania since 2009. The most popular substances are mephedrone, MDPV (synthetic cathinones and equivalents) and spice (synthetic cannabinoids). However PUDH do not use synthetic cannabinoids. They only use stimulants and they inject these stimulants. The most problematic issue of NPS use in the case of PUDH is the frequency of injecting. Injecting drug use is dramatically increasing, motivated by the short period of active effects perceived after using a stimulant dose. In one day it can count from 10 times to even 40 times – provided that users have enough doses available. NPS are the drug of first choice for about half of PUDH according to their own estimations, but also confirmed by expert opinion. However, many of them are mixing these substances with either heroin or methadone or both.

Key findings from snapshot

- The substances found are predominantly synthetic cannabinoids with prices between 5-15 euros per gram and synthetic cathinones with prices between 10-25 euros per gram.
- 6 online NPS shops, called spice shops, were identified in Romania. All online shops use non-Romanian domains but have product descriptions in Romanian.
- NPS are no longer sold in brick and mortar stores.

Quotes from the NPS stakeholder focus groups

"Well, I've taken around 25 injections every day, while I was arrested...can you imagine that?!";

"Yes, many people started to use 'legal' drugs in order to diminish the physical pain from heroin withdrawal.";

"I didn't use heroin before legal highs. First, when they appeared on the market, I smoked them, then I was sniffing powder...and then, because it had no effect, I started injecting.";

"For legal highs, you only have to mix it with water...even cold water; you don't use lemon salt and you don't boil it. It dissolves in the water.";
"At the beginning you shoot for the sake of the feeling …like cocaine euphoria, speed, energy, adrenaline. Now you immediately change your expression and you get scared.";

"You can inject 40 times and you don't get out of the panic state. You can only ease your feelings if you shoot heroin";

"When you exaggerate, the feeling of panic is amplified and you feel that you need to puke."

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9. Annexes: data reporting and grid analysis forms

Annex 1. RAR grid for recording existing national data and information sources

Key RAR question or topic: **[enter Q. No.]; [enter Q. description]**

Country:	**Contact person:**	**Date:**

SOURCE	**INFORMATION**	**RELEVANCY FOR RAR** KEY QUESTION/TOPIC
English Summary		**Gaps in information**

Annex 2.a Recording form for new psychoactive substances/legal highs – identified online

Country:	**Contact person:**	**Date:**

Brand Name	chemical name of compound	drug type (1-7)*	No. Of shops offering compound	price in € per 1g

Annex 2.b Recording form for new psychoactive substances/legal highs – **identified offline**

Country:	**Contact person:**	**Date:**

Brand Name	chemical name of compound	drug type (1-7)*	No. Of shops offering compound	Shop location (cities)**	price in € per 1g

*: UNODC distinguishes six main groups of substances present in the NPS market (and a seventh group of miscellaneous substances that contain recently identified NPS which do not fit into the aforementioned groups):

1. synthetic cannabinoids;
2. synthetic cathinones;
3. ketamine;
4. phenethylamines;
5. piperazines;
6. plant-based substances;
7. miscellaneous substances.

**: please enter the names of all cities where the substance is encountered/reported.

Annex 3.a GRID Monitor Respondent Characteristics of Focus Group participants – Professional Workers

FG code*: [PW __]

Country:	City:	Contact person:	Date:

PARTICIPANT CODE**	PROFESSIONAL BACKGROUND PROFESSION	ORGANISATION TYPE OF SERVICES, AREA OF INTEREST	POSITION IN ORGANISATION	PERIOD OF PRACTICAL EXPERIENCE	COMMENTS

LEGEND:

* Professionals 1st FG: PW1
  Professionals 2nd FG: PW2

** number participant in each FG separately as follows:

- city & country code (first letter, first two letters);
- participant gender (M or F);
- first or second FG: 1 or 2

Example: male participant of 1st FG in Prague: Czech Republic = PCZM1

Please note, coding will use the same format in all five partner countries

Annex 3.b GRID Monitor Respondent Characteristics of Focus Group participants – PUDH

FG code*: _____

Country:	City:	Contact person:	Date:

PARTICIPANT CODE**	VISITOR/CLIENT OF HARM REDUCTION OR DRUG TREATMENT SERVICES (Y/N)	NPS USE (MONTH; YEAR)		COMMENTS FREQUENCY OF USE, TYPES OF NPS
		FIRST USE	LAST USE	

LEGEND:

* PUDH 1st FG: PUDH1
PUDH 2nd FG: PUDH2

** number participant in each FG separately as follows:

- city & country code (first letter, first two letters);
- participant gender (M or F);
- first or second FG: 1 or 2

Example: male participant of 1st FG in Prague: Czech Republic = PCZM1

Please note, coding will use the same format in all five partner countries

9.1 Annex 4. FG reporting grid

FG code*: _____

Country:	City:	Contact person:	Date:

Key RAR question or topic: **[enter Q. No.]; [enter Q. description]**

Findings:

(Provide a succinct but clear overview of the most important findings – 3-5 sentences).

REPRESENTATIVE RESPONSE	CONTRADICTORY RESPONSE 1	CONTRADICTORY RESPONSE 2	COMMENTS, QUALITY, VALIDITY
Decide which local responses represent the best your national data. Copy-paste the most representative direct speech (the response from the participant). Indicate whose response it is. If you use codes, provide us with the construction of the codes used. Indicate how many responses this represents – this allows us to recognize the extent of the problem (i.e. is it majority of the respondents of just one case).	Copy-paste the contradictory response to the most representative direct speech (the response from the participant). Indicate whose response it is. This makes the data and findings richer. Indicate how many responses this represents – this allows us to recognize the extent of the problem (i.e. is it majority of the respondents of just one case).	Copy-paste the contradictory response to two previous ones. You may not find such response each time. Indicate whose response it is. Indicate how many responses this represents – this allows us to recognize the extent of the problem (i.e. is it majority of the respondents of just one case).	You were the ones who were present at the FG and know the (nation specific) background best. Assess validity of information, judgements, etc.

Legend:

* Professionals 1st FG /P1
  Professionals 2nd FG/ P2
  PUDH 1st FG /PUDH 1
  PUDH 2nd FG/ PUDH 2

Annex 4.1. FG reporting grid - example

FG code*: _____

Country: Czechistan	City: Pragonia	Contact person: Charles	Date: 06/19/2012

Key RAR question or topic: **[**Q 05**]; [**Parents and children drinking**]**

Findings:

Parents are tolerant and sometimes supportive in drinking… beer is sometimes not considered alcohol. In general, Czech parents were not much concerned about underage drinking. They don't feel the need to promote strong negative attitudes against alcohol in their children, or change their own personal habits.

Representative response	**Contradictory response 1**	**Contradictory response 2**	**Comments, validity etc.**
7F17: ...*about a year ago… I was leaving for a camp and I was asked by my son to buy him a bottle of mead… So I said: „no problem"...* 8M14: *He came home drunk… His father said: "You´re an ace!"* Similar experiences were mentioned by 6 participants...	P3M42: *He [son] tends to party… he told me… he had a few drinks… I was explaining him when he starts to drink he may end up ill and in problems…* One case.	P2M42: *Well, even when he is 15, I give him a sip of beer after Sunday´s lunch… I guess it is still better than him doing it secretly…* One case.	Drinking with one or both parents on „special" occasions was mentioned by 6 participants.

Annex 5. Short focus group report – template

FG code*: _____

Country:	City:	Contact person:	Date:

Duration of the FG (in minutes): …….

Number of participants: ……. ♀♀; ……. ♂♂,

Moderator:

reporter(s):

Please provide us with your overall impressions of the focus group process in terms of the following topic:

The session's atmosphere:

Clarity of the topic list; ambiguities of topics:

Expertise of the participants:

Quality of the data:

Notes on relevant events:

Other issues:

Annex 6. Focus Group Topic List –Professionals

Good Morning/Afternoon. My name is [your name] and I work at [your workplace].
We are asking professionals working with people who use drugs about their experiences with and ideas about emerging drug use trends here, in particular those including new psychoactive substances (NPS).[1] Participation is completely voluntary. Your answers will be kept private and confidential. We will not reveal any names or personal identifiers. Also, you don't have to give any personal information that would identify yourself. The information that we gather from this discussion is meant to help improve services for people who use drugs, in particular NPS.

(warm up questions)

1. First, what are your names and tell me a little about the work you do with people who use drugs.
2. Are any of you a former or active user?

THE LOCAL DRUG SCENE

3. What drugs are used most commonly?
4. How are they obtained? (e.g. street market; bars/cafes; apartments);
5. How are they usually taken (injected; snorted; smoked; swallowed)?
6. Would you say that people here typically use in groups or alone?
7. Where do PWID typically get their needles/syringes here?

NPS

8. What is your source of information on NPS?
9. Has any of you ever used NPS yourself? (Hey, they're legal! ;) If yes, which?
10. What types of NPS are used in this city?
11. Do you meet/work with people who use NPS? Could you describe your last client?
12. Is this client typical of the NPS users you see? If not, how?
13. How do you know that someone is using (under the influence of) NPS?
14. How are they obtained? (e.g. street market; bars/cafes; apartments; internet; homemade)
15. What do NPS cost here? (please specify type and/or brand name)
16. Is the use of NPS among people who'se usual drug of preference was heroin, crack or (meth)amphetamine **[name the local drug]** stable, increasing or decreasing?
17. How has the emergence of NPS affected the people who use drugs that you are working with / have information about?

RISKS

18. Have any Risk assessments of NPS been conducted in this country? Of which NPS and what were the outcomes?
19. How are NPS usually taken (injected; snorted; smoked; swallowed)?
20. Do NPS users typically use together or alone?
    a. *are NPS used and shared in groups?*
21. To the best of your knowledge, what injection-related risk behaviours are practiced most by people

[1] NPS are unscheduled substances typically marketed as 'research chemicals', 'legal highs' etc. However, in this project the focus is on 'new drug trends,' which includes the emergent availability and use of psychoactive substances new to a community, country or culture, independent of their legal status. For more explanation, please read the RAR guideline, chapter 2.3.

who use NPS?
(e.g. sharing needles; not cleaning needles/syringes; frontloading/backloading syringes (sharing drug solutions); sharing cotton/cooker/water; using needles/syringes of unknown origen)

22. Where do people who inject NPS typically get their needles/syringes from?
    a. Do they use the same sources mentioned above?
23. Do you see differences in the use of NPS among different age groups, say *those under and those over 30 years old*?
    a. Do younger generations use NPS more often than those who are older?
    b. Do younger generations take different NPS than those who are older?
    c. Do younger users engage in more injection-related risks or is this more the case with older users?

MEDICAL TREATMENT

24. What do you know about the medical consequences of the NPS that are used here?
25. What is the attitude of medical doctors toward people who use NPS or people who use drugs in general?
26. Are people who use drugs discriminated against in trying to get medical treatment?

OTHER

27. Do you think you have sufficient information about NPS to work with people who use NPS?
28. How has the emergence of NPS influenced your work with people who use drugs?
    a. Have you included specific strategies or novel interventions in your program, or you know about other programs that have?
29. What services need to be developed in response to the emergence of NPS in your community?

Thank you for your time and all information.
(Provide participants with incentives).

Annex 7. Focus Group Topic List – People Who Use Drugs Heavily (PUDH)

Good Morning/Afternoon. My name is [your name] and I work at [your workplace].
We are asking people who use drugs about their experiences with and attitudes about drug use and new psychoactive substances, in particular *(explain the term "new psychoactive substances" in local words)*[1]. Participation is completely voluntary. Your answers will be kept private and confidential. We will not reveal any names or personal identifiers. Also, you don't have to give any personal information that would identify you. The information that we gather from this discussion is meant to help improve services for people who use drugs.

(warm up questions)

1. First, what are your names/nicknames and tell me a little about yourself/what you do.
2. Are any of you former or active drug consumers?
    a. has your drug use ever, or is it currently, interfering with other things that you'd like to do in life?
3. How easy is it for you to get harm reduction services or drug treatment?
    a. Where do you typically get their needles/syringes here?

Your drug use:

4. What drugs do you use most commonly?
    a. Did you use these drugs today?
5. How and where do you get these? (e.g. street or mobile phone market; bars/cafes; apartments; homemade);
6. How do you usually take these drugs (injected; snorted; smoked; swallowed)?
7. Do you typically use alone or with friends?

Use of NPS

8. Tell me about your use of NPS. What legal highs have you used? Tell me about your experiences. – (doses, frequency, effects, context)?
9. How and why did you start using NPS?
10. How many drug using friends do you have? How many of your drug using friends use NPS?
11. Does your use of NPS substitute for another drug or is it used in addition? Why?
12. How do you use (this) NPS, describe the preparation process, please.
13. How are NPS usually taken (injected; snorted; smoked; swallowed)?
    a. *are NPS used in groups and shared?*
14. What are the positive and negative effects of NPS?
15. Have you experienced any negative mental and/or physical effects?
16. Have you faced overdose (after NPS, or NPS mix)?
17. Have you been worried about transmission of infectious diseases after using NPS? If yes, why and which ones?

[1] NPS are unscheduled substances typically marketed as 'research chemicals', 'legal highs' etc. However, in this project the focus is on 'new drug trends,' which includes the emergent availability and use of psychoactive substances new to a community, country or culture, independent of their legal status. For more explanation, please read the RAR guideline, chapter 2.3. In this FG we focus on the NPS or illegal substance that represents the drug trend in your city/country.

Harm Reduction

18. What do you do to decrease any negative side effects of NPS that you have experienced?
19. Are these strategies different from those used with other drugs that you use?
20. Have you ever experienced a "bad trip" after NPS use? What did you do?
21. How do you know what the effect of the drug will be?
22. How do you know how much you should take?
23. What do you think about the safety of these drugs?

Market

24. How do you usually obtain NPS? (e.g. street or mobile phone market; bars/cafes; apartments; internet; homemade);
25. How do you know what you are buying?
26. What is your reason to buy/use NPS?
27. If you had the choice, would you rather use NPS or [*the 'old' drug people use(d)*]?
28. Are NPS easier or harder to obtain than the 'traditional' drugs?*(which one)*

Services & policy

29. What services do you think that people who use NPS need in your city?
    a. What type of services should be prioritised?
30. Do the present services provide the assistance that people who use NPS would need?
    a. What services for people who use NPS are missing or need development?
31. How should the police and the authorities respond to the emergence of NPS?

Thank you for your time and all information.
(If applicable, provide participants with incentives).

Annex 8. The National RAR Report –report structure template

1. Cover page with project logo, project info, authors, acknowledgement EC funding, etc.
2. Table of content
3. Introduction
4. Methods (Describe the methodologies locally implemented and how these differ from proposed in this document, if so.)
5. Results by method
    a. Literature review
        i. Summarized by research question
    b. Internet snapshot
    c. Focus groups
        i. Summarized by research question
6. Results by Research question
   Here the results of the different are synthesised (or triangulated) and compared with one another for each of the consecutive research questions and sub questions.
7. Conclusions
8. References

Sections 5 and 6 should be organised using subheadings that follow the key RAR questions in 2.2.

(vi) What is the extent and nature of NPS use among PUDH in the selected countries?
    a. What are the recent trends and developments in NPS use among PUDH?
    b. What patterns of use can be distinguished?
    c. Which factors influence the choice for NPS?
        i. What do PUDH report on the positive and negative effects of NPS?
    d. Are NPS considered “drugs of first choice”?

(vii) What is the (offline & online) availability of NPS and where are NPS acquired by PUDH in the selected countries?

(viii) How is NPS use associated with the consumption of other (traditional) illicit drugs in these countries?
    a. Are NPS substituting current illicit drugs (such as cannabis, heroin, crack or amphetamines) or used in addition

(ix) What health related consequences are experienced by NPS users?
    a. What – somatic & mental - health problems are observed among NPS users by public health and harm reduction services?
    b. What are the risks of NPS use for HIV, HCV transmission?
    c. What are the risks of (non-fatal) overdose?
    d. What measures are users taking in order to control their use of NPS and reduce the potential harms?

(x) What interventions and policies exist with respect to the use of NPS?

The FG questions (annexes 6, 7) are detailing the RAR questions and should be reported under the corresponding RAR questions.

Annex 9

Table 11 Data on Extend and Nature NPS Use in the RAR countries

COUNTRY	Portugal		Czech Republic		Poland		Romania*	Greece
Types of NPS	Herbal mixes or incenses (Fidel Mix, Bliss and Bloom) synthetic NPS (Kick, Blow, 2C-I, 2C-C, 2C-D, 2C-B)		Cathinones (Funky, Mephedrone, Cocolina, El padrino, Magico)	Pain Relieving Opioid drugs/ pharmaceutical opioid drugs (Fentanyl, Vendal Retard - morphini hydrochloridum trihydricum)	1. Synthetic cathinones 2. Synthetic cannabinoids TOP 10 NPS: UR-144; 3-MMC; PENTEDRON; 5F-UR-144; 25I-NBOME; AM 2201; alfa PVP; ETKATYNON; MDPBP; AB-FUBINACA		mephedrone, MDPV (synthetic cathinones and equivalents - Diesel, Pure by Magic, Insomnia, Special Gold, Katana, and Spice (synthetic cannabinoids – no PUDH)	1. SISHA – a kind of crystal methamphetamine 2. synthetic cannabinoids and synthetic cathinones
Prevalence of NPS use	**0,4%** General population Young people – University students **29%** life time prevalence **19%**last year prevalence	PUDH n.a.	National average 10,5% → **Prague** 32,5%	National average 5,1% → **Pilsen reg.** 23,6%	General population 1,4 – 2% (15-64 age) 8% (20-24 age)	PUDH n.a. is not officially monitored	9.4% of 6,288 PUDH in Bucharest 49.6% of PWID	PUDH in Greece: 16.162 PWID: 5.284
Phenomena since	2007		2009		2008		2009	2010
Patterns of use	Smoking & Sniffing Polydrug use, mixture with legal drugs in general population Injecting of NPS has not been reported		Injecting (PUDH) &Oral (Psychonauts)	Injecting & Rag patches or Plastic stickers	Injecting & Smoking & Sniffing & Snorting Mixture of 2,3 or more substances		Injecting: 72.6% PUDH more than 5 times/day; 55.1% PUDH 3-5 times/day	Smoking in a pipe made of glass & injecting (20%)

** Data is related to PUDH from Bucharest - harm reduction and treatment systems are not developed outside Bucharest*

Data sources:

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