SPICE II Plus:

New synthetic cannabinoids and stimulants – evaluating risk behaviour, problematic use and toxicity for developing specific approaches in primary and secondary prevention

WORKSTREAM 5:

Inventory of available structures and data, deduction of recommended actions and dissemination

SYSTEMATIC REPORT

"OVERVIEW OF AVAILABLE SOURCES, RESOURCES AND INSTITUTIONS COLLECTING INFORMATION ON NEW PSYCHOACTIVE SUBSTANCES"

Krystallia Karachaliou, Ingo Kipke, Lisa Jakob, Babette Geiger &
Tim Pfeiffer-Gerschel[1]

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[1] IFT Institut für Therapieforschung, German Monitoring Centre for Drugs and Drug Addiction / National Focal Point (DBDD), Munich.

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List of Abbreviations

ADR	Adverse Drug Reaction
AGES PharmMed	Austrian Medicines and Medical Devices Agency
ALICE RAP	Addiction and Lifestyles in Contemporary Europe: Reframing Addictions Project
BKA	Bundeskriminalamt [German Federal Criminal Police Office]
CDR	Centre for Drug Research Frankfurt/Main
CND	Commission on Narcotic Drugs
DBDD	Deutsche Beobachtungsstelle für Drogen und Drogensucht [German Monitoring Centre for Drugs and Drug Addiction]
EC	European Commission
EDI	Eidgenössischen Departement des Innern [Swiss Federal Department of Home Affairs]
EDND	European Database on New Drugs
EMA	European Medicines Agency
EMCDDA	European Monitoring Centre for Drugs and Drug Addiction
EMPACT	European Multidisciplinary Platform Against Criminal Threats
ENU	Europol National Units
EU	European Union
EUROPOL	European Police Office
EWA	Early Warning Advisory
EWS	Early Warning System
Fedpol	Bundesamt für Polizei [(Swiss) Federal Police Office]
FIMEA	Finnish Medicines Agency
GIZ	Giftinformationszentren [Poison Control Centres]
GÖG/ÖBIG	Gesundheit Österreich GmbH / Österreichische Bundesinstitut für Gesundheitswesen [Austrian Federal Institute for Public Health]
ICE	International Collaborative Exercises
Infodrog	Schweizerische Koordinations- und Fachstelle Sucht [Swiss Office for the Coordination of Addiction Facilities]
IFT	Institut für Therapieforschung [Institute for Therapy Research]
IRF	Institut für Rechtsmedizin des Universitätsklinikums, Freiburg [Institute for Forensic Medicine of the University Hospital, Freiburg]
MS	Member States
NFP	National Focal Point
NPS	New Psychoactive Substances
NADiS	Nordic Network for the Current Situation of Drugs

OMCL	Arzneimittelkontrolllabor [Austrian Official Medicines Control Laboratory]
REITOX	Réseau Européen d´Information sur les Drogues et les Toxicomanies [European Information Network on Drugs and Addiction]
SMART Programme	Synthetics Monitoring: Analyses, Reporting and Trends Programme
SNIPH	Swedish National Institute of Public Health
SNS	Safer Nightlife Schweiz
Swissmedic	Schweizerisches Heilmittelinstitut [Swiss Agency for Therapeutic Products]
TEDI	Trans-European Drug Information project
THL	Finnish National Institute for Health and Welfare
UN	United Nations
UNODC	United Nations Office on Drugs and Crime
WHO	World Health Organisation
ZIS	Zentrum für Interdisziplinäre Suchtforschung [Centre for Interdisciplinary Addiction Research]
ZKA	Zollkriminalamt [Customs Criminal Investigation Office]

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1 Introduction

1.1 Background

The phenomenon of the emergence on the market of New Psychoactive Substances (hereafter NPS) that fall outside international drug control conventions is not new (UNODC 2013a, Sedefov et al. 2013). At the same time, there exist a wide range of terms and definitions referring to these substances (Sedefov et al. 2013). Already since the early 1990s, many substances which became known as 'designer drugs' -often psychotropic substances related to amphetamine and MDMA- were discovered on a regular basis in the European Union (EU). This fact resulted in questions with respect to possible health risks as well as to the problems that could arise in international law enforcement cooperation by the different control status of such substances among the Member States (MS) (EMCDDA 2007). Herbal incense or herbal blends gained a high degree of popularity by mid-2008 in many countries, such as Germany, Poland or the United Kingdom. German laboratories identified, in December 2008, synthetic cannabinoids as active component in these products. Most of these cannabinoids were first synthesised in the context of pharmaceutical research projects carried out in the 1980s and 1990s. Given that these substances had never shown up in any commercially available product before and no human studies with these cannabinoids have been carried out, they were regarded as -and still are- not safe (The SPICE Project Consortium 2012). Synthetic cannabinoids became the most popular and visible representatives of NPS, but also other (groups of) drugs (for instance: cathinones or piperazines) appeared on the market for which also no reliable information regarding their long-term effects on the human health, acute symptoms and health consequences as well as potential other problems such as social or psychological ones was available (EMCDDA 2011; EMCDDA 2013a).

Those involved in detecting, monitoring and responding to NPS across the EU, come, over the last years, up against the unprecedented growth in the number, type and availability of new drugs on a global scale (EMCDDA & Europol 2013). This is illustrated, for instance, through the increase in notifications of NPS to the EU Early Warning System (EWS) in countries of the EU, from just 14 per year in 2005 to 81 in 2013 (EMCDDA 2013a; EMCDDA & Europol 2013; EMCDDA 2014). Also worldwide data indicate the quick evolution of the trends on the synthetic drug market each year. The United Nations Office on Drugs and Crime (UNODC) reported the identification of a total of 251 substances by 70 countries and territories from 2008 to July 2012 (baseline data collected through an online questionnaire), whereas for the period from July 2012 till October 2013 a significant increase in NPS has been recorded, with over 350 substances reported by 89 MS and Territories within the framework of the International Collaborative Exercises (ICE) Programme (see also section 2.3) (UNODC 2013a; UNODC 2013b).

The increasing complexity and volatility of the drugs market in combination with the globalisation and technological advancement facilitate the expansion of this market (EMCDDA & Europol 2013). The internet provides greater and easier access to NPS not only

for their purchase but also for the information sharing in respective forums and blogs (Home Office 2013). At the same time, the market responds to changes in the legal status of psychoactive substances through the rapid supply of non-controlled alternatives to restricted drugs accompanied with sophisticated marketing strategies (EMCDDA 2012; EMCDDA & Europol 2013). Another significant development in this area refers to the growing interaction between the illicit and 'legal highs' markets, "whereby some substances are legally sourced and either sold directly on the illicit market or turned into products and sold as 'legal highs'" (EMCDDA & Europol 2013).

In this vein, NPS -particularly the so-called 'legal highs'- remain among the high policy priority issues in the EU and many MS; a fact which is evidenced, for instance, by responses at national level including awareness raising, new legislative measures, and the inclusion of NPS in general population surveys (EMCDDA & Europol 2013). This phenomenon constitutes also a challenge for the work of law enforcement agencies, ranging from daily work of policemen to prosecutors and judges. As a response, the European Commission (EC) is currently working on a new EU legislation proposal on new psychoactive substances taking into account the rapid developments in this field and scientific evidence on the risks posed by these drugs (European Commission 2011; EMCDDA & Europol 2013).

The detection and identification of NPS upon their emergence provide the basis for assessing their risks as well as for a perspective controlling of dangerous new substances; a task constituting the cornerstone of the established early-warning systems (EMCDDA 2011).

The established procedures for monitoring are, nonetheless, confronted with the challenges linked with the speed at which new drugs appear on the market, as well as in their diversity and in how they are produced, distributed and marketed. A perspective re-evaluation of the information sources used as well as of the ways in which information is disseminated for the information of policy makers, practitioners and the general public, is in this respect necessitated (EMCDDA 2012).

In order to deal with the various issues related to NPS, consideration should be given to a potential enhancement of the existing monitoring systems as well as to a better linking and an improvement in their compatibility. The information managed by such information systems must allow a better understanding of certain drug-related phenomena and facilitate decision making at policy-maker, professional and individual level (Alvarez et al. 2003).

This objective is also ratified by the G8 Statement of Intent with respect to the Collection and Sharing of Data on NPS (06/25/13) declaring that "a balanced, comprehensive and integrated approach is required to tackle the challenges posed by NPS".[2]

1.2 Objectives and scope of the report

In the framework of the EU-funded project "SPICE II Plus: New synthetic cannabinoids and stimulants – evaluating risk behaviour, problematic use and toxicity for developing specific approaches in primary and secondary prevention", which is structured in five Workstreams,

[2] https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/208634/NPS_G8_RLG_Statement_of_Intent.pdf, last accessed: 19 September 2014.

the development of integrated and innovative approaches tackling the phenomenon of NPS and related problems is being attempted by employing a multi-disciplinary network.

In particular, among the objectives of the Workstream 5, entitled “Inventory of available structures and data, deduction of recommended actions and dissemination”, is the compilation of an inventory of available sources, resources and institutions collecting information on NPS and/or implementing a system to monitor new synthetic drugs. At an international level our focus will be on Europe; nonetheless a global system is also briefly presented to the extent this could cover European needs. Moreover, the national resources of the countries participating in this project (Austria, Finland, Germany and Switzerland) will be also presented as a way of illustration of adopted national approaches with the aim to monitor NPS at national level. In this vein, the information that has been collected refers to existing data collection structures, data and information sources as well as -to some extent- to the utilisation of NPS related information.

The current report constitutes the base of an ongoing procedure, which consists of the following steps:

1. Presentation of the first results of the present mapping exercise at the one-day Spice II Plus - EMCDDA conference (Lisbon, 5 June 2014).
2. Examination of existing instruments for the dissemination of continuously updated information; the characteristics of different data recording models and their potential for further development will be looked into with a focus of exploring options for enhancing reporting at a European level.
3. Development of recommendations and proposals to improve data flow, active distribution of information and the combination of available information on NPS among consumers, employees of drug treatment centres and decision makers at European level, as well as improvement proposals for the continuous dissemination of the updated information via the Internet.
4. Work on the development/enhancement of instruments which improve the provision, access and exchange of relevant information on NPS for consumers, drug treatment centre employees and decision makers. The implementation of this task will be based on the extension and/or modification of existing instruments or channels for information dissemination.

All in all, this report attempts to provide an overview of the current situation based on the assumption that the compilation of an inventory of available sources, resources and institutions collecting information on NPS constitutes the base for the production of useful and feasible improvement proposals. Nonetheless, the report is not intended to be exhaustive, especially in the case of the existing information sources (e.g. projects and studies). The objective is rather to describe the established monitoring systems and through this to identify current actions for the better use or optimisation of existing information sources/instruments. The formulation of the recommendations will be thus based on available tools/systems/instruments and focused on actions that can be pragmatically implemented. A further aim is to promote better linking of available information between the agencies as well as of different databases.

1.3 Methodological approach

The presentation of the available sources, resources and institutions at European and national level[3] in the present document is based on information that was collected from June 2013 to April 2014. To this end, a combined methodology consisting of the following elements has been applied:

- As a first step for the information collection on existing structures and data at European level, a search has been conducted by the Deutsche Beobachtungsstelle für Drogen und Drogensucht (DBDD) [German Monitoring Centre for Drugs and Drug Addiction] / Institut für Therapieforschung (IFT) [Institute for Therapy Research] to identify the relevant European institutions as well as the appropriate contact points for providing information. The European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) has been also contacted for advice on this issue. In the context of the DBDD enquiry, a respective questionnaire has been prepared, in which the following aspects of the institutions that are active in this field are addressed: areas of interest and information sources, data collection and working structure, information exchange and utilisation of information, cooperation and partnerships, lessons learned and suggestions for improvement ("Questionnaire for the Description of Existing Structures Collecting Information on New Psychoactive Substances"). The questionnaire was sent for completion to the following institutes: Europol (the European Police Office), European Medicines Agency (EMA), European Centre for Disease Prevention and Control (ECDC) and United Nations Office on Drugs and Crime (UNODC). The information was collected through the filled-in questionnaires, or -in one case- via a face-to-face interview. One institute that has been addressed refused to complete the questionnaire because its mandate defines other main areas of focus and work.
- A similar approach was adopted for the collection of information at national level. An online search as well consultation of the EMCDDA provided us with the appropriate contact partners in Austria, Finland, Germany and Switzerland for the collection of information on national resources for NPS. The questionnaire compiled to address the European institutes was adapted for the description of the national situation in the selected countries ("Questionnaire for the Description of Existing National Structures Collecting Information on New Psychoactive Substances"). All national experts contacted provided us with filled-in questionnaires.
- To complement the data collection process, an internet search was performed to identify projects and studies (also ones conducted on a regular basis) related to NPS as well as articles and publications related to the information collection of NPS at EU level.
- Additional information was gathered through relevant documents, publications, reports and other available material (e.g. websites) referring to the implementation of NPS monitoring activities or similar actions.

[3] For the four countries participating in the project.

2 Chapter I: Mapping of existing networks and institutions at European level

2.1 Introduction

From the various initiatives, projects and actions for the monitoring on NPS implemented at the European level that we have encountered during our search, two structured systems with a special focus on NPS and at the same time encompassing various parameters of the phenomenon (e.g. legislation, forensic, toxicological, law enforcement, pharmacological and epidemiological data etc.) are currently in place covering (at least) all EC countries: a) the European Early-Warning System (EWS) and b) the UNODC Early Warning Advisory (EWA) on NPS, which is implemented on a global level. In the sections below the main features of these networks are presented; whereas Table 1 attempts to summarise their key elements.

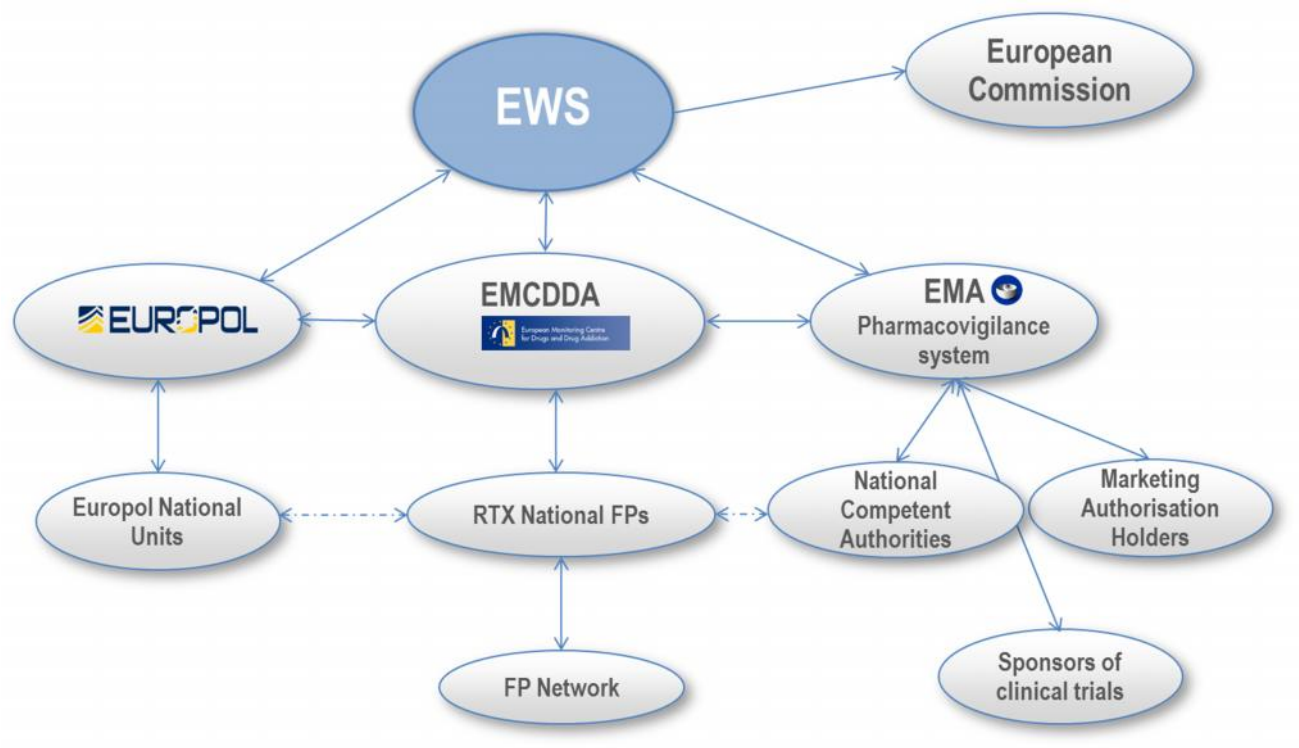
2.2 The EU Early-Warning System on NPS

The EWS constitutes the only comprehensive response to the emergence of NPS within the EU. The implementation of a mechanism for rapid exchange of information on 'new synthetic drugs', the assessment of their risks as well as the application of existing control measures on new synthetic drugs was based on the 1997 'joint action' adopted by the council of the EU. The subsequent, revised Council Decision 2005/387/JHA broadened its scope applying to all NPS that may pose public health and social threats (EMCDDA & Europol 2013). The EWS operation encompasses a three-step approach, i.e. (a) exchange of information / early-warning system; (b) risk assessment; and (c) a procedure for bringing specific new synthetic drugs under control (EMCDDA 2007). At the first stage, information exchange is conducted on the basis of specific guidelines and information is transferred through ad hoc reporting forms, biannual early warning system reports and a joint report. The second step, a risk assessment, is likewise regulated through formalized guidelines and provides risk assessment reports. The first two stages provide the basis for the Council of Europe decisions on control of NPS (Commission on Narcotic Drugs 2014).

The European EWS on NPS constitutes currently a multidisciplinary network of 30 national early warning mechanisms (i.e. the 28 EU MS, Turkey and Norway) with the aim of collecting, appraising and rapidly disseminating information on new drugs and products that contain them. It is primarily implemented by the EMCDDA and its MS partners (that is the Reitox network[4]), in cooperation with Europol, and with the active contribution of the EMA and the EC (Figure 1). The EWS builds on a variety of information sources such as health and care providers, law enforcement organisations, sources closer to drug users, media, the internet, etc. (EMCDDA 2012). It should be noted that at country level the responsibility for

[4] Reitox is the European information network on drugs and drug addiction created at the same time as the EMCDDA; the abbreviation stands for the French 'Réseau Européen d´Information sur les Drogues et les Toxicomanies'. Members of the Reitox network are designated national institutions or agencies responsible for data collection and reporting on drugs and drug addiction; these are called 'national focal points' or 'national drug observatories' (http://www.emcdda.europa.eu/about/partners/reitox-network, last accessed: 19 September 2014).

the organisation and implementation of the national systems lies with each country and differentiates considerably based on the national needs and resources with the European structure providing mainly the framework and the guidelines (see also Chapter II).



Source: EMCDDA, EMA.

Figure 1: EWS institutional partners and information flow

Definition and scope

Council Decision 2005/387/JHA takes the United Nations (UN) drug control conventions as a point of reference and defines a NPS as 'a new narcotic drug or a new psychotropic drug in pure form or in a preparation, that has not been scheduled under the 1961 UN Single Convention on Narcotic Drugs, and that may pose a threat to public health comparable to the substances listed in Schedule I, II or IV' (new narcotic drug) or 'under the 1971 UN Convention on Psychotropic Substances, and that may pose a threat to public health comparable to the substances listed in Schedule I, II, III or IV' (new psychotropic drug). The term 'new' is not intended to refer exclusively to newly invented/synthesised substances, but rather should be understood as 'newly available' or 'newly misused' substances (EMCDDA 2012). Additionally, the EWS assists in the identification, monitoring and exchange of information on emerging trends for already known illicit substances, and on possible public health related problems. The system also allows the collection and exchange of information on misused psychoactive medicines and suspected adverse reactions in relation to those reported in the frame of the EU pharmacovigilance system (Sedefov et al. 2013).

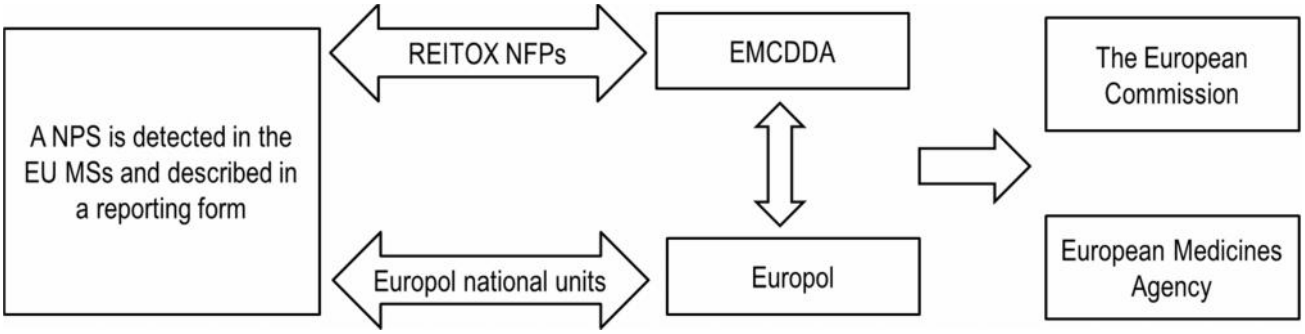
Operation of the information exchange

The EWS operates in real time aiming at providing a rapid channel for dissemination and awareness-raising. Once a new psychoactive substance is detected on the European market, the MS ensure that information on the manufacture, traffic and use of the drug is transmitted to the EMCDDA and Europol via the National Focal Points (NFPs) and Europol National Units (ENUs). The data are also submitted by the EMCDDA or Europol for information to the EC and the EMA. The new substances identified are logged in the EWS database (the EMCCDA European Database on New Drugs; EDND) so that information can be collated and shared. If, furthermore, the EMCDDA and Europol consider that information collected on a new psychoactive substance merits an active follow up, a joint report is presented to the Council of the EU, the Commission and the EMA. On the basis of this, a decision may be taken on whether or not to launch a risk assessment procedure (Figure 2) (EMCDDA 2007).

With the purpose of assisting the MS in implementing the measures introduced by the Council Decision 2005/397/JHA and specifically the first stage, i.e. the early-warning system and the information exchange as well as providing transparency to the entire process respective guidelines have been published in 2007; nonetheless, there is no mandate for their implementation (EMCDDA 2007).

The Action on new drugs team within the EMCDDA, responsible for the implementation of the EWS, regularly provides support to the NFPs in the identification of new substances. Requests for assistance related to the new drug phenomenon are also regularly received from the MS, EU agencies and other institutions, individual experts, third countries and the media. In this respect, a rapid response team has been established with the aim of efficiently responding to the growing number of requests (EMCDDA & Europol 2013).

Routine exchange of instrumental analytical data such as GC-MS, FT-IR and NMR spectra for the new substances that are notified also takes place. “These data, along with additional analytical data from substances already reported, are also included in the substance profiles on the EDND. By providing the data in common formats, laboratories are then able to import them directly into their instruments. In this way, laboratories across Europe can ensure that their analytical libraries are up-to-date, thus improving the capacity and speed in which new substances can be detected. This approach is becoming of growing importance to laboratories as the chemistry of new drugs becomes increasingly complex, and more advanced analytical techniques are often needed to elucidate their molecular structure” (EMCDDA & Europol 2013, p. 9). In addition, the EMCDDA has also begun to collect national risk assessments on NPS on a routine basis, and has made them available on the EDND in order to help inform policy responses in the MS (EMCDDA & Europol 2013).



Source: EMCDDA 2007.

Figure 2: Information exchange / early-warning process in the framework of the European EWS

Outputs

Among the most important outputs of the EWS is the operation of its database EDND. The information in the EDND covers all inputs from the European EWS plus additional inputs from the EMCDDA (for instance, information from web searches, research/scientific publications, etc.). Information from European institutions such as Europol and the EMA as well as other European countries, non-European countries (e.g. the USA, Canada and Australia) and major international partners (e.g. the UN system) is included wherever appropriate. The database focuses predominantly on EWS-related information (in particular, identifications, seizures, etc.). It also provides certain information on public health risks, but does not aim playing an active role in prevention, harm minimisation or treatment. It is available by password access on the EMCDDA and Reitox websites to EWS correspondents in the MS and selected members of the national EWS networks; its main users are respectively the EWS correspondents in NFPs, the EMCDDA and Europol (EMCDDA 2007).

Additionally, a wide range of publications and reports are produced using information collected on NPS including the Europol-EMCDDA joint reports (evidence-based advice to the Council and Commission on the need to request a risk assessment for a substance), the EMCDDA annual report on the state of the drugs problem in Europe (with sections devoted to new drugs/NPS), the Annual reports on the implementation of the decision, Risk assessments, Risk assessment operating guidelines, Summaries of substances reported to Europol and the EMCDDA, etc. (EMCDDA 2007).

Finally, in order to monitor the online market and get a better understanding of how this affects the availability of new drugs, the EMCDDA conducts, since 2006, multilingual snapshots. The snapshots function as a rapid assessment of the market, are undertaken during a limited time window and provide insights into the market characteristics, including the number of online shops offering to sell new drugs to consumers in at least one EU MS and, for these shops, the names and prices of the substances and products that are offered for sale, the marketing and distribution techniques used, the number of businesses in a particular geographical area; and, the detection of new drugs that have not yet been identified through chemical analysis of seizures, test purchases or biological samples (EMCDDA & Europol 2013).

2.2.1 The role and contribution of Europol

Europol constitutes a key partner in the system set up under the Council Decision 2005/387/JHA and has, respectively, a central role in monitoring, knowledge sharing and awareness of the regional supply of NPS. In this context, Europol is enabled to have a regional overview and to develop expertise concerning the production, trafficking and organised crime involvement in both the 'traditional' synthetic drugs market as well as on NPS. Europol runs several expert systems which incorporate synthetic drug related data, including NPS (EMCDDA & Europol 2013).

Specifically, the role of Europol is to collect and process respective intelligence; however they cannot initiate any investigation. In this respect they identify links between investigations in different countries, create match reports and send them back to the MS. The information (i.e. intelligence, information on names, numbers) exchange between Europol and MS takes place via an official channel called SIENA used by all law enforcement agencies having an operational agreement[5] with the Europol. The information disseminated through this channel is mainly from the law enforcement perspective (intelligence) so that duplication with the information collected by the EMCCDA and its Reitox network is avoided.

Among the priorities of the Operational action plan for 2012 of the European Multidisciplinary Platform Against Criminal Threats (EMPACT) is to 'reduce the production and distribution in the EU of synthetic drugs including NPS'. In this framework, an expert meeting on NPS was held at the headquarters of Europol in the Hague (September 2012), co-organised and co-chaired by the EMCDDA and Europol with the aim of raising awareness of NPS and of improving the response by law enforcement, including the information flow to Europol (EMCDDA & Europol 2013).

2.2.2 The role and contribution of EMA

EMA is a significant partner in the implementation of the EWS and plays a central role in the safety monitoring of authorized medicines in the EU and those that are subject to clinical trials in at least one EU country. EMA's work focuses on authorized medicines. In addition, information on concomitant use of NPS is collected, if it is in the context of adverse reaction reporting of medicines.

EMA collects data through the Adverse Drug Reaction (ADR) reports that are submitted to the agency from healthcare professionals, patients or consumers via EU national competent authorities and companies. The spontaneous reporting is triggered by a suspicion of a healthcare professional or a patient that observed signs and symptoms could have been caused by a medicine. There are different methods and tools for ADR reporting established at national level. EudraVigilance is the European data-processing network and management system, established at EMA to support reporting cases of suspected adverse reactions to

[5] An operational agreement refers to fully cooperation and information -intelligence and personal data- exchange; not only for MS but also with countries who have signed a personal agreement with Europol. In contrast with the strategic agreement (no information on personal data), under which Europol cooperates with agencies, such as EMCDDA and UNODC.

authorised medicines and those that are subject to clinical trials.[6] For the assessment and monitoring of safety issues for human medicines there is also a Pharmacovigilance Risk Assessment Committee in place.[7]

The EMCDDA and EMA have established protocols for the bilateral exchange of information on the basis of data available through the EWS and the EU Pharmacovigilance system. As part of the EWS, the two agencies regularly exchange information on NPS, as well as ad hoc reports relating to the misuse of medicinal products in order to complement the Pharmacovigilance system (EMCDDA & Europol 2013). Electronic tools, such as the existing databases EudraVigilance and the EDND, are used to allow a rapid and reliable exchange of information. EMA is furthermore involved in the risk assessment phase (EMCDDA 2007).

Despite this cooperation with EMA for the implementation of the EWS, each NFP generally undertakes the responsibility to establish links with the relevant national competent authorities in their country to help ensure an appropriate exchange of information between the mechanism set up by the decision and the pharmacovigilance system at national level (EMCDDA 2007).

2.3 UNODC Early Warning Advisory on NPS

The UNODC Early Warning Advisory (EWA) on NPS was launched in June 2013 as a response to the emergence of NPS at a global level. Its aim is to monitor, analyse and report trends on NPS, as a basis for effective evidence-based policy responses; it also serves as a repository for information/data on these substances and a platform for providing technical assistance to MS (UNODC 2013b; UNODC 2013c). In particular, the resolutions 55/1 and 56/4 of the CND, upon which its implementation is based, request the enhancement of the collection of the NPS-related information as well as the facilitation of the timely and comprehensive information sharing on NPS (analytic methodologies, reference documents, mass spectra and trend analysis data) (Levissianos 2013).

The EWA is administered by the UNODC Global Synthetics Monitoring: Analyses, Reporting and Trends (SMART) programme, which was launched in 2008; a programme seeking to improve the capacity of targeted MS to generate, manage, analyse, report and use information on illicit synthetic drugs (UNODC 2013c). More broadly, the Laboratory and Scientific Section works on NPS in the areas of knowledge enhancement, capacity building, global assessment of the NPS situation and assistance to forensic laboratories through its International Collaborative Exercise (ICE) programme (Commission on Narcotic Drugs 2014).[8]

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[6] http://eudravigilance.ema.europa.eu/highres.htm, last accessed: 19 September 2014.

[7] http://www.ema.europa.eu/ema/index.jsp?curl=pages/about_us/general/general_content_000537.jsp&mid=WC0b01ac058058cb18, last accessed: 19 September 2014.

[8] International Collaborative Exercises are an important part of the UNODC International Quality Assurance Programme (IQAP). Participation in such exercises, inter-laboratory comparisons or proficiency tests is one of the essential elements for implementation of quality management systems. The UNODC ICE programme allows drug testing laboratories from both developing and developed countries to continuously monitor their performance on a global scale (https://www.unodc.org/LSS/Home/ICE, last accessed: 19 September 2014).

The EWA targets three main beneficiaries: laboratories, law enforcement and policy makers/organisations. Its portal with restricted access for collaborating laboratories and policy-makers includes the following features: a) submission of NPS through an online electronic tool, b) trend analysis based on the available variables, i.e. year, client, substance group, means of identification, description, substance, region, country, and c) provision of current regulatory information on NPS, i.e. legislation (Levissianos 2013). As an indication of the coverage of the online portal, in July 2012 a total of 70 countries reported the emergence of NPS, whereas in July 2013 a total of 87 countries; most of the reporting countries are located in Europe (Commission on Narcotic Drugs 2014; Levissianos 2013).

Outputs

With a view to providing a global reference point and early warning on NPS, the EWA issues updates in the form of NPS briefs by email, on its website and in Global SMART publications. The EWA provides information on different NPS groups, MS legislative responses to counter the challenge of NPS, and user-related studies. In addition, it provides bibliographic resources to inform MS, organizations and the scientific community on recently available methods for the analysis and identification of NPS and published literature on the toxicology, pharmacology, use and treatment of NPS (Commission on Narcotic Drugs 2014).

2.4 Interplay of the existing systems

At present, there is no systematic exchange of information between the EU EWS and the UNODC's EWA; nonetheless the implementing agencies exchange currently information on an ad hoc basis. The areas of overlap between the two systems have been acknowledged and it is clear that appropriate mechanisms have to be established to allow the exchange the information relevant to those systems in a structured and controlled manner. Initial exchanges have taken place on how this will be achieved.

A cooperation between the two systems should be based on the specific aims pursued by each system and respectively target groups that are being addressed. Key elements that should be taken into consideration are the adoption of a common terminology and perspectively the use of similar or at least compatible reporting tools for the collection of information. It goes without saying, that this task requires considerable resources as well as a well-defined framework of collaboration.

Table 1: Main features of NPS networks at European/international level

FEATURES	NPS NETWORKS	
	Early Warning System (EMCDDA/EUROPOL)	**Early Warning Advisory (UNODC)**
Year of establishment	1997, 2005 scope was broadened	2013
Type of collected information	Primary: data on NPS, technical information (analytical data & spectra) Additionally: health alerts on unusual adulterants, seizures or detections of uncommon scheduled drugs, problems with established synthetic psychoactive substances, or the existence of dosage units with unusually large amounts of active substance	Data on NPS (emergence, new NPS on the markets, legislation, characteristics e.g. different names, CAS number, background information incl. chemical structures and reported adverse effects; under development: structures and mass spectra)
Information sources	Reitox National Focal Points and Europol National Units/EUROPOL NFP should ensure a regular liaison with the ENU, forensic science and toxicology laboratories, government departments responsible for enacting drug legislation, national medicines agencies and other relevant drugs agencies.	• Global survey on NPS (2012) • National forensic science laboratories • Law enforcement data through the UNODC Individual Drug Seizure Database • Annual Report Questionnaire submitted by MS • Proactive collection of data by the Global SMART teams • Reports of regional networks of forensic science institutions • Interagency meetings for the facilitation of data/information sharing
Data collection (incl. tools)	The EMCDDA-Europol Reporting Form is to be completed for the formal notification of a NPS identified for the first time in a MS by the NFP or the ENUs and submitted to the EMCDDA or Europol. Ad hoc communication on other drugs and new trends.	Collection of baseline data through: a) an online questionnaire (July 2012) addressed to MS to collect information on NPS: emergence, legislation, seizures, identification/detection, manufacturing, trafficking and use, b) a second questionnaire to a restricted number of MS (August 2013). Information on identified substances is submitted by the International Collaborative Exercises laboratories through the UNODC EWA on NPS . To a lesser extent data is collected through the annual reports questionnaire that is distributed to MS mainly focusing on internationally controlled drugs and the UNODC individual drug seizure database.
Assessment of information	Quantitative and qualitative analysis (GC-MS, GC-FID, HPLC and LC-MS). Routine exchange of instrumental analytical data via the EDND. Reference and quality control standards are used, when available. Collection of further information when specific criteria are fulfilled. EMCDDA extended scientific committee in place (esp. during the risk assessment process).	Quantitative and qualitative analysis (GC-MS, GC-FID, HPLC and LC-MS). Reference and quality control standards are used, when available. An expert committee works on the confirmation, identification and verification of the collected information.

Information exchange	EMCDDA and Europol share the forms received from the MS (incl. any analytical data) to all NFPs, ENUs, the EC and EMA. Information is also logged in the EWS database. EMCDDA also exchanges information on a case by case basis with the secretariat of the WHO's expert Committee on Drug Dependence.	Information is shared through the EWA database accessible to registered users. Information on NPS is also shared in a reporting form, i.e. brief updates on trends and more extensive reports, mostly with a regional dimension. A consultation on NPS was organized (September 2013), where institutions and experts were invited to discuss the challenge and way forward related to the NPS issue.
Utilisation of information	Support decision making through the risk assessments produced, assistance to national EWS, see also Outputs.	The baseline report on the challenge of NPS (2013) has been used by MS policy makers States to shape their drug/substance policies/legislation. Further NPS data informed the selection/prioritization process of WHO with respect to substances that are considered for critical review. Laboratories use the EWA database as a resource for their analysis and identification process.
Cooperation and partnerships	EMCDDA and Europol are in constant cooperation with the NFPs, ENUs, the EC and EMA for the circulation of information collected.	For information collection: Government institutions of UN MS and laboratories participating in the UNODC International Collaborative Exercises (ICE) Programme.
Outputs	Europol-EMCDDA joint Report, EDND, reports on the state of the drugs problem in Europe and on the implementation of the decision, risk assessments, other publications, structured monitoring of the Internet (multilingual snapshots).	Website with general information on the emergence of NPS, database (trend data, legislative measures/responses, laboratory data) with restricted access, manuals, reports, leaflets, posters.
Target audience	RTX NFP and their networks (professionals, researchers etc.), law enforcement (through Europol/ENUs), policy makers	Laboratories, law enforcement, policy makers/organisations
Website/database	http://www.emcdda.europa.eu/themes/new-drugs/early-warning https://ednd.emcdda.europa.eu/, EDND with restricted access	www.unodc.org/NPS, including portal with restricted access

Note: This list makes no claim to be exhaustive.

Source: EMCDDA/EUROPOL & UNODC publications; DBDD enquiry.

3 Chapter II: National resources in four European countries

3.1 Introduction

Across Europe, national systems also do exist serving (in most cases), among others, the needs of and constituting part of the EU EWS network as described in the previous chapter.

A recent publication by the EMCDDA (2012) describes thoroughly the systems and procedures available in the EU that are operating in the context of the European EWS (see also section 2.2). These national systems hold distinct structures or components in accordance with the specific national needs and priorities but also take into consideration the European requirements. In this sense, national monitoring systems across Europe differ in many ways, with respect to their legal basis, their location in the government (in health or law enforcement bodies), their coverage (local, regional or national) and the resources allocated to them. They may also differ in their composition and capacity; for instance, some early warning systems include strong forensic science and toxicology networks, some monitor samples collected from users and some are linked to a rapid response mechanism (EMCDDA 2011).

In three of the countries presented below (Austria, Finland and Germany) the national monitoring system on NPS coincides with the implementation of a national system in the framework of the European EWS; only exception is Switzerland that does not operate a NFP and respectively the monitoring activities in place are not necessarily oriented towards the EU guidelines.

In this chapter the cases of the four countries participating in the project are provided for illustration purposes. In the section of the Finnish experience, the Nordic Network for the Current Situation of Drugs (NADiS), a collaborative effort at regional level (i.e. the Nordic countries) is also briefly presented.

3.2 Austria

Framework

The responsibility for the coordination and implementation of the Austrian EWS lies within the Gesundheit Österreich GmbH/Geschäftsbereich GÖG/ÖBIG (a national research and planning institute for health care), where the national FP is also located. The focus of the Austrian system is on NPS but also on relevant health-related issues (e.g. unexpected high doses of psychoactive substances, unexpected impurities with dangerous substances or new risky consumption patterns). The establishment of an official network for information about NPS and unexpected issues in the context with drugs in Austria, the utilisation of existing relevant structures (i.e. the FP network), the inclusion of all relevant institutions and experts and the provision of information on health risks for prevention and treatment are included amongst the main objectives of this system (EMCDDA 2012).

Resources

GÖG/ÖBIG acts as the central interface of the Austrian monitoring system on NPS. It collects and validates all reports and alerts and, in the cases this is considered useful, it disseminates the information or warning to the network. The network is distinguished in two levels: a) on a federal level, including relevant ministries (e.g. Ministry of Health), the regional drug addiction coordinators, relevant institutions of this level (such as, medical and pharmaceutical organisation, social insurance), laboratories and addiction research as well as interfaces to the regional level (in some cases the regional drug addiction coordination), b) on a regional level, including institutions/services of the drug help system (outreach, low-threshold services, treatment facilities, counselling services, secondary prevention, etc.), emergency departments and organisations, institutions for forensic medicine and administration (i.e. public health sector). Depending on the case or situation, additional partners can also be included and informed, for instance, the police, hospitals, general practitioners, youth institutions (EMCDDA 2012).

Information on new substances, impurities, especially high concentrations or new consumption patterns, etc. can be gathered and reported by different partners from the two levels described above. Nonetheless, there are three main partners who are more active in analysing and reporting new substances and impurities, namely a) ChEck iT!, a Viennese drug testing service, b) the Official Medicines Control Laboratory (OMCL) located in the Austrian Medicines and Medical Devices Agency (AGES PharmMed), and c) the Federal Bureau of Criminal Investigation/Federal Ministry of the Interior (Bundeskriminalamt BK/BMI). ChEck iT! offers voluntary analysis of substances to young people at festivals and parties to reduce the risk of negative health consequences and to collect information on available psychoactive substances. The AGES PharmMed is responsible for the analysis of counterfeited pharmaceuticals and suspicious products, which could contain (illicit) active ingredients, to prevent negative health consequences for the general population. The BMI/.BK is responsible for the analysis of seizures of suspicious pharmaceuticals and substances to identify possible illegal activities. Information on emergency cases is reported by different partners. To improve the involvement of emergency departments of hospitals, a special web-based discussion forum was set up in 2010 (EMCDDA 2012).

An overview of the main features composing the Austrian EWS is provided in Table 2.

Lessons learned and perspectives

The experience of the implementation of the Austrian EWS has shown that for the enhancement of information collection and identification the regular information exchange has been proved a useful practice. In addition to this, the inclusion of new experts in the interdisciplinary Advisory Board, currently counting 13 members, is also considered helpful.

With regard to the limitations, there is a lack of information on intoxications with NPS (legal or not) due to the limited capacities and resources of the emergency departments at hospitals to analyse NPS. In this respect, improvements are envisaged in the area of information exchange, especially with hospitals but also with counselling centres. The web-based

discussion forum which is to be adapted and opened to all members of the national EWS network is envisaged to play a special role on this (EMCDDA 2012).

Table 2: Main features of the Austrian EWS

FEATURES	AUSTRIAN INFORMATION & EARLY WARNING SYSTEM ON SPECIAL HEALTH HAZARDS IN CONNECTION WITH SUBSTANCE CONSUMPTION
Coordination/implementation	Gesundheit Österreich GmbH/Geschäftsbereich GÖG/ÖBIG / Austrian FP
Partnerships for the collection of information	Mainly: • Viennese drug testing service ChEck iT! • Official Medicines Control Laboratory (OMCL) located in the Austrian Medicines and Medical Devices Agency (AGES PharmMed) • Ministry of Interior/ Federal Bureau of Criminal Investigation (Bundeskriminalamt .BK/BMI/)
Focus of the information on NPS	Users, substances, settings, health-related aspects
Information sources	Law enforcement activity statistics, (population) surveys, drug checking project
National databank	A database (Excel-format) in the context of the Austrian EWS with the aim of monitoring NPS only for internal purposes.
Data collection (incl. tools)	A special form for alerts about new substances is to be filled in by the system partners and addressed to GÖG/ÖBIG. A special email address is also available for this purpose. Communication runs mainly be email. There are also rules on how to label and deal with these reports/alerts.
Assessment of information	At GÖG/ÖBIG, an interdisciplinary Advisory Board is also in place; if necessary, consultation with the Ministry of Health.
Information exchange	• Checkit! provides information via warnings on new results (text including substance names) and an Excel-Sheet • AGES publishes an expert report • The Ministry of Interior provides a monthly Excel-Sheet
Utilisation of information	In the case of special health concerns the information is used by and disseminated to all addiction care, counselling and prevention facilities through the Austrian EWS; it is also included in the Annual National Report of the FP.
Outputs	Warnings about new identified substances or new (potentially dangerous) circumstances, which are disseminated as soon as new results are available.
Target audience	Consumers or/and their families, (health) professionals, policy makers
Website	http://www.goeg.at website of GÖG/ÖBIG incl. the concept of the Austrian EWS http://forum.goeg.at/ewsforum web-based EWS-forum, mainly with restricted access

Source: EMCDDA 2012 & DBDD enquiry.

3.3 Finland

Framework

The Finnish EWS is located at the national FP in the National Institute for Health and Welfare (THL). This system was originally operating mainly as an information exchanging tool about new substances, whereas since spring of 2011, it also plays an elemental role in the national procedure for the classification of new narcotic substances. As such, the system has received a more formal status (Narcotics Act of May 2008) and at the same time an additional agency, i.e. Finnish Medicines Agency (Fimea) undertook duties and the main

responsibility for the task of the new substances classification. Along with the two aforementioned agencies, the Finnish Customs and the National Bureau of Investigation are also involved in this process (EMCDDA 2012).

Resources

The institutes composing the Finnish EWS are listed in Table 3. All in all, much information is provided by the law enforcement agencies (i.e. the Finnish Customs, the National Bureau of Investigation and the National Police Board) and their forensic laboratories (EMCDDA 2012).

For the collection of information email networks have been established and meetings among experts from different operational areas related to NPS (laboratory experts, treatment services, health care professionals, social scientists, police and other authorities) are organised. The information exchange takes place in the context of formal and informal cooperation. Data are mainly delivered through scientific publications, seminars and presentations. Information is also delivered through the daily operation of toxicological laboratories with the field level workers, such as nurses, doctors, prisons and police authorities, mainly in informal form. An electronic database and respective excel sheets exist for the purpose of data delivery.

Cross-border collaboration

Finland is also participating in the Network for the Current Situation on Drugs (NADiS), initially formed in Sweden by the Swedish National Institute of Public Health (SNIPH) and the Medical Product Agency with the aim to collect and assess information on NPS as a basis for considering the need for regulation. A significant feature of the NADiS system is its online classification document, which enables a rapid procedure for NPS classification. The typical duration for the issuance of a classification ranges from one to three months. During the last years (from 2003 since 2001) Denmark, Norway, Finland and Iceland joined the NADiS network establishing a collaboration with the purpose of avoiding overlapping activities; nonetheless the respective national EWSs report individually to the EU EWS. This extended network serves as a focal point for early detection, collection and exchange of information, knowledge and experience, with the ultimate aim of NPS regulation at the national level. Appointed contact points have access to the system enabling a prompt exchange of information and new data. The work of the network is operationalised through a web-based information exchange platform (NADiS web) (Commission on Narcotic Drugs 2014; EMCDDA 2012; Sedefov et al. 2013).

Lessons learned and perspectives

On the basis of the experience gained from the operation of the Finnish EWS, the organisation of meetings for staff of laboratories, both formal and informal, that provide the appropriate context for the discussion of relevant issues (such as information exchange on prevalence, experiences related to analytics, analytical challenges, instrumentation, etc.) enhance the cooperation concerning the collection and identification of NPS. Also meetings during which different disciplines (social workers, nurses, doctors, police, social scientists, relevant authorities and laboratory experts) come together have been proved fruitful, since

they provide the opportunity for the exchange of various perspectives related to the complex problem of NPS and support the timely information flow.

For the improvement of data collection/identification of NPS, the implementation of more innovative approaches targeting to comparable data and to a more standardised collection of information related to the existing methodologies is wished. To this end, it is also expressed the need of instruments supporting the information flow between professionals from different disciplines -and possibly also to the public- and the systematic development and utilising of modern technology in data collection, sharing and analysis.

Table 3: Main features of the Finnish EWS

FEATURES	**FINNISH EWS**
Coordination/implementation	National Institute for Health and Welfare (THL) / Finish FP (responsibility focus: information collection) Finnish Medicines Agency (Fimea) (responsibility focus: national classification of NPS)
Partnerships for the collection of information	• Poison Information Centre • Finnish Customs Laboratory • Finnish Customs • National Bureau of Investigation • National Police Board • Forensic Laboratory • Department of Forensic Medicine, University of Helsinki
Focus of the information on NPS	Users, substances, settings, legal aspects, prevalence, drug seizures and toxicological data, potency and risk evaluation of NPS, trends
Information sources	Law enforcement activity statistics, care services (i.e. Poison Information Centre), low threshold services, forensic toxicology and clinical data
National databank	Yes; mainly limited to authorities and legislative work related to the national classification of NPS. Also the Nordic NADIS database[1] is widely used by experts in the field.
Data collection (incl. tools)	Excel-sheet and electronic database available for data delivery. Combination of formal and informal cooperation.
Assessment of information	Both quantitative and qualitative analysis is performed on data from drug seizures and toxicological data (various different biological matrices from both living and dead people, mainly GC-MS, LC-MS/MS, LC-TOF-MS). Accredited laboratories perform strict external and internal quality control.
Information exchange	Information from Europe (EMCDDA) is distributed to national network. Data collected in the context of the national EWS are mainly made available through scientific publications, seminars and presentations.
Utilisation of information	Improved toxicological analysis results in better identification and reporting on NPS, prevalence data on NPS is gained and disseminated for all relevant parties including policy makers.
Outputs	Information delivery to professionals and other authorities, warnings about new identified substances, national classification of NPS.
Target audience	Consumers or/and their families, professionals, policy makers, media
Website	http://www.thl.fi website of THL incl. the concept of the Finnish EWS

1) Operating in the framework of the Nordic NADIS network. NADIS includes countries such as Norway, Sweden, Finland, Denmark and Iceland and involves the sharing of information on new drugs and the associated legislation.

Source: EMCDDA 2012 & DBDD enquiry.

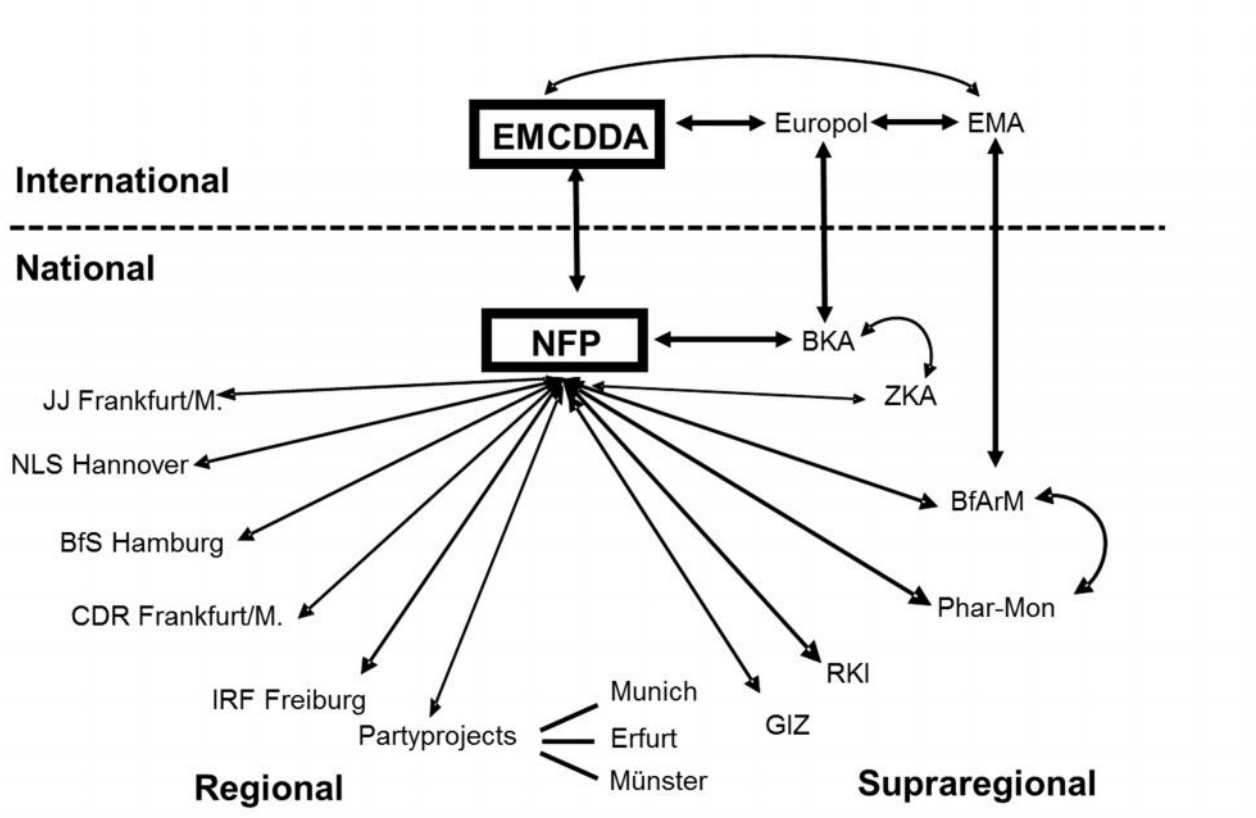
3.4 Germany

Framework

The coordination of the German EWS is located at the German NFP. The main objective of this network is the exchange of information concerning new drugs and modified patterns of drug use. Accordingly the NFP is responsible for the information flow from the EMCDDA to the participants of the national EWS and from local or national institutions to the EMCDDA. As the German NFP has no formal mandate to obligate any institution to participate, the network on national level is informal – all partners participate on a voluntary basis and provision of information is voluntary as well.

Resources

As the German EWS is located at the German NFP, it has access to all its resources (e.g. the network of relevant national and local scientists, drug commissioners, and workers in the drugs care system). It includes key persons from governmental and non-governmental organisations on national, regional and local level which represent in most cases networks with sub-units. The participating partners in the German EWS are shown in Figure 3.



Source: DBDD.

Figure 3: Information flow within the German EWS

The information flow towards the NFP mainly takes place from the Federal Criminal Police Office (Bundeskriminalamt, BKA), the Institute for Forensic Medicine of the University

Hospital of the city of Freiburg (Institut für Rechtsmedizin des Universitaetsklinikums der Stadt Freiburg, IRF), the Poison Control Centres (Giftinformationszentren, GIZ), the Customs Criminal Investigation Office (Zollkriminalamt, ZKA), and the party projects. The BKA collects all information from police units on Länder level, which, on their part, receive information from subordinate units. The BKA-laboratory is the most important source of analytical data in the framework of the German EWS. The GIZ are documenting all cases of intoxication and have a broad data collection. The laboratory of the IRF Freiburg searches for synthetic cannabinoids in herbal incenses. In this function, the IRF has identified several synthetic cannabinoids and provided reports via the NFP to the EMCDDA. The party projects (as a part of the Phar-Mon project[9]) and the ZKA have recently joint the EWS network. Partners of the party projects collect information on known, used, and popular substances in the party scene. The ZKA collects information on seizures of trafficked substances at the German border. Both are going to report them to the NFP.

Lessons learned and perspectives

There is a regular information flow and ad hoc information is spontaneously exchanged. Even though the cooperation with partners is informal and therefore on a voluntary basis it is fruitful. Still, some limitations do exist. As there is no formal mandate for the decision-making process, the possibilities of the German EWS are restricted to the areas of information collection and exchange. Due to legal restrictions in Germany there is no “drug checking”. Therefore most of the data almost exclusively stem from drug seizures by the police. In this respect, the recent inclusion of the party projects in the system is a positive development; nonetheless this cooperation could be prospectively intensified and better utilised. New sources of information are also indicated with the development of (internet-based) surveys addressing NPS consumers (e.g. the ones conducted by the Centre for Drug Research Frankfurt/Main (CDR) in the context of the two Spice Projects, or the Crystal Meth survey of the Centre for Interdisciplinary Addiction Research; ZIS and IFT). As up till now, there is only little cooperation with the addiction aid system, it is planned to recruit partners from the medical field and to stabilize existing partnerships within the network to further increase the information flow. Another shortcoming is related to the limited forensic medicine capacity. In this respect, the institutionalisation of product monitoring (test purchases) could also provide valuable information on NPS.

[9] The IFT Institute for Therapy Research in Munich is carrying out research as part of the Federal Ministry of Health-supported project “Phar-Mon” in cooperation with the MINDZONE addiction prevention project investigating new trends in substance misuse in the party scene. In the scope of this research, information on new substances and patterns of use amongst party goers is being collected as this population can be considered very knowledgeable and experienced in the use of such substances (Pfeiffer et al. 2013).

Table 4: Main features of the German EWS

FEATURES	GERMAN INFORMATION & EARLY WARNING SYSTEM
Coordination/implementation	German NFP at the Institut für Therapieforschung (IFT) Munich
Partnerships for the collection of information	• Federal Criminal Police Office (Bundeskriminalamt, BKA) • Poison Control Centres (Giftinformationszentren, GIZ) • Laboratory of the Institute for Forensic Medicine of the University Hospital of the city of Freiburg (Institut für Rechtsmedizin des Universitätsklinikums der Stadt Freiburg, IRF) • Customs Criminal Investigation Office (Zollkriminalamt, ZKA) • Party projects of the Phar-Mon project • CDR Frankfurt (local school surveys, monitoring of the open drug scene and other party scenes in Frankfurt/Main)
Focus of the information on NPS	New drugs, modified patterns of drug use
Information sources	Law enforcement activity statistics, (population) surveys, party projects
National databank	A database (Excel-format) in the context of the German EWS with the aim of monitoring NPS only for internal purposes of the NFP.
Data collection (incl. tools)	A special form for alerts report about new substances is to be filled in by the EWS partners and addressed to the German NFP. Communication runs mainly be email.
Assessment of information	By German NFP; if necessary, in consultation with the Ministry of Health.
Information exchange	See Figure 3.
Utilisation of information	In the case of special health concerns the information is used by and disseminated to all partners of the German Early Warning System, it is also included in the National Report.
Outputs	Warnings about new identified substances or new (potentially dangerous) circumstances, which are disseminated as soon as new results are available.
Target audience	Consumers and/or their families, professionals, policy makers, health professionals
Website	http://www.dbdd.de website of the German NFP incl. the concept of the German EWS

Source: EMCDDA 2012 & DBDD enquiry.

3.5 Switzerland

Framework

In Switzerland a structured EWS encompassing all relevant institutions active in the field as well as a supporting and coordination institution on national level is currently missing. There rather exist two parallel systems: on the one hand, the official one implemented by the national authorities in charge of controlling NPS, consisting of the Federal Police Office (Fedpol), the Customs, the Forensic Reference Laboratory and the Swiss Agency for Therapeutic Products (Swissmedic) on behalf of the Federal Department of Home Affairs (EDI); on the other hand, there are initiatives coming from the various stakeholders and professionals in the field of social and addiction work -at regional level mainly- who operate exchange platforms and professional expert groups. The most comprehensive initiative with the aim to support coordinated collaboration at national level and at the same time the knowledge transfer among the professionals, law enforcement authorities and researchers was the establishment of the Swiss expertise network Safer Nightlife Schweiz (SNS) in 2010. The Swiss Office for the Coordination of Addiction Facilities (Infodrog) is the organizing institution of SNS and is responsible for the management of the expert groups working on the

implementation of the action plan of the Federal Office of Public Health (Bundesamt für Gesundheit / BAG).[10]

Resources

In the framework of the official system to control NPS, data are gathered by the Forensic Institute of the City of Zurich, which are submitted to Swissmedic. Based on the result of the external consultation conducted the substances are put under control by the Ministry of Interior (Public Health). In the context of the additional tools for measuring the prevalence of NPS within the general and specific sub-populations the following resources are available: a) the SNS collects prevalence data on the use of NPS, b) the City of Zurich (Saferparty.ch) and partly the region Bern (Rave-It-Safe) also have drug checking services which collect data on the chemical content of substances declared by users as NPS, c) other nightlife prevention and harm reduction offer services (Nuit-blanche.ch, Eve&Rave.ch, Danno.ch, Trans-at.ch, Safer Dance Switzerland) collaborate also for the information collection on NPS, d) C-SURF, a cohort study directed by the University Hospital of Lausanne (Centre hospitalier universitaire vaudois / CHUV) and the Social and Preventive Medicine Institute at Zurich University in Switzerland provides data on the use of some NPS, e) the Swiss Association of Forensic Medicine (Schweizerische Gesellschaft für Rechtsmedizin) has a specific group (Forensic Chemistry – Addictive substances) exchanging information on NPS on an ad hoc basis.

The questionnaire filled out in the context of the nightlife prevention and harm reduction includes since 2009 questions to the prevalence's of NPS use (lifetime, last year, monthly and during a typical party night). An evaluation of this questionnaire has been performed between 2011 and 2013. In addition, Switzerland has also participated in an online survey concerning the use of NPS in 2012 together with the Frankfurt University as well as in the Global Drug Survey in 2013.

Lessons learned and perspectives

The system to control NPS is perceived by the experts as being relatively efficient in reducing the supply within the country (for instance via websites, headshops). Nevertheless, professionals in the field agree that a formal information network is currently missing; a shortcoming which has a greater impact since Switzerland is not participating in the EU network. The low threshold drug checking access in relation to a consultation and an ongoing drug use behavior survey (nightlife questionnaire) is highly efficient concerning the detecting of new drug-use-trends. The online survey has also provided useful information from NPS users. Another positive aspect of the Swiss experience is the cooperation between researchers, prevention and harm reduction professionals. A deficiency, on the other hand, is that there is no national financial support for the drug checking activities.

According to the experts' view the perspectives of Switzerland and envisaged improvements include a structural early warning system as well as structural finances for chemical

[10] http://www.infodrog.ch, last accessed: 19 September 2014.

analyses (i.e. drug checking) and the carrying out of the survey at nightlife prevention and harm reduction settings.

Table 5: Main features of the Swiss Monitoring Structures

FEATURES	SYSTEM FOR CONTROLLING NPS	
Coordination/implementation	No structural EWS available	
Systems for the collection of information	Swissmedic , Fedpol and police (cantons), Customs, Forensic Reference Laboratory	Safer Nightlife Schweiz City of Zurich, region of Bern (partly)
Focus of the information on NPS	Substances and legal aspects	Users, substances, settings
Information sources	Law enforcement activity statistics, customs	Surveys (recreational drug users mostly related to use in nightlife setting, C-surf Cohort Study (for some NPS) Chemical substance analyses
National databank	Specific database managed and accessed only by the Forensic Institute of the City of Zurich (law enforcement, regulation etc.)	
Data collection (incl. tools)	Data are gathered by the Forensic Institute of the City of Zurich and submitted to Swissmedic.	Self-selective reports on use by those involved in nightlife prevention or harm reduction offers (questionnaires). Drug checking of samples brought on the grey or black market.
Assessment of information	Chemical analysis (GC/MS and FTIR with GC/MS, GC/IR and NMR, spectroscopic data); quality check on reference standards, indices of retention, comparing of spectroscopic data. A national committee (forensic chemists) is in place for consultation.	In relation to the drug checking: GC-MS, NMR, HPLC. Chemical analysis of the substance in parallel with expert consultation. Member of the SNS expert network are partly involved in the quality check of the collected information.
Information exchange	Personal contact between the Forensic Reference Institute and the Swissmedic.	Mostly via email distribution or the reports of the implementing institution.
Utilisation of information	Information delivery to professionals and other authorities, national classification of NPS.	Dissemination of information and in some cases as alerts for risk awareness concerning a substance.
Outputs	See above.	Alerts, annual report of the implementing institution, specific information (trend reports, factsheet) for professionals.
Target audience	Professionals, chemical industry, health administration, police	Consumers and/or their families, professionals, nightlife stakeholders (e.g. bouncers, night managers)
Website	https://www.swissmedic.ch/	http://www.infodrog.ch/index.php/nightlife.html http://www.saferparty.ch/allgemein.html

Source: DBDD enquiry.

4 Chapter III: Mapping of NPS related projects and studies

4.1 Introduction

As already mentioned, despite the rapid changes observed in the availability and consumption of NPS, reliable data on the various aspects related to this phenomenon, such as on long-term health damage, addictive potential, etc., are rare (EMCDDA 2011; EMCDDA 2013a; Dargan & Wood 2013; Duffert 2014). Still, in order to understand this complex phenomenon as much relevant data as possible with as much detail possible is required. The studies aiming to collect information on the various aspects of the NPS phenomenon, especially those based on the cooperation among European countries are, for this reason, of major significance, since they can feed the existing monitoring systems. In parallel, the increasing amounts of research should go together with the expansion of the knowledge base and the information exchange through the identification and dissemination of good practices also in the area of demand reduction. This chapter presents cross-national (mainly) European studies conducted to collect data on NPS as well as projects exploring new intervention approaches addressing users of NPS or supporting NPS related networks. It should be noted that the list is not exhaustive, rather serves as a way of illustrating the interest of the European scientists -in the framework of the cross-European collaboration- both in the field of detecting and monitoring NPS as well as in the field of innovative prevention and harm reduction measures.

4.2 Cooperation projects on new methods for detecting / monitoring NPS

SEWPROF ITN[11]

The research project SEWPROF Initial Training Network, funded by the Marie Curie Actions of the European Union 7th Framework Programme, focuses on the field of sewage epidemiology, using the innovative search strategy of obtaining epidemiological information from sewage for public health monitoring at a community level. Its techniques are currently used to determine illicit drug trends at community level via the analysis of urinary biomarkers in sewage. The project is an interdisciplinary and cross-sectional training programme aiming to develop capability for the next generation of scientists. Research output includes publications on the analysis and identification of NPS using sewage biomarker technology (SEWPROF ITN 2014).

COST Action ES1307: Sewage biomarker analysis for community health assessment (April 2014-April 2018)[12]

Being part of the domain Earth System Science and Environmental Management (ESSEM) of the intergovernmental framework for European Cooperation in Science in Technology (COST), the main objective of this Action is to provide insights into how sewage biomarker analysis can be used to inform on different aspects of community health, including the use of

[11] www.sewprof-itn.eu, last accessed: 19 September 2014.

[12] http://www.cost.eu/domains_actions/essem/Actions/ES1307, last accessed: 19 September 2014.

illicit drugs and NPS. Its objectives include managing a common Europe-wide testing platform, expanding an existing inter-disciplinary European network, and coordinating the development of new biomarkers in sewage, among others for NPS. Since 2010, the Sewage analysis CORE group (SCORE) network, that has been supported by the EMCDDA, has performed studies including cities of up to 25 European countries. The Action intends to closely interact with the already mentioned project SEWPROF ITN and other international projects (European Cooperation in the field of Scientific and Technical Research (COST) 2013).

4.3 Epidemiological surveys and studies on the use of NPS

Flash Eurobarometer N° 330, 2011: Youth attitudes on drugs[13]

The Flash Eurobarometers consist of telephone interviews with randomly selected respondents in the EU Member States, conducted at the request of services of the EC. The Flash Eurobarometer N° 330 builds on earlier surveys on the use of drugs, particularly among young people, in the EU: Special Eurobarometer N° 172 and Flash Eurobarometer N° 158 (2002 and 2004) covered the then 15 EU Member States, Flash Eurobarometer N° 233 was conducted in the 27 EU MS. In the current survey, questions on experiences with and attitudes towards NPS were included, but the report asks for caution in the interpretation of the results as the perceptions of relevant substances may have varied across subsamples (The Gallup Organization 2011).

Global Drug Survey[14]

Since 2011, the Global Drug Survey takes annual online surveys on the consumption of drugs in cooperation with media partners in various countries. Having its origins in 1999 in a survey conducted in a clubbers' magazine, it developed from 4,500 participants in 2011 to nearly 80,000 responses in 2014. Since 2014 the questionnaire is also available in other languages than English. The survey aims at researching drug consumption among people who use drugs as part of their lifestyle activities.

4.4 Cooperation projects in the field of public health and prevention interventions

Trans-European Drug Information project (TEDI)[15]

The Trans-European Drug Information project (TEDI) is a network of European fieldwork Drug Checking services that share their expertise and data within a European monitoring and information system, in order to be able to detect the dissemination of dangerous substances and the introduction of new drugs into Europe more effectively and rapidly. The participating organisations involved in drug checking share their data on the TEDI database, a system which collects, monitors and analyses the evolution of drug trends in recreational settings (ABD 2013). The aim of this monitoring and information system is to help improve public

[13] http://ec.europa.eu/public_opinion/archives/flash_arch_en.htm, last accessed: 19 September 2014.

[14] http://www.globaldrugsurvey.com/, last accessed: 19 September 2014.

[15] www.tediproject.org, last accessed: 19 September 2014.

health and intervention programmes. It serves as an early warning system, as a tool for monitoring the evolution of drug markets in Europe, and as knowledgebase in the area of recreational drug use. The project also focuses on reporting the emergence of NPS in recreational settings and on monitoring their evolution throughout Europe (ABD 2013). The information gathered is available online in the form of trend reports. While only a few of the newly reported NPS over the last few years were actually being consumed in nightlife settings, TEDI has detected a trend of NPS included as adulterants in commonly consumed illicit drugs like ecstasy, amphetamine, LSD and ketamine (ABD 2013).

ALICE RAP[16]

ALICE RAP (Addiction and Lifestyles in Contemporary Europe: Reframing Addictions Project) is a five year trans-disciplinary European research project co-financed by the European Commission, which started in April 2011. Its approach aims at reframing the understanding of addiction and redesigning addiction policy based on objective scientific evidence. The project is divided into seven areas and twenty one work packages, making up an integrated multidisciplinary research strategy (ALICE RAP 2011a). Two areas of ALICE RAP are concerned with legal highs: As part of WP 16 (adolescents as customers), responses of EU Member States to the increased availability and marketing of legal highs are examined. As part of WP 11 (impact of suppliers), a semi-systematic review of the internet marketing of illicit drugs and legal highs and an analysis of trends over 5 years aim at identifying relevant websites and analysing their marketing practices (ALICE RAP 2011b).

Psychonaut Web Mapping Project (2008-2010)[17]

The Psychonaut Web Mapping Project was a 2-year European Union funded project with the aim of implementing a regular and integrated monitoring of the Internet, in order to identify and categorize novel recreational drugs/psychoactive compounds, and new trends in drug use based on information available on the Internet. As part of the project, a technical database of novel psychoactive compounds and drug trends was developed (Psychonaut Web Mapping Research Group 2014). The Psychonaut Web Mapping activities have led to the identification of 412 novel psychoactive compounds (151 chemical, 121 herbal) and combinations (140). The project also set up an integrated mapping and monitoring system of the Internet, which demonstrated the possibility of an early identification of emerging trends in recreational drug use (Deluca et al. 2012). With respect to project's sustainability, among the project's aims was the establishment of a formal liaison of the developed web scanning system with the existing EU EWS. Furthermore, the resulting database was used in the (below presented) ReDNet Project. It should be noted that although the funding period has ended, members of the project team are still working on the monitoring of the web and the preparation of technical reports; however, with limited resources.

[16] www.alicerap.eu, last accessed: 19 September 2014.

[17] http://www.psychonautproject.eu/, last accessed: 19 September 2014.

ReDNet Project (April 2010-June 2012)[18]

The Recreational Drugs European Network (ReDNet) project was a multi-site research study with the aim of improving the level of information available to young people (16-24 year olds) and professionals on the effects of new recreational drugs and the potential health risks associated with their use. It also aimed to explore the potential of a number of innovative information communication technologies (e.g. SMS, social networking sites, multimedia platforms) in the dissemination of accurate and non-judgmental, evidence-based information in a timely way, and in line with the needs of each of the targeted groups (ReDNet Project 2011). The ReDNet project used the existing Psychonaut [EWS] project database together with information from available literature and online searches, and the involvement of the targeted groups (i.e., young people and professionals). Its aims were to develop accurate information on new recreational drugs, to develop and pilot various information communication technologies to disseminate this information as well as to assess their respective feasibility and the relevance of the disseminated information, and to inform future research in e-Health, selective prevention, and harm reduction using information communication technologies. As part of the project, a new database format was developed, which integrated the Psychonaut database with the work of the ReDNet project, and is also accessible via mobile devices. Another part of the project aimed to provide weekly up-to-date information on NPS from around the world, presenting e.g. reports, peer-reviewed papers, or other news on NPS (ReDNet Project 2012).

The ReDNet project established itself as the first Europe-wide prevention programme designed for NPS based on the efficacy of novel information and communication technology-based forms of intervention. More than 650 NPS products and combinations were identified; relevant information was disseminated to target population and advice was given to both European Union/international agencies and national policy makers (Corazza et al. 2013). Within the project, an international NPS conference series has been initiated, also in cooperation with the EMCDDA, with the main aim to increase knowledge and understanding about the nature and the effects of NPS as well as to promote innovative solutions in the field.[19] Currently, its fourth edition is being planned (Corazza 2014, personal communication). Furthermore, the monitoring and dissemination of information related to the emergence of NPS is continued -despite the official project ending- in the framework of a new interactive multimedia platform called HighWise, which is currently in preparation. HighWise's aim is to promote the rapid knowledge exchange on NPS as well as other new drug trends.[20]

I-TREND - "Internet Tools for Research in Europe on New Drugs": interdisciplinary and integrated approaches to substances, users, and markets (April 2014-April 2015)[21]

I-TREND is a European research project with the participation of 5 countries in the field of the prevention of NPS related health and social harms. Using a combination of data sources

[18] www.rednetproject.eu, last accessed: 19 September 2014.

[19] http://www.novelpsychoactivesubstances.org/, last accessed: 19 September 2014.

[20] See footnote 19.

[21] http://www.i-trend.eu/, last accessed: 19 September 2014.

(e.g. law enforcement seizures, evidence on increased interest in NPS among users, NPS-related fatalities) and consultations with key stakeholders, each participating country is developing a top list of NPS for in-depth investigation. The emphasis of the project is on interrogating internet-based sources. The key audience for I-Trend's outputs (methodological outcomes and research results) is health professionals and others in contact with potential users of new substances. This project aims to provide experts involved in risk assessment procedures on NPS and forensic laboratories with a sustainable observation tool for interdisciplinary research on drugs.

5 Chapter IV: Assessment of the current situation and recommendations

5.1 Assessing the current situation

Our enquiry has revealed that there is currently a growing interest on NPS and new cross-national projects are constantly initiated on this issue in various research fields.[22] In the framework of the projects that have been implemented during the last years many interesting aspects of the NPS phenomenon have been explored, innovative ideas have been supported and helpful methods have been developed, nevertheless it seems that in some cases these helpful results might later get "forgotten", for example, by not being utilised in the long run. Consequently, the developments envisaged should always take into consideration that useful forms and instruments with the aim of collecting NPS information exist. In this respect, the focus of the enhancement of existing monitoring systems should be on combining the existing instruments and on better linking stakeholders and experts in the field.

In addition, it seems that, to some extent, a clear responsibility sharing of the institutes involved in the described systems and networks is missing; the stakeholders approach the phenomenon from different perspectives based on their area of work and interests. From the side of the institutions already active in this field, a fear has been expressed that this could lead in duplication of efforts.

Within Europe the EMCDDA has undertaken a coordinating role with the operation of the EWS; this system has become one of the innovative and highly visible activities in this field by allowing the EU institutions and MS to rapidly exchange information and act on new narcotic and psychotropic substances that appear on the EU drug scene (EMCDDA 2012). The considerable added value of the EWS is that it has become an important part of the overall EU drug information system. In the last years, the EWS has established itself as a real-time vehicle for the exchange of multidisciplinary information which is now extensively used by forensic science community, health and law enforcement professionals throughout Europe (EMCDDA 2012). Nonetheless, it is pointed out that investment to allow better detection of new drugs by improving the capacity for investigative forensic and toxicology analysis and to increase the capacity to identify and monitor patterns and trends in their use linked to the EWS is essential (EMCDDA 2012). Still, the operation of the EWS and its database EDND follows certain rules regarding the type of information on NPS and is clearly and strictly related to the implementation of the Council Decision. An expansion of its goals and activities, for example by addressing other target groups (e.g. prevention activities,

[22] This part of the report contains key points that emerged from the experience of the relevant stakeholders approached within the framework of our enquiry. The section 5.2 "Recommendations on future options for enhancing the data flow & combination of existing information on NPS at EU level" is furthermore enriched by the views expressed in the respective workshop that took place in the framework of the Spice II Plus - EMCDDA conference (Lisbon, 5 June 2014) with the aim of collecting additional input and exchanging of ideas among experts in the field; mainly the national EWS representatives (the experts from the following countries participated in the workshop: Belgium, Croatia, Finland, Germany, Greece, Poland, Sweden, United Kingdom, as well as representatives from EMCDDA, WHO and the EC).

professionals at counselling services) seems not to be under consideration at the moment. Nevertheless, the rapid dissemination of NPS possibly indicates the need for a more integrated approach, which could reach all professionals active in the field, taken into consideration the increasing amount of information that is already being collected in the framework of detecting and monitoring.

Also at a global level, the establishment of the UNODC EWA in 2013 was based on the Resolution 56/4 (2013)[23] of the Commission on Narcotic Drugs which recognises the importance of sharing information on NPS. In this vein, UNODC is urged to work on facilitating timely and comprehensive information sharing on NPS including analytic methodologies, mass spectra and trend analysis data, which could serve as a basis for effective evidence-based policy responses (UNODC 2013c).

Given that currently no systematic cooperation or linking of the above mentioned systems exist the need of establishment of appropriate mechanisms to avoid the overlapping of efforts through the exchange of relevant information has been identified.

"National early-warning systems can also be strengthened by the use of quantitative drug monitoring indicators, qualitative research and multidisciplinary information sources such as healthcare providers, law enforcement organisations and independent researchers. They may exploit the latest analytical and technological advances, and can benefit from efficient and timely information exchange between all partners" (EMCDDA 2011, p. 2). To this end, the comparable presentation of the key features of the NPS monitoring systems in the four European countries in chapter 3, could serve as a basis in identifying common key elements that have been proved essential and helpful for the implementation and smooth operation of a monitoring system on new substances. These key elements could be briefly summed up as follows: a) rapid exchange of relevant information (timeliness), b) engagement of a multi-disciplinary network, c) establishment of a central communication / reference point, d) linking with the EU/UN, e) collection of comparable data where possible and f) common standards. The example of the cross-border cooperation in the Nordic countries with the establishment of the NADiS network depicts the need of neighboring countries with relevant framework to minimize duplication of efforts through their collaboration.

As far as the available information sources are concerned, it is acknowledged that comparable epidemiological data on NPS obtained with the use of high quality methodologies and sampling techniques, as for example those collected in the context of well-resourced general population prevalence surveys, are only available on a small scale making international prevalence comparisons impossible. In addition, little robust data is available on novel and emerging psychoactive substances (Sumnall et al. 2013a). Another need detected was thus to promote the dissemination of surveys aiming at examining the prevalence of NPS.

[23] „Enhancing international cooperation in the identification and reporting of NPS". Available at: http://www.unodc.org/documents/commissions/CND/Drug_Resolutions/2010-2019/2013/CND-Res-56-4.pdf, last accessed: 19 September 2014.

Finally, an obstacle that has been identified for the implementation of novel interventions is, in some cases, related to the variety of national regulations into force deriving from the different legal systems and approaches in the various EU countries. By way of illustration, drug checking (a specialised form of outreach work approaching hard to reach consumers) is not integrated in official concepts or policies, whereas there is a general uncertainty surrounding legislation in most MS where on-site pill testing is carried out. Such projects have to rely on regional regulations, ad hoc legal opinions or special agreements (Kriener et al. 2001).

In the demand reduction field, research projects that have been presented in chapter 4, such as the ReDnet or the Psychonaut Project, have developed interesting ideas to address the NPS phenomenon (e.g. with mobile devices, apps or regular information that is sent out proactively). A significant challenge with respect to such efforts is assuring their continuity beyond the project funding period by integrating and sustaining their outputs in prevention activities and possibly by linking them with the existing monitoring systems.

Table 6 summarizes the main issues addressed by the relevant stakeholders during our enquiry regarding their experiences with the operation of NPS monitoring systems.

Table 6: Lessons learned and suggestions for improvement with respect to NPS monitoring systems

USEFUL PRACTICES
• Already established NPS programmes and formal information networks (e.g. RTX network, UNODC Global SMART programme)
• Personal contacts (networking) increase motivation of partner organisations
• Establishment of meetings in the same field as well as with the involvement of different disciplines
• Information exchange on regular basis
• Existing databases and electronic tools (e.g. EDND, EWA)
• Inclusion of „new“ information sources, e.g. drug checking, internet-based surveys, WW analysis, product monitoring
CURRENT CHALLENGES
• Variety of national regulations, different legal systems and approaches
• Interesting aspects of NPS phenomenon explored, innovative ideas supported and helpful methods developed; still helpful results are later getting “lost”
• Duplication of efforts
• Inconsistencies regarding terminology on NPS
• Very few reliable information regarding mental, physical and social consequences of NPS use
COPING WITH THE CHALLENGES
• Bringing together all information available
• Further efforts on standardised collection of information related to existing methodologies
• Focus on the development of friendly and easy to use tools, also for field-level workers
• Modern technology in collecting, sharing and analysing data
• Efforts on “unexploited” information sources (e.g. health & care system)

Source: DBDD enquiry.

5.2 Recommendations on future options for enhancing the data flow and combination of existing information on NPS at EU level

The following points of consideration aim to facilitate future ventures for enhancing the data flow and combination of existing information on NPS at EU level. Their formulation was based on the lessons learned and deficiencies identified from currently operating NPS information systems and is orientated towards pragmatically implemented actions.

- The information collected on NPS is diverse covering legislation, forensic, toxicological, law enforcement, pharmacological and epidemiological seizures data as well as information on prevention and harm reduction interventions. The establishment of a central reference point bringing together all information available could amplify its visibility. At the moment, exist mainly databases/portals addressing concrete aspects of the NPS phenomenon (for instance, mainly chemical or toxicological characteristics). A central database could work as a motivational reference point; professionals are further motivated to provide with new information when they are familiar to a centralised platform specialised on NPS. Still consideration should be made on the various audiences (i.e. policy, science, treatment or even general public) approached with each type of information, as well as to the various levels of access depending on the type and/or the confidentiality of information. For example, a public section including the alerts and a restricted area for sensitive and confidential data. The following key questions could be taken into consideration when structuring a more integrated platform: a) what type of information is available, b) what type of information would be useful and for what purpose, c) which audience should receive the various types of information available.
- Currently various national databases on NPS exist, mainly in relation to the European EWS and its database, EDND. The envisaged central reference point could systematically work on the inclusion of links to similar projects, taken of course into consideration the arrangement and structuring of information in accordance with its relevance.
- The most significant aspect in any development towards establishing a central reference point is avoiding duplication of efforts, by trying to develop a brand new database. The issues that should be taken into consideration are the orientation of the enriched platform and the clear definition of the target groups/audiences (e.g. professionals, public). The purpose and the goals of this reference point should be decided under very careful consideration. In this respect, duplication of efforts should be avoided. Other significant aspects that such a central reference point should incorporate are neutrality, reliability and credibility.
- Further emphasis could be placed on the promotion of the “outputs” of the existing NPS monitoring systems (for instance the existing databases including information on NPS) by making them more visible and popular among the professionals, also to professional categories who may currently not use it so much (e.g. chemists and staff of laboratories).

- Easy und uncomplicated access for all relevant stakeholders should be the goal of any revisions on existing instruments. Of course, considerations should be made with respect to the target audience of each network/system.
- The envisaged platform could encompass various areas, depending on the specific target audience addressed, e.g. for scientific work, social workers etc.
- More emphasis could be placed on the promotion of best practices and new good methods (for instance how to identify NPS). Such new methods and proofed tools could be systematically uploaded on a common database, so that other interested international, national and regional organisations get also informed.
- Emphasis should be placed on linking the various relevant stakeholders. Also national links from the various European countries could be added.
- Networks of collaborating agencies should be able to use the existing platform(s) in a better way in order to communicate their news or relevant achievements.
- It should be explored to which extent online reporting of new information could be supported and used in a more extensive way. Online access would facilitate the work of sharing new information, being in some cases less laborious.
- A wide range of bibliography on NPS exists, including for instance scientific review articles, on the analysis and identification of NPS in seized materials, on methods for the analysis in biological speciments, articles on the toxicology/pharmacology of NPS, or on the NPS use (for instance, a selection is presented on the UNODC website). Such efforts should be more visible among the relevant stakeholders.
- Special attention should be paid on how information is presented; data should be handled taking into consideration their information source. Data from novel sources (e.g. market monitoring) can provide a misleading picture if not handled with caution and as such a different approach is required compared to data deriving from “traditional” information sources. A clear separation of the various sources is suggested.
- Another issue that should be taken into consideration before a message is disseminated is its good documentation.
- A helpful task, however, a very demanding one would be to review all available material currently available in the field with the aim of incorporating it in a central platform provided that it could serve its specific aims.

As far as the various suggestions are concerned, the work overload of the agencies implementing such systems should be of course taken into consideration and it should be carefully weighed whether the establishment of a new output (for example, a newsletter informing about new developments) or the enlargement of an established system (by addressing new target groups) can compensate for the additional resources required. Additionally, it should be clearly differentiated what does exist and which purpose it serves (differentiation).

A major problem for the implementation of such initiatives is that no sustainability is accomplished in terms of funding. Legislation can also be considered as an impediment. In this respect, the procedure for communication has to be decided at a national level, especially when referring to the general public.

There are numerous of opportunities in combining the existing material, nonetheless emphasis should be placed on their feasibility and the adoption of a pragmatic approach (taking into consideration also the efforts required for a comprehensive mapping). A thorough mapping covering all existing projects and sources is an extremely big venture requiring too many resources.

6 Conclusion

It is acknowledged that for the purpose of adopting appropriate measures to minimise the harms caused by the NPS, a range of stakeholders (i.e. policy makers, practitioners and researchers) need access to timely evidence-based and authoritative information regarding these substances as well as trends in their use. A significant question that rises is whether all relevant stakeholders have access to the material required given that drug information systems can play a critical role in detecting, identifying and monitoring NPS (Sedefov et al. 2013). Nevertheless, the speed at which changes in the amphetamine-type stimulants markets occur, makes the work of the monitoring systems difficult. It is therefore required to operate “a simple sustainable mechanism for frequent information sharing from different parts of the world” (UNODC 2011).

It goes without saying that further research and data is required in order to understand the impact of bringing these substances under legal control (Sumnall et al. 2013b). However, it should be taken into consideration that relevant material is already available and established networks are in place. The cross-linking of the available material could ensure that knowledge that has been accumulated through studies, researches and innovative projects could be also utilised by other researchers and professionals in the field at national and international level (for instance, in the case of countries that possibly do not have sufficient equipment or know-how). At the moment, there exist numerous databases and information sources without necessarily having an identical content. As such, what is probably missing is an official reference point or rather a central contact point bringing together all information available. Nonetheless, it should be taken into consideration that in order to develop or establish a central reference point in the frame of existing projects, the respective capacity and interest should be in place. It should not be forgotten that organisations involved in such activities have their own purposes and scope. The financial resources are often a drawback in this respect, whereas ongoing maintenance and work is required. All in all, sharing information, best practices and using the collective knowledge should be supported by the better networking among the experts active in the field.

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Note: All online addresses listed below were last accessed on 19 September 2014.

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