The UNODC Early Warning Advisory on New Psychoactive Substances

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Content

- The emergence of NPS at the global level
- Prioritization of NPS – the role of UNODC
- UNODC’s response to the NPS phenomenon: the Early Warning Advisory on NPS
International legislative framework

Single Convention on Narcotic Drugs, 1961

Convention on Psychotropic Substances, 1971
**What are NPS?**

**Working definition:**
New Psychoactive Substances are substances of abuse, either in a pure form or a preparation, that are not controlled by the international drug conventions, but which may pose a public health threat.

**Caveats:**
The term “new” does not necessarily refer to new inventions but to substances that have newly become available in specific markets.

39 substances have been placed under international control since 2015. For the purpose of this presentation, they are included in the data analysis.
Number of NPS annually reported, 2009-2016

Source: UNODC Early Warning Advisory on NPS
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Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties. The final boundary between the Sudan and South Sudan has not yet been determined. A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas). The analysis comprises NPS registered up to December 2017.
### NPS - From substitution to expansion to diversification to?

#### Psychoactive effect groups

<table>
<thead>
<tr>
<th>Category</th>
<th>Example of traditional drug</th>
<th>Example of synthetic NPS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedatives/hypnotics</td>
<td>Diazepam</td>
<td>Etizolam, clonazolam</td>
</tr>
<tr>
<td>Dissociatives</td>
<td>Phencyclidine</td>
<td>3-methoxyphencyclidine, Deschloroketamine</td>
</tr>
<tr>
<td>Classic hallucinogens</td>
<td>LSD, 2C-B</td>
<td>1p-LSD, 2C-I</td>
</tr>
<tr>
<td>Stimulants</td>
<td>Cocaine, methamphetamine</td>
<td>4-fluoroamphetamine, Dimethylcathinone</td>
</tr>
<tr>
<td>Cannabinoids</td>
<td>Cannabis</td>
<td>AB-PINACA, ADB-FUBINACA</td>
</tr>
<tr>
<td>Opioids</td>
<td>Morphine, heroin</td>
<td>Furanyl fentanyl, ofentanil</td>
</tr>
</tbody>
</table>

Expectations: what is UNODC’s role?

CND Resolution 56/4 (2013)
Urges the United Nations Office on Drugs and Crime to continue to develop the voluntary electronic portal of the international collaborative exercises, (...) to enable timely and comprehensive sharing of information on new psychoactive substances, including analytical methodologies, reference documents and mass spectra, as well as trend-analysis data, with a view to providing a global reference point and early warning advisory on new psychoactive substances (...).

CND Resolution 58/11 (2015)
Invites the World Health Organization, with the support of the United Nations Office on Drugs and Crime and other relevant international and regional organizations, to prioritize the review of the most prevalent, persistent and harmful new psychoactive substances
Early Warning Advisory: Clients and needs

Main clients

• International bodies and organisations (CND, WHO Expert Committee on Drug Dependence, INCB, …):
  – Global reference point as a basis for discussion and decisions, NPS trends, maps, terminology, effects, and harms.

• National experts, policy and decision-makers:
  – Trend-analysis data and legal approaches

• Laboratories:
  – Spectra for NPS identification, methodologies for analysis and scientific names
UNODC Early Warning Advisory – Data sources

- International Collaborative Exercise (ICE) Programme with over 250 forensic laboratories in over 80 countries
- UNODC Annual Report Questionnaire and Individual Drug Seizure Database
- UNODC member states questionnaire on NPS 2012, 2014 and 2016
- European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)
- Ad-hoc communication and threat assessments from individual member states (e.g. Canada, Japan, USA)
- International Narcotics Control Board (Project ION Incident Communication System, IONICS)
- World Customs Organization seizure data

➢ Close to 15,000 data points from over 110 countries and territories worldwide
UNODC Early Warning Advisory (EWA) on New Psychoactive Substances (NPS)

The EWA provides access to basic information on new psychoactive substances. Specific information on NPS including trend data, chemical details on individual substances, supporting documentation on laboratory analysis and legislative responses can be accessed by registered users only.

What are NPS?
New psychoactive substances have been known in the market by terms such as 'legal highs', 'herbal highs', 'bath salts', 'research chemicals'

NPS Substance Groups
NPS differ greatly in terms of their adverse effects, the ways in which they are abused and their historical background

Legal Responses
Countries have adopted various legislative measures to tackle the NPS problem

Latest News on NPS (view all)

April 2013 – Drug checking services
April 2013 – UNODC: first training
March 2018 – New Zealand: Police
What does the Early Warning Advisory Offer?

UNODC Early Warning Advisory on New Psychoactive Substances (NPS)

- Search NPS Data
- Create new NPS Submission
- NPS Chemical Information
- Search Legal Responses
- NPS Briefs
- My Profile
Use filters to check which NPS emerged where and when!

Create an online map of NPS emergence based on your search criteria!

PDF summary report, excel list
Submit a NPS finding in your country with analytical information using the online form!
Find more information on individual NPS

Aminoindanes

- 2,3-Dihydro-1H-inden-1-amine, 1-Aminoindan
- 2-Aminoindane, 3,3-Dihydro-1H-inden-2-amine (2-AI) [2975-61-9]
- 5-Methyl-2-aminoindane, 6,7-Dihydro-5H-cyclopenta[1][1,2]benzodioxol-6-amine (MDAAI) [132741-81-2]
- 5-Methyl-2-aminoindane, 6,7-Dihydro-5H-cyclopenta[1][1,2]benzodioxol-6-amine (MDMAI)
- 5-Indol-2-aminooindane, 3,3-Dihydro-1H-inden-2-amine (5IAI) [132767-76-1]
- 5-Methoxy-6-methyl-2-aminoindane, 6-Methoxy-6-methyl-2,3-dihydro-1H-inden-2-amine (MMAI)
- 5-7(1H)-trifluoromethyl-2-aminoindane, N-Ethyl-5-(1H)-trifluoromethyl-2,3-dihydro-1H-inden-2-amine (ETAI)
- 8-Methyl-2-Aminoindane, 2,3-Dihydro-N-methyl-1H-inden-2-amine (NM-2AI) [10408-85-2]

- (1R)-1-(1-[2-Morpholino-1-v]ethyl)indol-2-y]-3,4,4-trimethylethyl-2-en-1-one (A-796,550 isomer)
- (1S)-5-fluoroperetyl)-3-[2-methylbenzoyl]indole
- 1-(5-fluoroperetyl)-3-[2-methylbenzoyl]indole
- 1-Butyl-1H-indol-3-v][naphthalen-1-v]lanthanane (JWH-073) [20096-40-6]
- 1-(Ethyl-1H-indol-3-v][naphthalen-1-v]lanthanane (JWH-071)
- 1-Pentyl-1H-indol-3-v][2,2,3,3-tetramethylcyclopropyl]methane
- 1-Pentyl-1H-indol-3-v][2,3-tetramethylcyclopropyl]methane
- 1-Pentyl-1H-indol-3-v][2,3,3-tetramethylcyclopropyl]methane
- 1-Pentyl-1H-indol-3-v][3,4,4-trifluorobuty-1H-indol-3-v]lanthanane (XLR-12)
- 1-(2,2,3,3-tetramethylcyclopropyl)-1H-indol-3-v]lanthanane (UR-144 N-(3-chloroanilin) analog)
- 1-(3-Chloropentyl)-1H-indol-3-v]-[2,3,3-tetramethylcyclopropyl]methane (UR-144, FUB-144, FUB-UR-144)
- 1-[5-fluoropropyl]-N-[quinolin-3-v]lanthan-1H-indazole-3-carboxamide, 5-fluoro-TH [SF-TH], SF-TH-0118]
- N-(Quinolin-8-v]-1H-indazole-3-carboxamide (JWH-018, indazole analogue (THI)-018]
- 1-(2-Morpholin-4-v]ethvl)-1H-indol-3-v]-[2,3,3,3-tetramethylcyclopropyl]methane (A-756,260)
- 1-(5-fluoropropyl)-N-(2-phenylpropan-2-v]-1H-indazole-3-carboxamide, N-cumyl-1-(5-fluoropropyl)-1H-indol-3-carboxamide (CUMYL-SFPPACA)
- 1-(5-fluoropropyl)-N-[2-phenylpropan-2-v]-1H-indole-3-carboxamide (CUMYL-SPPICA)
- 1-(Cyclohexylmethyl)-2-[4-ethoxyphenyl]methyl]-N,N-dimethyl-1H-benzimidazol-5-carboxamide
- 1-(Phenylmethyl)-1H-indole-3-carboxyl acid 6-quinolinyl ester, Quinolin-8-v]-1-(phenylmethyl)-1H-indole-3-carboxylate
- 1-(3-Chloroanilin)-4-v]-[2,2,3,3-tetramethylcyclopropyl]methane (A-634,755)
- 1-Benzyl-N-[quinolin-8-v]-1H-indole-3-carboxamide
- 1-Benzyl-N-[quinolin-8-v]-1H-indole-3-carboxamide
- 1-butyl-N-[2-phenylpropan-2-v]-1H-indole-3-carboxamide (CUMYL-BIACA)
Methylenedioxy-N-methcathinone (MDMC) is a synthetic cathinone derivative. It is a structural analog of methyleneoxypyrovalerone (MDPV) and is known for its high potency and persistence as an abuse potential stimulant.

**Names:**
- Methylenone
- 3,4-Methylenedioxymethamphetamine (MDMA)
- 2-Methylaminopropanone
- 3,4-Methylenedioxymethcathinone (MDMC)

**IUPAC name:** 1-(1,3-benzodioxol-5-yl)-2-methylaminopropan-2-one

**Substance group:** Synthetic cathinones

**Structure:**

**CAS Number:** 196028-79-5

**InChI:** InChI=1/C11H13NO3/c1-2-6-13(12,11)4-5(8)7,9-h2,7/h1-5,8,11h3,1-7h2

**InChI Key:** VKEQBMCRQDSRET-TGQEOZGSA.N

**SMILES:** CC(NC)C(=O)c1ccc2nnc1

**Molecular Formula:** C₁₁H₁₃NO₃

**Molecular Weight:** 207.2258 g/mol

**Spectra:**

Note: All analytical spectra can only be used for reference purposes.

**GC/MS operating conditions:**
- Column: DB-5MS, 30 m x 0.25 mm, film thickness 0.25 µm.
- Temperature: 60°C, ramp at 10°C/min to 280°C.
- Carrier gas: Helium, 1.0 ml/min.
- Detector: Electron impact, 70 eV.

**Retention time:** 8.4 minutes.

Note: The above method represents a general screening method and may not be applicable to separate multiple components in a sample.
In most cases the original law is hyperlinked.
EWA Newsletter (4-5 times per year) and news clips

Tweets

UNODC HIGHLIGHTS

More than 800 NPS have been reported to UNODC from over 110 countries and territories from all regions of the world. NPS have become a global phenomenon with over 110 countries and territories from all regions of the world having reported one or more NPS. Up to December 2017, more than 800 substances have been reported to the UNODC Early Warning Advisory (EWA) on NPS by Governments, laboratories and partner organizations. Looking at the psychoactive effects of NPS that have been reported until December 2017, the majority are stimulants, followed by synthetic cannabinoid receptor agonists and classic hallucinogens.

SMART Update 19 explores the impact of NPS on the synthetic drug market: The Global SMART Update (Volume 19, March 2018) presents an analysis of the synthetic drug situation before and after the rapid emergence of large numbers of NPS. Particularly, this report aims to shed light on how NPS have produced a transformative shift in a market that was characterised by a limited number of substances belonging to a limited number of chemical groups to one that includes hundreds of substances of diverse chemistries. Despite their diversity, NPS can be grouped into the same six categories of psychoactive effects known from traditional drugs under international control.

UNODC publishes five brochures on various forensic services available to Member States: UNODC has recently published brochures on five key areas of forensic services: crime scene investigation, drug and precursor field test kits, security documents examination, safe handling and disposal of chemicals, and forensic and scientific services publications. These brochures offer an overview of the variety of forensic services provided by UNODC to various disciplines of forensic science.

UNODC EWA UPDATES

Legal responses: Updates are now available for Estonia and Viet Nam (for registered users only).

Analytical information: SWC/DRUG monographs now available for 2-Methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one, Alpha-methyl acetyl fentanyl, Benzoylbenzyl Fentanyl, Cyclopentyl Fentanyl, alphaxalone, EPP, 4-Fluoropentadecone, Cyclpentyl Fentanyl and U-49900 (for registered users only).

Updates to the website: The legal responses interface, the page on what are NPS? and the phenylcyclidine-type substances page have been updated with new information.

RECENT NEWS on NPS

INCR: Synthetic cathinones and synthetic cannabinoids account for the majority of incidents reported to INCR.

EMCODA-EUROPOL: EMCODA and Europol conduct a joint assessment of cyclopropylfentanyl, methoxycyclazocine and fentanyl.

FRANCE: Information online forums suggests that habitual NPS use is confined to narrow population groups.

UNITED KINGDOM: Problematic NPS use increases among adults and decreases among young people treated in secure settings.

UNITED STATES: US Food and Drug Administration uses computational model to assess kratom properties and potential adverse effects.

UNITED STATES: Drug Enforcement Administration issues a temporary order on fentanyl-related substances.

AUSTRALIA: Wastewater analysis identifies low levels of NPS.
Highlighting specific issues: The Global SMART Updates (biannually)
Challenges for the UNODC Early Warning Advisory on NPS

- Early Warning at the global level has its own challenges
- Ensure a consistent flow of data on NPS from a wide range of sources (links to national and regional mechanisms)
- Between 2015 and 2017, 27 NPS and 2 NPS precursors were placed under international control, in March 2018, 12 more substances added: implementation gap between international decisions and national capabilities
- Respond to the demand of laboratories and law enforcement to improve their NPS detection and identification capability
- Capture more systematically information on harm
Who can get access to the information in the UNODC Early Warning Advisory on NPS?

- Online database: for official use only (password protected)
- Newsletters, Global SMART Updates, news clips, tweets (@raithelhuber), other publications: general public

Sign up to be included in our distribution list (unodc-globalsmart@un.org)