



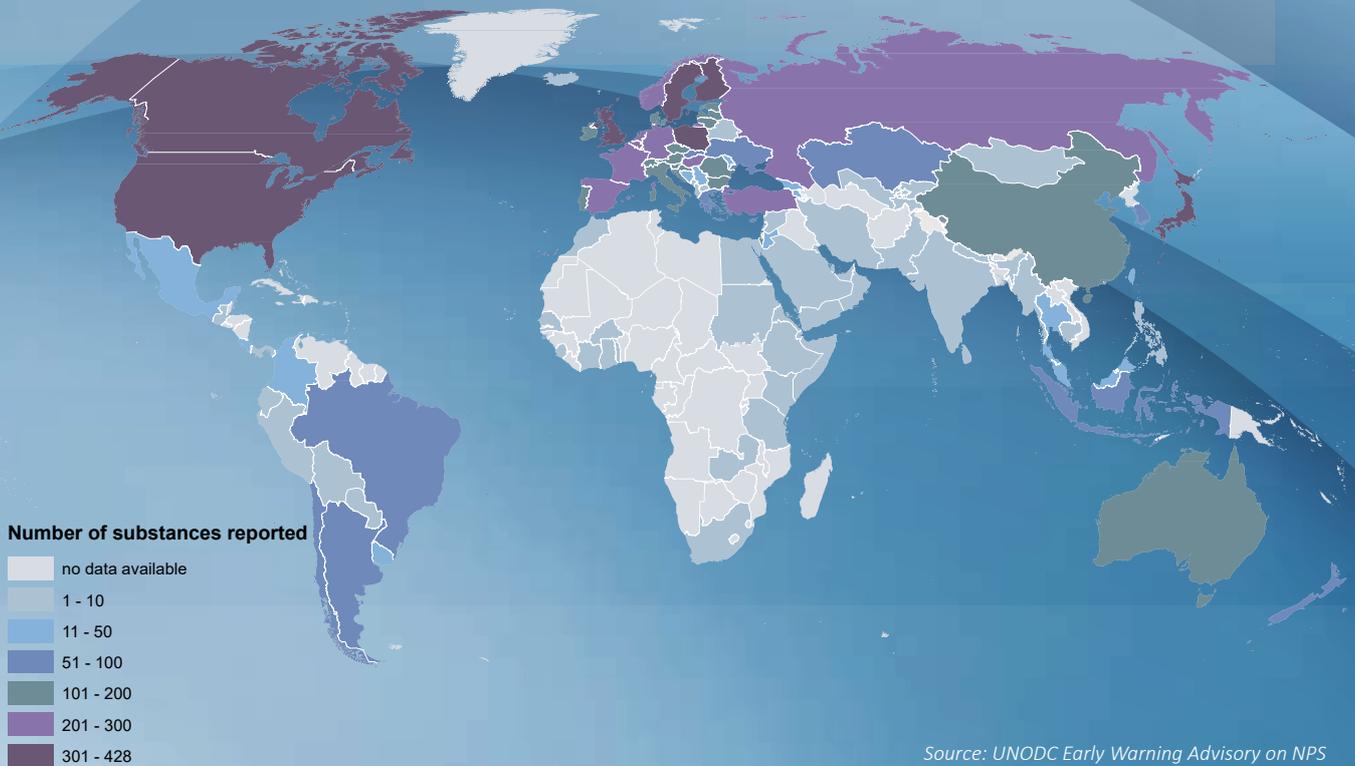
**UNODC**

United Nations Office on Drugs and Crime

# Current NPS Threats

**Volume I**  
**March 2019**

Number of NPS reported by country, December 2018\*



Source: UNODC Early Warning Advisory on NPS

## UNODC Early Warning Advisory Toxicology Highlights

- Synthetic cannabinoids, synthetic opioids and stimulants account for the majority of NPS reported to the UNODC EWA Toxicology Portal
- Synthetic cannabinoids, in particular remain harmful, persistent and prevalent with more reports in 2018 than synthetic opioids
- Poly-drug use continues to be a factor and an important consideration in NPS fatalities
- Benzodiazepine-type NPS feature highly in driving under the influence of drugs

2019

## Introduction

In 2016, the United Nations General Assembly Special Session on the World Drug Problem (UNGASS) decided to prioritise the most harmful, persistent, and prevalent NPS for international action. Following this decision, the Commission on Narcotic Drugs (CND) in its resolution 60/4, entitled “Preventing and responding to the adverse health consequences and risks associated with the use of new psychoactive substances”, mandated the development of the UNODC Early Warning Advisory on NPS – Toxicology Portal (Tox-Portal) in order to address the resolution adopted by Member States. The Tox-Portal is an online tool developed in collaboration with The International Association of Forensic Toxicologists (TIAFT) that collects data on toxicology and harm related to the use of NPS at a global level.

For the first time, data from drug seizures as well as drug detections in biological fluid casework have allowed an overview of the NPS landscape. Utilising data from post-mortem, clinical and other casework (including drug driving) reported by toxicology laboratories from 29 countries in all regions of the world, it has been possible to identify some key recent developments regarding health threats posed by NPS. This represents a snap analysis from the limited set of data held at this stage and may not show the full extent of the ongoing opioid crisis.

## Fatalities involving NPS

Between 2016 and 2018, just over half of all NPS cases reported to the Tox-Portal involved opioids or synthetic cannabinoids. Instances involving opioids reduced in 2018, while the number of instances involving synthetic cannabinoids increased (Table 1), both in apparent contrast to NPS emergence trends (see Figure 2).

**Table 1: Synthetic cannabinoids and synthetic opioids reported to the Tox-Portal**

	Number and percentage of NPS cases		
	2016	2017	2018
Synthetic opioids	44 (36 %)	27 (29 %)	6 (4 %)
SCRAs*	26 (21 %)	31 (34 %)	57 (38 %)
Opioids or SCRAs	70 (57 %)	58 (63 %)	63 (41 %)
NPS Cases**	123 (-)	92 (-)	152 (-)

\*Note: SCRAs are synthetic cannabinoid receptor agonists also known as synthetic cannabinoids.

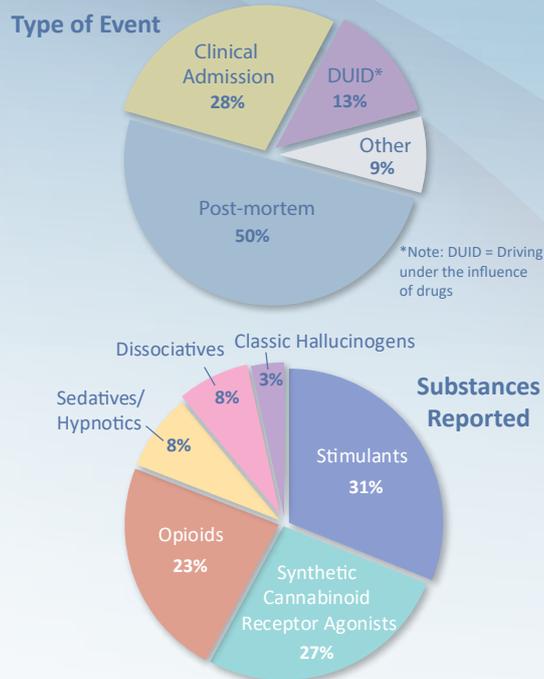
\*\*Note: All cases where one or more NPS was notified.

## Synthetic cannabinoids

Despite the apparent decrease in the emergence of new synthetic cannabinoids, their continued prevalence of use was noted in toxicology cases. In particular, the persistence of 5F-MDMB-PINACA (5F-ADB) and FUB-AMB (AMB-FUBINACA) across Asia, Europe, Oceania, and the Americas.

5F-MDMB-PINACA and FUB-AMB, the substances most reported by countries in seizures in both 2017 and 2018, were also the substances most reported to the Tox-Portal in biological fluid detection.

With regard to clinical admissions and non-fatal intoxications, a wide range of substances were reported. The majority of cases reported between 2016 and 2018 involved synthetic cannabinoids and this reached a peak in 2017. In 2018, a significant number of reported deaths involved synthetic cannabinoids in comparison to previous years.



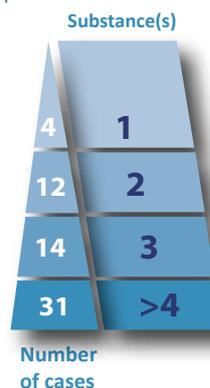
Overall, between 2016 and 2018, 52 deaths involving synthetic cannabinoids were reported, all associated with a potential drug related manner of death, including named use of a suspected synthetic cannabinoid product. While post-mortem detections of synthetic cannabinoids occurred in Asia, Europe, Oceania, and the Americas, a substantial number of reports were from New Zealand, predominantly involving 5F-MDMB-PINACA and/or FUB-AMB.

## Poly-drug use

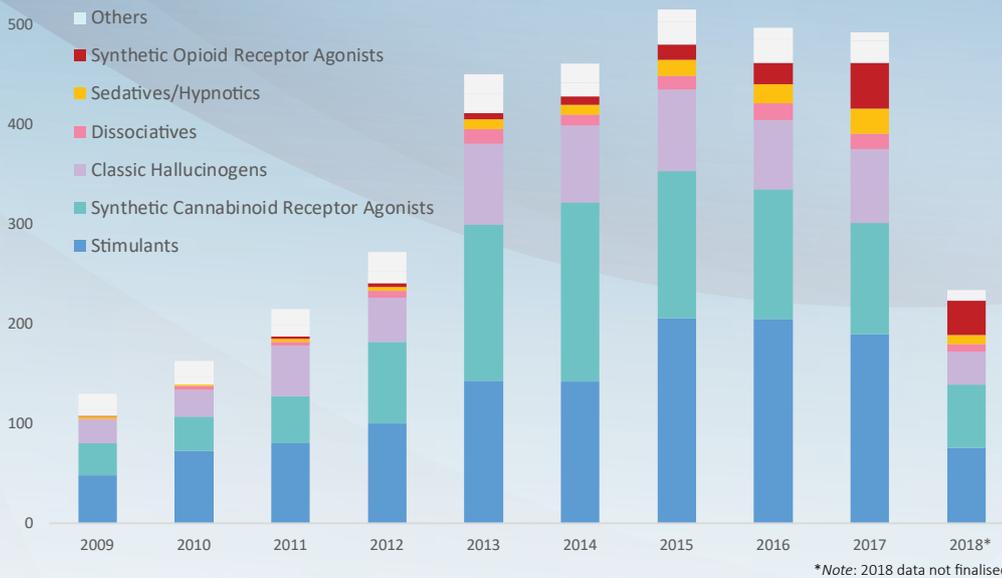
In 2018, just over half of all post-mortem cases reported to the Tox-Portal involved the concomitant use of more than four substances (Figure 1). In the cases of fatalities involving synthetic cannabinoids, across all 52 deaths, other drugs were detected by the reporting toxicology laboratory in the vast majority of instances, with antipsychotics and cannabis being the most frequently detected (Figure 3).

The high frequency of cannabis detection is consistent within the context of the manner of synthetic cannabinoid use (i.e. in addition to or as a replacement for cannabis) and the detection of antipsychotics may be a reflection of underlying mental health issues and/or potential clinical treatment of synthetic cannabinoid symptomology, including psychosis.

**Figure 1: Number of post-mortem cases involving poly-drug use**



**Figure 2: Emergence of NPS reported to UNODC EWA by effect group, 2009-2018**

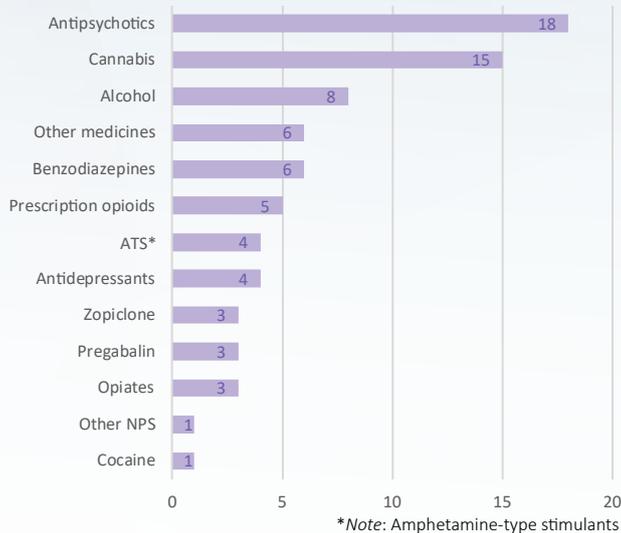


From 2008 to 2019, **119** countries and territories reported a cumulative total of **899** individual NPS

**62** synthetic opioids reported to UNODC EWA by 2019, **110%** increase in three years

Reports of synthetic cannabinoids continue to **decrease** since **2014** but remain associated with **high rates of fatalities**

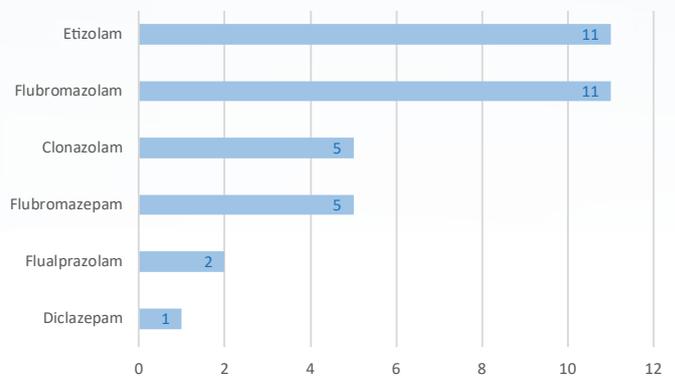
**Figure 3: Frequency of other substances found in synthetic cannabinoid fatalities**



### Benzodiazepines and driving under the influence of drugs (DUID)

Instances of seizures of sedative/hypnotic drugs, predominantly benzodiazepines or benzodiazepine derivatives reported to the UNODC EWA have continued to increase, especially since 2014 (Figure 2). Data from 2018 reported to the Tox-Portal showed 32 instances of DUID involving benzodiazepine-type NPS, almost exclusively in the USA with a few reports in Canada and the UK.

**Figure 4: Frequency of benzodiazepine-type NPS in DUID cases**



In the 2018 DUID cases, etizolam and flubromazolam were most frequently detected (Figure 4). Other drugs were detected in virtually all instances, especially cannabis, cocaine and/or amphetamine-type stimulants, which are commonly associated with DUID. Given the sedative/hypnotic properties of the benzodiazepines and benzodiazepine derivatives identified, they have the propensity to impair driving even in the absence of additional drugs. In addition, these combinations could result in an increased risk of occurrence of different types of impairment.

### Complex nature of causality

The presence of other drugs poses a challenge in assessing the significance and potential contribution of a particular drug in a death.

However, consideration of the circumstances of death, any significant pathological findings, the presence (in blood or urine), concentration and nature of the drugs present (including alcohol) allows for assessment of toxicological significance.<sup>1</sup>

Consequently, in terms of the synthetic cannabinoids, cases reported to the Tox-Portal involved decedents suffering adverse effects during or immediately after synthetic cannabinoid use, or known/suspected synthetic cannabinoid users being found dead with no apparent competing cause of death. In these cases, synthetic cannabinoids were assessed to have a high causal link to the death in 86.5% of cases with a medium contributory link in 13.5% of cases. Where detected, other drugs were not present at toxicologically significant concentrations and within the context of the other considerations.

<sup>1</sup> Elliott, S., Sedefov, R., & Evans-Brown, M. (2018). Assessing the toxicological significance of new psychoactive substances in fatalities. *Drug testing and analysis*, 10(1), 120-126.

## What is the UNODC Early Warning Advisory Toxicology Portal?

The UNODC Early Warning Advisory on NPS - Toxicology Portal (Tox-Portal) is an online tool developed in collaboration with The International Association of Forensic Toxicologists (TIAFT), including its NPS Committee, that collects data on toxicology and harm related to the use of NPS at a global level.

### Events

2019

#### UNODC Current NPS Threats and data collection

March	• New client registration
April-May	• Data collection
April-September	• Portal development
	• Current NPS Threats II

\*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. The 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 Republic of Sudan and the Republic of 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).

### Contact Details

#### UNODC Laboratory and Scientific Section

Vienna International Centre  
P.O. Box 500  
A-1400, Vienna  
Austria  
[unodc-ewa-tox@un.org](mailto:unodc-ewa-tox@un.org)

#### Website

[www.unodc.org](http://www.unodc.org)  
[www.unodc.org/nps](http://www.unodc.org/nps)  
[www.unodc.org/tox](http://www.unodc.org/tox)