Current NPS Threats | Vol. 8

United Nations
Office on Drugs and Crime

UNODC Early Warning Advisory Highlights

- *1,396 individual New Psychoactive Substances (NPS) have been reported to the UNODC Early Warning Advisory (EWA) on NPS by 153 countries and territories worldwide.*

- *The annual number of unique NPS reported in drug samples in 2024 reached a record level of 688. Of these, 101 were reported for the first time.*

- *Synthetic opioid NPS continue to be increasingly detected across the world with reports from every continent (37 countries) in 2024. Fentanyl analogues were the most dominant group with 95 different substances, followed by nitazenes with 33 individual compounds reported. Nitazenes and the newly emerging brorphine analogues dominated the newly emerged synthetic opioids in drug samples in 2024. Protonitazene and metonitazene were the most common synthetic opioid NPS detected in drug and toxicology samples in 2024, with N-pyrrolidino protonitazene emerging.*

- *Benzodiazepine-type NPS remain prevalent in drug and toxicology samples with bromazolam continuing to be the most frequently detected benzodiazepine. It is followed by desalkylgidazepam, which was first reported in 2022 and surpassed clonazolam.*

- *Polysubstance use is of significant concern with numerous toxicology cases involving the combination of multiple NPS. In 2024, 38 per cent of post-mortem cases involved two or more NPS – the proportion of deaths involving multiple substances is much higher when considering controlled drugs and pharmaceuticals.*

What is the UNODC Early Warning Advisory?

Established in 2013 under the United Nations Commission on Narcotic Drugs Resolution 56/4 (2013), EWA was the first global monitoring system on NPS. Since 2017, the EWA Tox-Portal expands the scope of data collection to NPS identified in toxicology cases. More information about the EWA, its main data providers and data collection mechanisms can be found here.

EWA offers timely and comprehensive interactive visualisations on NPS for registered users (see Dashboard Pro and Tox-Portal Dashboard). In addition, EWA issues a range of Early Warning Advisories on NPS which can be accessed here.

The information within EWA contributes to the identification of the most persistent, prevalent, and harmful NPS which pose the greatest threat to public health, thus, informing the prioritisation and scientific review of substances for scheduling under the international drug conventions, as well as legislative responses at the national level. Since 2015, 88 NPS have been placed under international control[1]. These substances continue to be included in EWA to assist in and monitor the implementation of international scheduling decisions.

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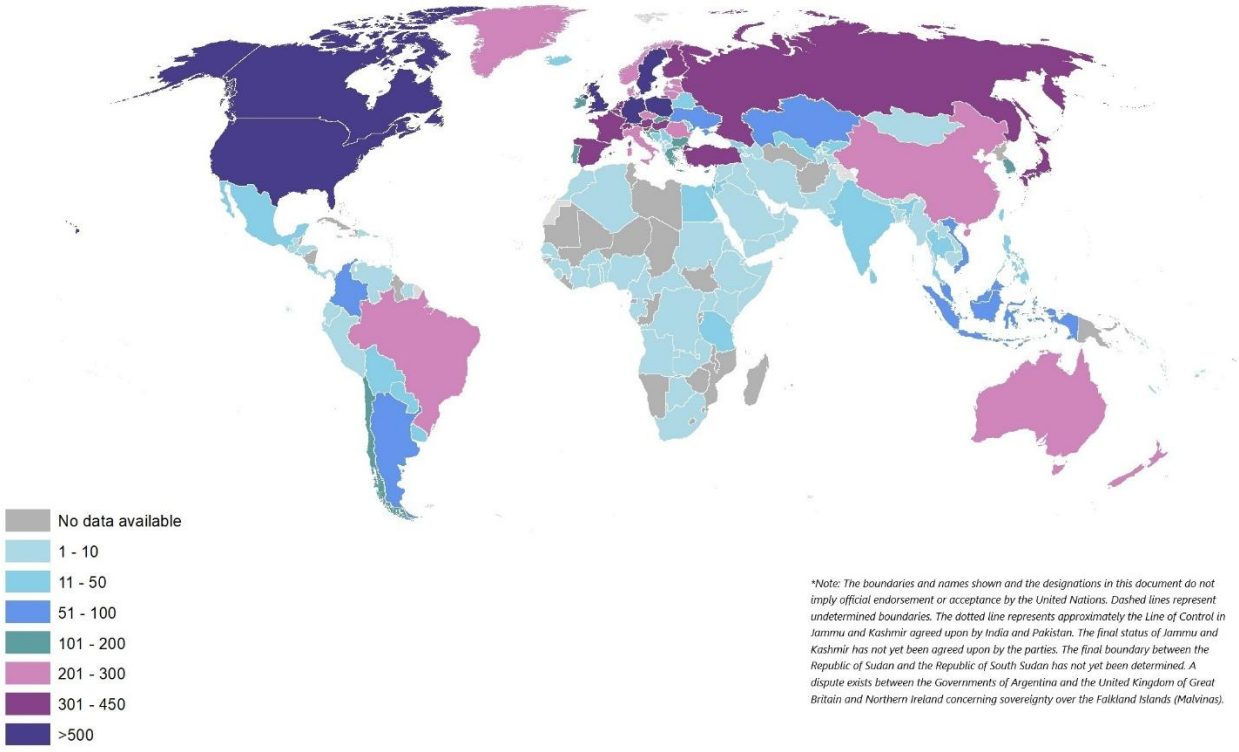
[1] *For more information on scheduling decisions, please refer to the Dashboard Public or Dashboard Pro and the NPS chemical information page (only for registered users).*

1. Latest NPS trends from drug samples in 2024

1,396 individual NPS have been reported to EWA by 153 countries and territories worldwide (as of 13 October 2025). As highlighted in previous reports, the global NPS landscape continues to be marked by significant diversity. While 18 countries have identified over 300 substances, 100 countries and territories have reported fewer than 50 substances. This variation in the number of identified NPS across countries reflects not only the diverse challenges faced by each country but also the complexity of addressing the NPS phenomenon on a global scale (Figure 1).

Figure 1: Number of individual NPS reported by country/territory

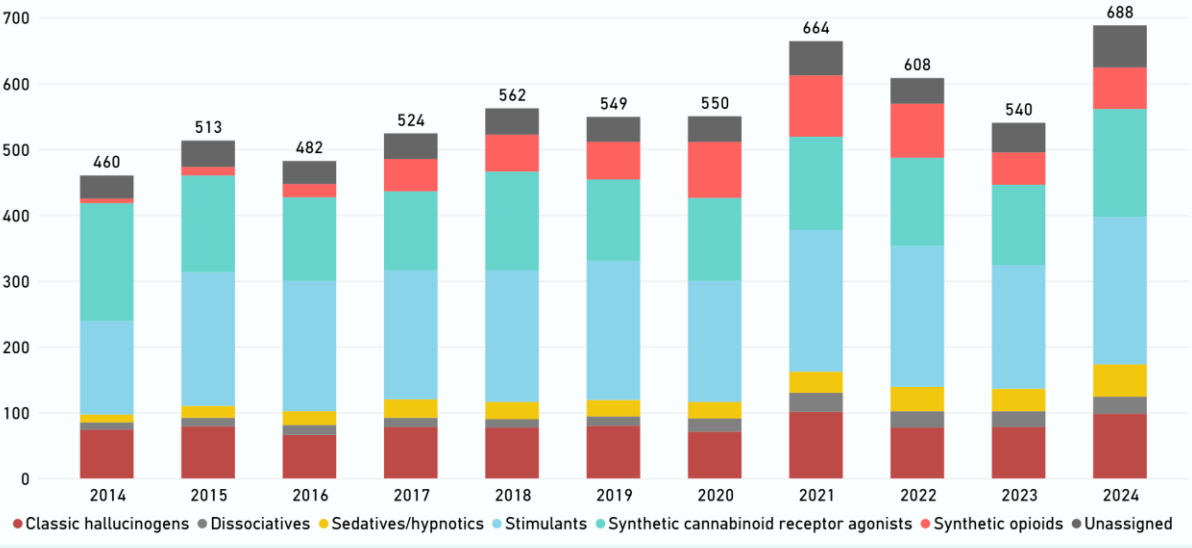


*Note: The boundaries and names shown and the designations in this document do not imply official endorsement or acceptance by the United Nations. Dashed lines represent undetermined boundaries. The dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and 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).

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA), Database (accessed on 13 October 2025).

The total number of NPS reported annually since 2013 has consistently ranged between approximately 450 and 700 substances each year, with a record high of 688 individual NPS reported in 2024. Based on their mode of action, NPS can broadly be classified into six effect groups.[2] Figure 2 shows the number of reports of individual NPS within each of these groups from 2014 to 2024. Since reporting began in 2008, stimulants and synthetic cannabinoid receptor agonists (SCRAs) have been the two largest groups of NPS, collectively representing 59 per cent of all reported NPS.

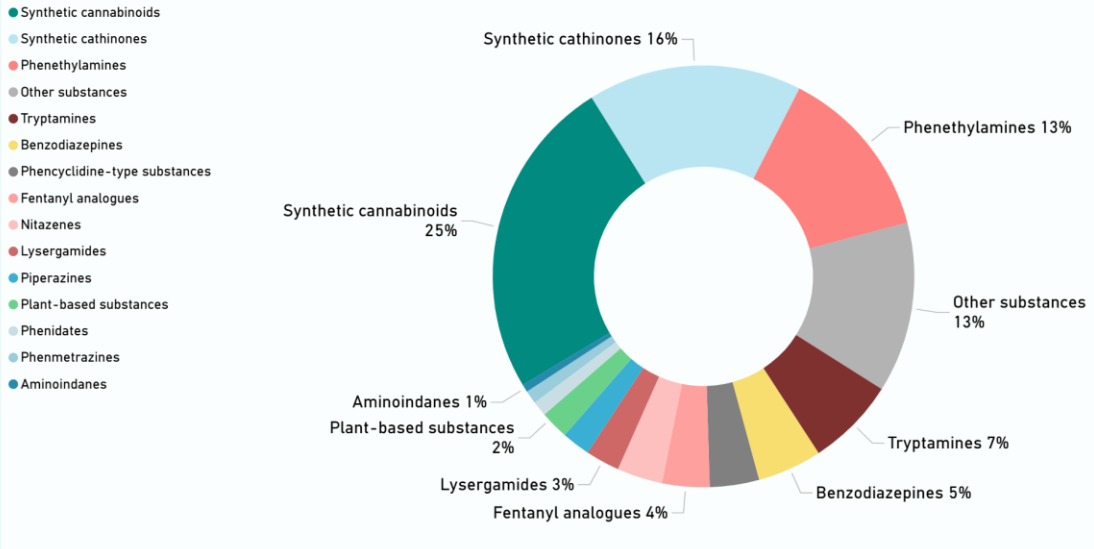
Figure 2: Number of individual NPS reported by year and effect group, 2014-2024



Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA), Database (accessed on 13 October 2025).
Note: For more information on effect groups please see here and UNODC, The challenge of New Psychoactive Substances - A technical update (United Nations publication, 2024)

Figure 3 shows the distribution of NPS classified based on similarities in chemical structure in 2024. Synthetic cannabinoids account for the largest substance group, comprising a quarter of all NPS reported, followed by synthetic cathinones and phenethylamines.

Figure 3: Distribution of individual NPS reported in 2024, by structural group



Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA), Database (accessed on 13 October 2025).

In 2024, ketamine, hexahydrocannabinol (HHC) and MDMB-4en-PINACA were the most frequently reported NPS in drug samples by number of countries and territories (see Table 1). As a new feature of EWA, the count of NPS reports in drug samples can be measured. Since 2024, EWA captures all drug sample detections of countries[3]. In terms of count of reports, bromazolam (n=7,107) was the most frequently detected NPS, followed by ketamine (n=3,849) and MDMB-4en-PINACA (n=3,710).

Table 1: Most frequently reported NPS in drug samples by number of countries/territories in 2024, by effect group

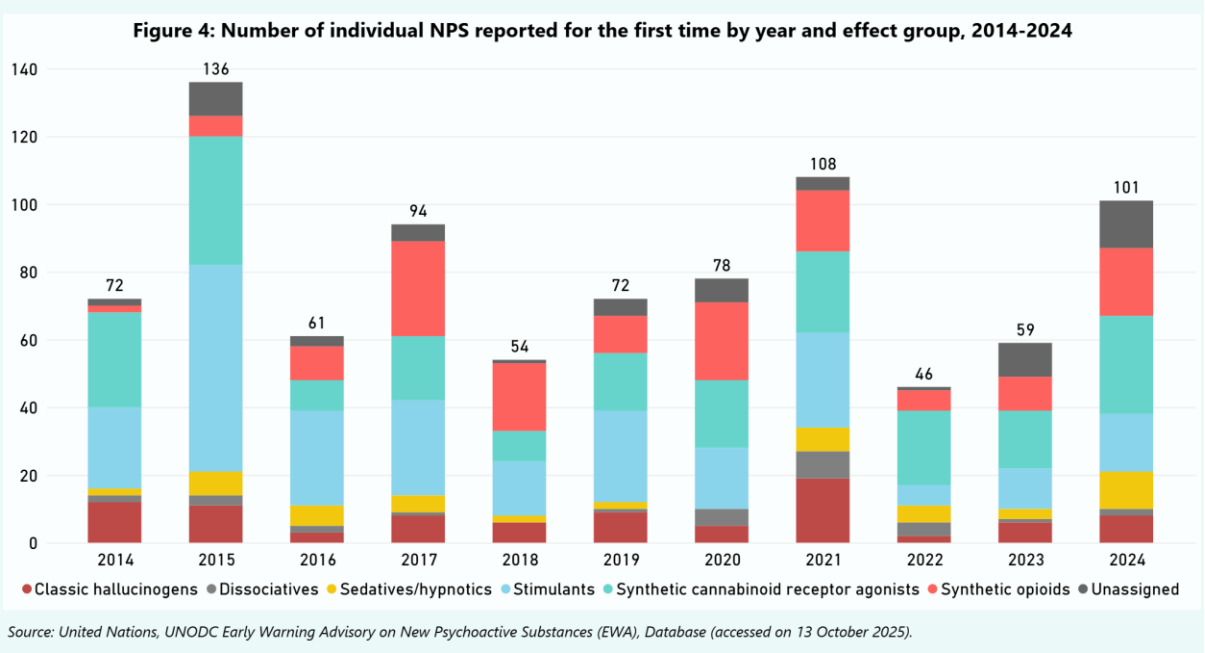
Classic hallucinogens	Dissociatives	Sedatives/hypnotics	Stimulants	Synthetic cannabinoid receptor agonists	Synthetic opioids
1cP-LSD (20)	Ketamine (78)	Bromazolam (34)	4-Methylmethcathinone (40)	Hexahydrocannabinol (48)	Metonitazene (20)
4-Hydroxy-N-methyl-N-ethyltryptamine (18)	Deschloro-N-ethyl-ketamine (21)	Flualprazolam (20)	Dipentylone (37)	ADB-BUTINACA (36)	Protonitazene (13)
1P-LSD (20)	Deschloroketamine (24)	Etizolam (26)	4-CMC (38)	MDMB-4en-PINACA (48)	N-pyrrolidino protonitazene (14)

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA), Database (accessed on 9 October 2025).
Note: The number in brackets indicates the number of countries/territories that reported the substance in 2024.

Furthermore, the emergence of newly reported substances over time shows notable year to year variation, as illustrated in Figure 4. In 2024, a total of 101 new substances were identified for the first time. The most prominent group among these newly reported NPS was SCRAs, accounting for 29 per cent with semi-synthetic cannabinoids continuing to persist, followed by synthetic opioids with 20 per cent (dominated by nitazenes and brorphine analogues) and stimulants with 17 per cent.

The top 5 new substances by unique countries were[4]:

- *delta*-9-Tetrahydrocannabinol acetate (15 countries)
- *delta*-8-Tetrahydrocannabinol-C8 and *delta*-9-Tetrahydrocannabinol-C8 (13 countries)
- *N*-pyrrolidino isotonitazene (10 countries)
- *N*-isopropylbutylone and *N*-propionitrile chlorphine (9 countries)
- R-6890 (Spirochlorphine) and Fluetonitazepyne (5 countries)



Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA), Database (accessed on 13 October 2025).

Other notable developments in 2024 include:

- Increase in etomidate and analogues in vapes found mainly in Asia, which are also being recently reported in cases of harm by New Zealand and Singapore.[5]
- A wide variety of NPS (e.g. synthetic cannabinoids) are being detected in vapes causing concerns of a new drug delivery method attractive to a wide market.
- Nitazenes were found in diverse forms globally, such as in vapes, tablets, plant material or powder form.[6], [12]
- Emergence of novel kratom-related semi-synthetic opioid products with 7-hydroxymitragynine and mitragynine pseudoindoxyl.
- BTMPS (bis(2,2,6,6-tetramethyl-4-piperidyl)sebacate)[7] and fentanyl-related substances such as Tetramethyl-4-piperidinol (TMP) were increasingly found in the drug supply of the United States and recently reported to UNODC in samples related to drug and toxicology casework.

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[2] *NPS may also be recorded as unassigned effect group if ambiguous or unable to be assigned, e.g. plants and precursor-type substances.*

[3] *At present, a limited number of countries from Asia, Central America, North America, Europe and Oceania report data on the number of drug samples, with ongoing efforts to expand this data collection.*

[4] *United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA), Database (accessed on 9 October 2025). Note: N-pyrrolidino isotonitazene was recommended by the 48th Expert Committee on Drug Dependence of the World Health Organization in October 2025 for international control.*

[5] *United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 11 November 2025).*

[6] *United Nations, World Drug Report 2025 (United Nations publication, 2025).*

[7] *Shover and others. "UV stabilizer BTMPS in the illicit fentanyl supply in 9 US locations". JAMA, vol. 333, issue 11, pp. 1000-1003 (Februrary 2025).*

2. Latest trends of NPS in toxicology case reports in 2024

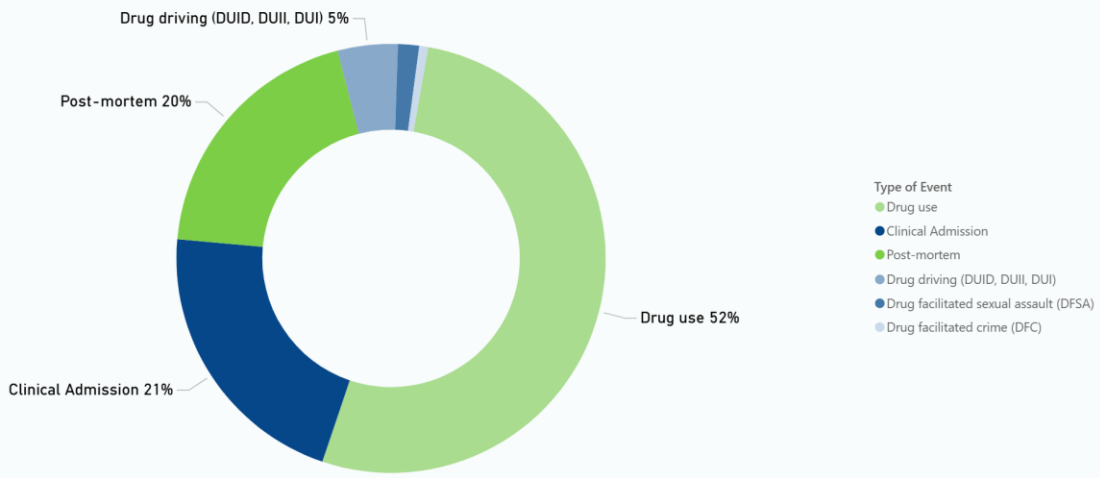
The EWA Tox-Portal contains data from over 10,463 toxicology cases reported by laboratories across 34 countries and territories from all continents (as of 20 October 2025). In the data collection period covered by this report (1 January – 31 December 2024, with contributions received until March 2025), a total of 2,808 reports of NPS corresponding to 2,073 toxicology cases were reviewed, identifying 89 individual NPS. Of these, 20 NPS were reported for the first time, with hexahydrocannabinol (HHC) (9 cases), 7-hydroxymitragynine (8 cases) and 2-methylmethcathinone (2-MMC) (6 cases) being the most frequently detected ones. The toxicology cases were submitted by 20 laboratories from 13 countries from the Americas, Asia, Europe and Oceania. While the analysis allows for a broader understanding of the associated harm of NPS, it is not an exhaustive representation of NPS present globally.

More than half of these cases were male (59 per cent), 22 per cent were female. For 19 per cent gender was unknown or not reported.

Age information was available for 733 cases in 2024. 75 per cent of these cases involved patients aged 21 to 50, 18 per cent 51 years or older and 7 per cent individuals below 21 years.

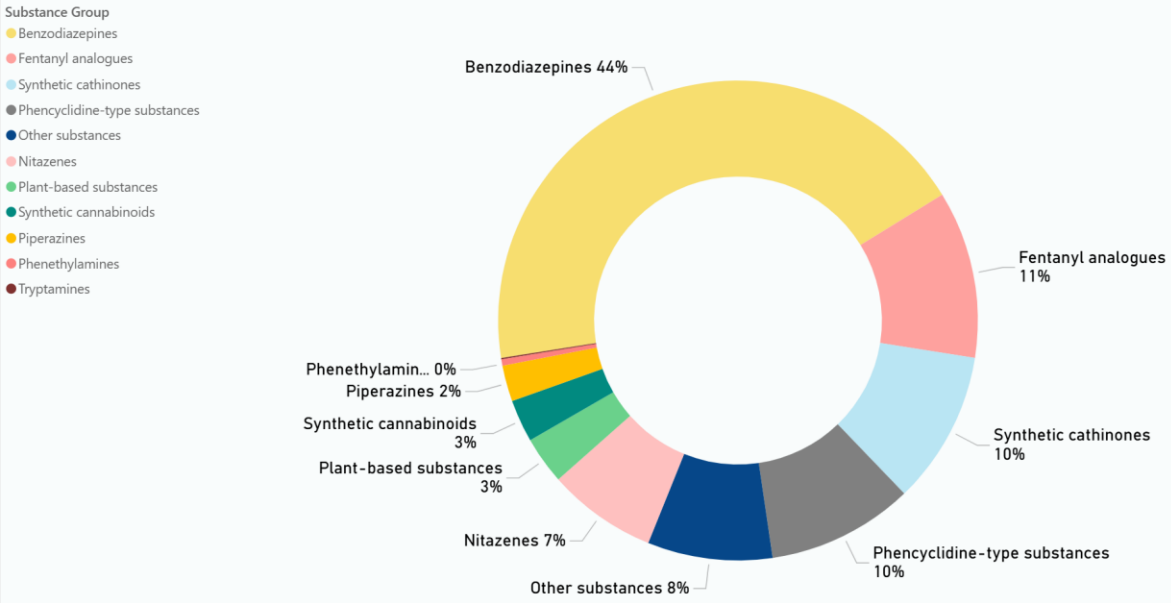
As shown in Figure 5, 52 percent of the cases were related to drug use monitoring[8], 21 per cent were clinical admission and 20 per cent post-mortem cases. Among the remaining case types, 4.5 per cent of the cases were related to driving under the influence of drugs (DUID), 1.6 per cent of the cases to drug facilitated sexual assault and 0.7 per cent were categorized as drug facilitated crime. This report is focusing mainly on clinical admissions, post-mortem and DUID cases.

Figure 5: Types of toxicology cases reported in 2024



Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).

Figure 6: Distribution of post-mortem, clinical admission and DUID cases by substance group in 2024



Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).

The majority of reported NPS across these three main toxicology case types were benzodiazepine-type substances. Bromazolam was the most common, whilst desalkylgidazepam (bromonordiazepam) now exceeds clonazolam (see previous volume of the Current NPS Threats). Fentanyl analogues were the second largest group (due to fluorofentanyl – isomer not

specified cases[9]), followed by synthetic cathinones. Dipentylone was the most dominant synthetic cathinone but decreased from 2023 (see Figure 6 and Table 2).

Table 2: Most frequently identified substances in post-mortem, clinical admission and DUID cases in 2024

Top 10	Substance identified	Total number for clinical admission, post-mortem and DUID cases	Number of clinical admission cases	Number of DUID cases	Number of post-mortem cases
1	Bromazolam	437	263	39	135
2	Fluorofentanyl (isomer not specified)[9]	105	0	14	91
3	Ketamine (including norketamine)[10]	80	22	17	41
4	Xylazine	79	17	1	61
5	Desalkylgidazepam	75	66	0	9
6	Protonitazene	50	12	1	37
7	Clonazolam	41	28	3	10
8	Dipentylone	37	12	0	25
9	Kratom	33	8	7	18
10	Etizolam	32	17	8	7

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).
Note: DUID refers to driving under the influence of drugs. Numbers in square brackets refer to footnotes.

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[8] *Note: Drug use cases refer to instances of drug use monitoring, generally within a criminal context that are not included in the other categories displayed. The category drug use includes nine cases related to drug paraphernalia and seven cases categorized as "unknown", which are not further described in this report.*

[9] *During 2024, a new entry for fluorofentanyl (isomer not specified) was created and 105 cases were classified as such. It is not commented on further in this report. Data from the Annual Report Questionnaire and other external sources suggest most cases would be para-fluorofentanyl based on analysis of drug samples, para-fluorofentanyl is not considered a NPS (under international control since 1990).*

2.1 Clinical admission cases

There were 441 clinical admission cases involving 636 reports of NPS. A total of 54 unique NPS were identified in these cases. These data were contributed by toxicology laboratories from six countries, with 80 per cent of the submissions originating from Australia.

Sedatives/hypnotics were the largest effect group, including almost two third of all cases. The three most prominent NPS, bromazolam, desalkylgidazepam and clonazolam, accounted for more than half of all clinical admission cases (see Table 3).

Table 3: Most frequently identified substances in clinical admission cases in 2024

Top 10	Substance identified	Substance group	Effect group	Number of cases	Number of poly-NPS cases
1	Bromazolam	Benzodiazepines	Sedatives/hypnotics	263	110
2	Desalkylgidazepam	Benzodiazepines	Sedatives/hypnotics	66	63
3	Clonazolam	Benzodiazepines	Sedatives/hypnotics	28	28
4	2-fluoro-2-oxo-PCE	Phencyclidine-type substances	Dissociatives	25	13
5	Ketamine[10]	Phencyclidine-type substances	Dissociatives	22	0
6	3,4-Methylenedioxy-alpha-pyrrolidinohexanophenone	Synthetic cathinones	Stimulants	17	0
7	Etizolam	Benzodiazepines	Sedatives/hypnotics	17	14
8	Xylazine	Other substances	Sedatives/hypnotics	17	9
9	Methylone	Synthetic cathinones	Stimulants	15	1
10	1,4-Butanediol	Other substances	Sedatives/hypnotics	13	3

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).
Note: [Numbers] refer to footnote numbers.

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[10] *Although reporting of ketamine is requested to exclude medical administration, some cases may remain where this was not documented.*

[11] *Smith and others, "Contents and time-course of falsified alprazolam detections in New South Wales, Australia", Drug and Alcohol Review, vol. 44, issue 5 (May 2025) and UNODC Early Warning Advisory on NPS.*

[12] *Australia, NSW Health, "Updated: Further cases of dependence linked to use of nitazenes (strong opioids) in refillable vape liquids", safety notice 021/25, 20 August 2025.*

In 153 clinical admission NPS cases involving bromazolam, no other NPS was detected. In 110 bromazolam cases, one or more additional NPS were identified, most commonly other benzodiazepines such as desalkylgidazepam (n=63), clonazolam (n=26), and etizolam (n=13). Multiple benzodiazepines are commonly found in falsified medicines which may explain this pattern of co-detections.[11]

62 clinical admission cases were related to the consumption of stimulant-type NPS with 16 individual NPS identified. 3,4-methylenedioxy-*alpha*-pyrrolidinohexanophenone (MDPHP) (n=17), methylone (n=15) and dipentylone (n=12) accounted for most of the instances.

52 cases involved dissociatives, with 2-fluoro-2-oxo-PCE being most frequently reported (n=25), followed by ketamine[10] (n=22) and deschloro-*N*-ethyl-ketamine (n=8). 2-fluoro-2-oxo-PCE is an isomer of fluorexetamine and are recently emerging dissociatives (both were reported for the first time in 2022).

NPS with opioid effects were involved in 26 clinical admission cases (all reports from Oceania and North America). Protonitazene (n=11), *N*-pyrrolidino protonitazene (n=6) and metonitazene (n=3) were involved most frequently. Although nitazenes are increasingly seen in tablets (particularly in the form of falsified benzodiazepines or opioids), it was noteworthy that several cases of protonitazene involved dependence following administration via refillable vapes.[12]

Synthetic cannabinoids were rarely reported (12 cases from 4 countries), most commonly: MDMB-4en-PINACA, 5F-MDMB-PINACA and ADB-BUTINACA.

2.2 Post-mortem cases

A total of 406 post-mortem cases were reported, in which there were 629 reports of 53 individual NPS. These cases were provided from toxicology laboratories in nine countries, with over half of the cases originating from North America. Sedatives/hypnotics and benzodiazepines were again the largest effect group (37 per cent) and substance group (29 per cent). Bromazolam was the most frequently reported substance (n=135) (see Table 4).

Table 4: Most frequently identified substances in post-mortem cases in 2024

Top 10	Substance identified	Substance group	Effect group	Number of cases	Number of poly-NPS cases
1	Bromazolam	Benzodiazepines	Sedatives/hypnotics	135	82
2	Fluorofentanyl (isomer not specified)[9]	Fentanyl analogues	Synthetic opioids	91	41
3	Xylazine	Other substances	Sedatives/hypnotics	61	48
4	Ketamine[10]	Phencyclidine-type substances	Dissociatives	41	15
5	Protonitazene	Nitazenes	Synthetic opioids	37	18
6	Dipentylone	Synthetic cathinones	Stimulants	25	22
7	Pentylone[14]	Synthetic cathinones	Stimulants	24	16
8	1-(3-Chlorophenyl)piperazine	Piperazines	Stimulants	22	11
9	Kratom	Plant-based substances	Unassigned	18	10
10	Metonitazene	Nitazenes	Synthetic opioids	18	14

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).
Note: Numbers in square brackets refer to footnotes.

Synthetic opioids were involved in 169 cases with 190 NPS reports and 13 individual NPS. Fentanyl analogues are the most frequently detected substance group, primarily comprised of fluorofentanyl (isomer not specified)[9]. (Fentanyl was also commonly reported by a single laboratory (n=89) but reporting is incomplete as fentanyl is not a NPS.) Nitazenes (5 individual identified) were involved in 61 cases, with protonitazene (n=37) and metonitazene (n=18) the most frequently detected.

Notably, xylazine, a veterinary sedative continues to be commonly seen in toxicology samples (in 61 post-mortem cases) from North America (90 per cent of the cases) and Europe, but decreased from 2023. Emerging reports of xylazine in 2025 were reported from Oceania and South America (not included in this data collection period). The decrease in xylazine detections is notable in drug sample data where it is being substituted by another more potent *alpha*-2 adrenoceptor agonist, medetomidine in North America.[13]

Dipentylone (and its metabolite pentylone[14]) and 1-(3-chlorophenyl)piperazine (mCPP) (all mCPP reports originated from the United States) were the most frequently reported stimulants and MDMB-4en-PINACA the most commonly reported synthetic cannabinoid in post-mortem cases.

Since 2024, novel kratom-related products containing high concentrations of 7-hydroxymitragynine and/or mitragynine pseudoindoxyl have emerged on consumer markets[15] and 7-hydroxymitragynine (n=8) was reported for the first time in toxicology casework to UNODC by the United States. Notably, 7-hydroxymitragynine demonstrates substantially greater mu-opioid receptor potency than mitragynine. There are difficulties in interpreting the presence of 7-hydroxymitragynine due to it being a metabolite of mitragynine which may be subject to drug interactions, instability, and it may be found at very low levels in kratom. Only one case appeared to be more likely involving a 7-hydroxymitragynine product with very high blood concentrations of 3100 ng/mL and no mitragynine.

Polysubstance use is of significant concern, as 38 per cent of postmortem cases involved two or more NPS. The proportion of deaths involving multiple substances is much higher when considering controlled drugs and pharmaceuticals (not all laboratories currently report on non-NPS co-detections, therefore it is not further reported on in this report).

In 82 out of 135 cases involving bromazolam, one or more additional NPS were co-detected, primarily fluorofentanyl (isomer not specified)[9] (n=29), xylazine (n=22) and desalkylgidazepam (n=9).

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[13] *United States, Overdose Response Strategy, "Trends, Analysis and Threats, Overdose Response Strategy Webinar Series", webinar (5 November 2025) and Canada, Health Canada, "Canadian Drug Notification System on New and Potentially Harmful Substances", presented at XI International Conference on NPS 2025, 3 November 2025. UNODC has recently started to capture medetomidine in toxicology casework. Therefore, no reports are available for 2024.*

[14] *All polysubstance pentylone reports (n=16) had co-detected dipentylone. Pentylone is a metabolite of dipentylone and available as a NPS. However, in 2024, only 6 countries reported to EWA identifications of pentylone (7 detections) in drug samples compared with 37 countries for dipentylone (332 detections). Thus, most detections of pentylone are likely from exposure to dipentylone.*

[15] *For further information, please see: UNODC, "August 2025 - Emergence of potent kratom-related products containing 7-hydroxymitragynine and/or mitragynine pseudoindoxyl", early warning advisory message (29 August 2025) (accessed on 20 October 2025). Further developments in 2025 include the reporting of dihydro-7-hydroxy Mitragynine (MGM-15) by Gour and colleagues, "From Kratom to Semi-Synthetic Opioids: The Rise and Risks of MGM-15", Short communication, Drug Testing and Analysis (11 September 2025).*

[16] *United States, Food and Drug Administration, "7-Hydroxymitragynine (7-OH): An Assessment of the Scientific Data and Toxicological Concerns Around an Emerging Opioid Threat", 2025. Available at: https://fda.gov/media/187899/download (accessed on 17 November 2025).*

2.3 Driving under the influence of drugs

94 cases (comprising 126 NPS reports) related to driving under the influence of drugs (DUID) were provided by seven countries, with almost two-thirds of cases originating from North America. 19 individual NPS were identified. As with other case types, bromazolam was the most frequently reported substance. Other commonly identified substances included ketamine[10], fluorofentanyl (isomer not specified)[9] and *N*-ethylpentedrone (see Table 5).

Table 5: Most frequently identified substances in driving under influence of drugs cases in 2024

Top 10	Substance identified	Substance group	Effect group	Number of cases	Number of poly-NPS cases
1	Bromazolam	Benzodiazepines	Sedatives/hypnotics	39	17
2	Ketamine[10]	Phencyclidine-type substances	Dissociatives	17	11
3	Fluorofentanyl (isomer not specified)[9]	Fentanyl analogues	Synthetic opioids	14	13
4	N-Ethylpentedrone	Synthetic cathinones	Stimulants	11	0
5	Etizolam	Benzodiazepines	Sedatives/hypnotics	8	1
6	Flualprazolam	Benzodiazepines	Sedatives/hypnotics	7	1
7	Kratom	Plant-based	Unassigned	7	0
8	Flubromazolam	Benzodiazepines	Sedatives/hypnotics	5	2
9	Clonazolam	Benzodiazepines	Sedatives/hypnotics	3	3
10	MDMB-4en-PINACA	Synthetic cannabinoids	Synthetic cannabinoid receptor agonists	3	2

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).
Note: Numbers in square brackets refer to footnotes.

2.4 Other toxicology case types

Drug use monitoring cases constituted the largest portion of submitted toxicology cases with 1,088 cases[8] (see Figure 5) involving 32 individual NPS from seven countries. 80 per cent of these cases were from East Asia, with 72 per cent involving the use of ketamine[10]. Close to a third of drug use cases involved synthetic cannabinoid receptor agonists, most commonly

MDMB-4en-PINACA and MDMB-BUTINACA. The next most common were *N*-ethylpentedrone and kratom (see Table 6).

Table 6: Most frequently identified substances in drug use cases in 2024

Top 10 ▲	Substance identified	Substance group	Effect group	Number of cases
1	Ketamine[10]	Phencyclidine-type substances	Dissociatives	626
2	MDMB-4en-PINACA	Synthetic cannabinoids	Synthetic cannabinoid receptor agonists	249
3	MDMB-BUTINACA	Synthetic cannabinoids	Synthetic cannabinoid receptor agonists	139
4	N-Ethylpentedrone	Synthetic cathinones	Stimulants	97
5	Kratom	Plant-based substances	Unassigned	61
6	5F-MDMB-PINACA	Synthetic cannabinoids	Synthetic cannabinoid receptor agonists	31
7	MDMB-FUBINACA	Synthetic cannabinoids	Synthetic cannabinoid receptor agonists	31
8	2-Fluoro-2-oxo-PCE	Phencyclidine-type substances	Dissociatives	22
9	4-Methylmethcathinone	Synthetic cathinones	Stimulants	18
10	ADB-BUTINACA	Synthetic cannabinoids	Synthetic cannabinoid receptor agonists	18

Source: United Nations, UNODC Early Warning Advisory on New Psychoactive Substances (EWA) Tox-Portal, Database (accessed on 20 October 2025).
Note: Numbers in square brackets refer to footnotes.

A small number of cases (n=33) were drug-facilitated sexual assault cases (with 17 NPS identified), reported from six countries. Ketamine[10] was most frequently identified, followed by bromazolam and 3-chloromethcathinone.

Lastly, there were 14 cases of drug facilitated crime reported in 2024, reported by two countries. Three NPS were identified: ketamine[10], *N*-Ethylpentedrone and etizolam.

3. Response options for 2024 NPS developments

Awareness of newly emerging and harmful NPS

- The threats of NPS continue to evolve and this report highlights the need for awareness among broad groups including health care providers, law enforcement, policymakers, people who use drugs and the public.
- Education initiatives for health professionals and the community around falsified medicines (commonly containing a range of benzodiazepine NPS and opioids) and vapes (commonly mislabelled and may contain a range of NPS) is important, as they pose a significant risk to public health.

Enhanced capabilities of drug testing and toxicology laboratories

- Up-to-date reference standards, appropriate analytical methods and screening processes are needed to effectively identify and differentiate newly emerging substances.
- Emerging priority substances for method development include brorphine analogues, etomidate and analogues, medetomidine and xylazine. Ongoing vigilance for adding newly emerging nitazenes and benzodiazepines.
- The GHB (gamma-hydroxybutyrate) precursor, 1,4-Butanediol (which is metabolised in vivo to GHB) is being identified in more countries prompting toxicology and drug laboratories to consider analytical techniques to allow for individual reporting. In addition, the common involvement of GHB in acute drug toxicity presentations in some countries is noteworthy, and laboratories should consider if relevant for routine testing.[16] Control and harm reduction measures can be tailored based on these findings.[17]
- The emergence of novel kratom-related products requires methods to identify and differentiate mitragynine-related compounds and ensure reporting systems can capture these individual components and not group as kratom. Control and harm reduction measures can be tailored based on these findings and due to variable opioid activity may inform toxicology interpretation.
- The continued rise in the range of semi-synthetic cannabinoids observed in drug samples requires both drug and toxicology laboratories to develop methods, particularly as HHC was scheduled in 2025. These substances were rarely reported in toxicology casework but have been involved in clusters of poisonings.[18]
- Limitations in test strips due to structural diversity need to be understood. For example, not all nitazenes will cause a positive result when tested with a nitazene test strip.[19] This is increasingly relevant with the increasing structural diversity of nitazenes seen in drug and toxicology samples. The problem is compounded by emerging synthetic opioids such as brorphine analogues that are not expected to react with fentanyl and nitazene test strips. For more information and references refer to the EWA message here.

Standardized chemical reporting

- It is encouraged to use multiple chemical identifiers (e.g. IUPAC names, InChI, InChIKey and SMILES) and avoid use of ambiguous abbreviations only. The TIAFT NPS

Committee[20] recommends use of IUPAC names and InChIKey as part of reporting to HighResNPS.com.

- An example of ambiguity in abbreviations is ADB-BUTINACA (scheduled in 2023), which is chemically distinct to ADB-BINACA. Variable reporting practices have been observed in data reported to UNODC with the use of the term ADB-BINACA, referring to ADB-BUTINACA.

Access to lifesaving treatments & comprehensive treatment and care

- Awareness and access to lifesaving treatments such as naloxone (an opioid antagonist which rapidly and safely reverses the effects of opioids, for further information, please see the S-O-S initiative, developed by UNODC in collaboration with the World Health Organization) is crucial. However, immediate medical care is critical as naloxone may not be fully effective or may require repeated dosing for some newly emerging synthetic opioid NPS.[21]
- Comprehensive drug dependence treatment and care programmes are important components of overdose prevention.

Improved data collection and reporting

- Data collection efforts need to be strengthened by considering for instance: collecting and reporting more data on causality; and more data contributors reporting non-NPS data to improve reporting on polysubstance use.
- EWA shares timely and comprehensive interactive visualisations on NPS data for registered users (see Dashboard Pro and Tox-Portal Dashboard upon login; if not registered please sign up here).

Establishing/Strengthening early warning systems

- Ongoing monitoring of (newly emerging) NPS is crucial and early warning systems need to be established/strengthened to rapidly identify and respond to these emerging drug threats
- To assist forensic drug testing and toxicology laboratories, law enforcement and healthcare providers, EWA collates NPS drug sample and toxicology case data from almost 500 different sources to ensure that information on new substances, including analytical, pharmacology and legal response data, is shared and accessible as promptly

as possible. In addition, EWA issues a range of Early Warning Advisories on the latest NPS developments which can be accessed here.

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[16] *European Union Drugs Agency, "Other drugs – the current situation in Europe", European Drug Report 2025 (5 June 2025).*

[17] *Siefried, K. and others, "Emergency department presentations, hospitalisations and police seizure data related to gamma-hydroxybutyrate (GHB) in New South Wales, Australia, from 2015 to 2024", Addiction (October 2025).*

[18] *European Union Drugs Agency, "New psychoactive substances – the current situation in Europe", European Drug Report 2025 (5 June 2025).*

[19] *Marland, V. and others, "Evaluation of nitazene immunoassay test strips for rapid in-situ detection of nitazene and nitazene analogs in illicit drug samples", Harm Reduction Journal, vol. 22 (August 2025).*

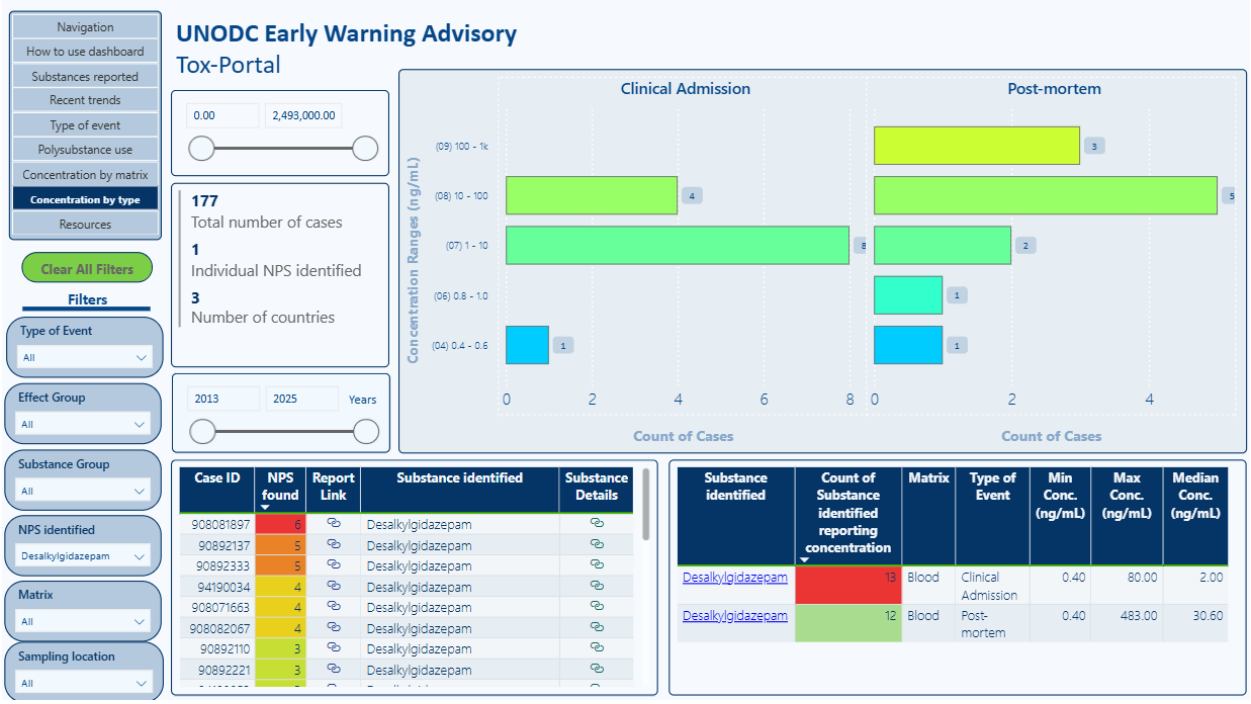
[20] *Pasin, D. and Stockham, P., "NPS Corner – Inchi Keys: What they are and why they matter now more than ever", TIAFT Bulletin 55, vol. 2, issue 55 (July 2025).*

[21] *For more information, please refer to Stangeland and others, "Nitazenes: review of comparative pharmacology and antagonist action", Clinical Toxicology, vol. 6, issue 6 (2025) and Vandeputte and others, "Elucidating the harm potential of brorphine analogues as new synthetic opioids: Synthesis, in vitro, and in vivo characterization", Neuropharmacology, vol. 260 (December 2024).*

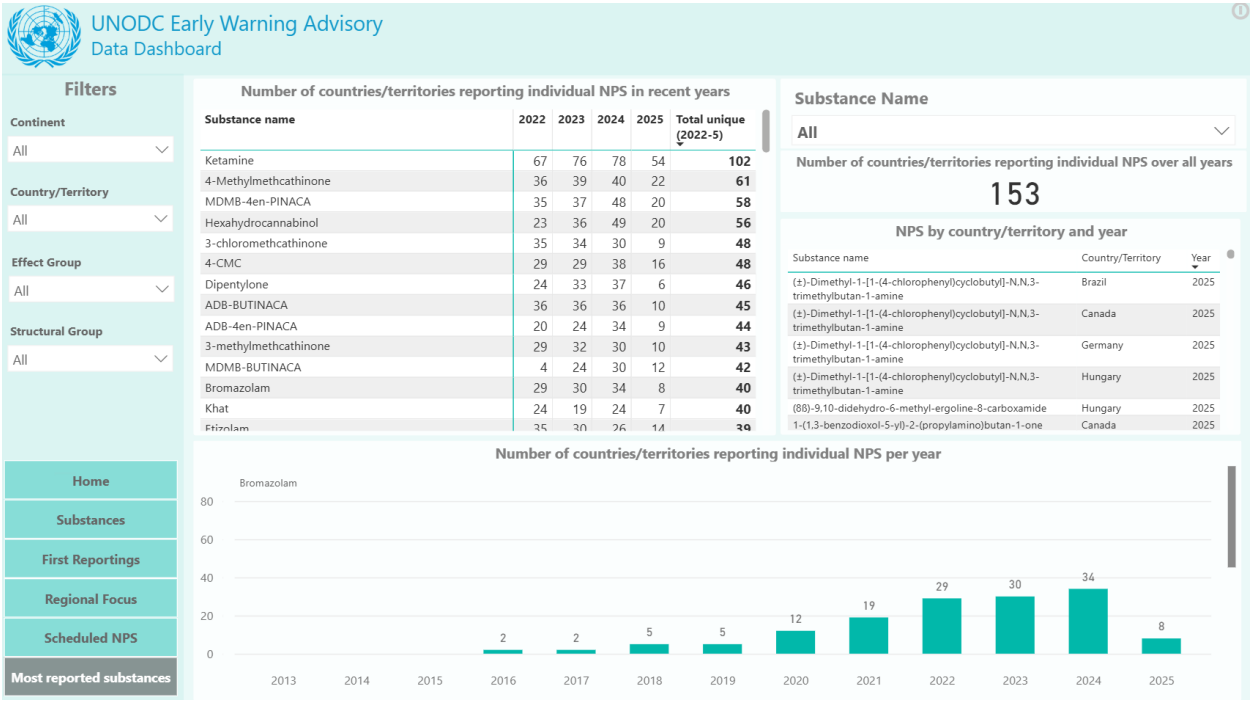
4. New EWA features

Updates in comprehensive interactive data dashboards available

UNODC has updated the Tox-Portal Dashboard (only for registered users), with new features, allowing registered users to analyse and visualize concentration levels (e.g. of the newly emerging benzodiazepine desalkylgidazepam as an example below) and polysubstance use of toxicology case information.



The Dashboard Pro was improved with a new feature to query the most reported substances in drug samples in recent years.

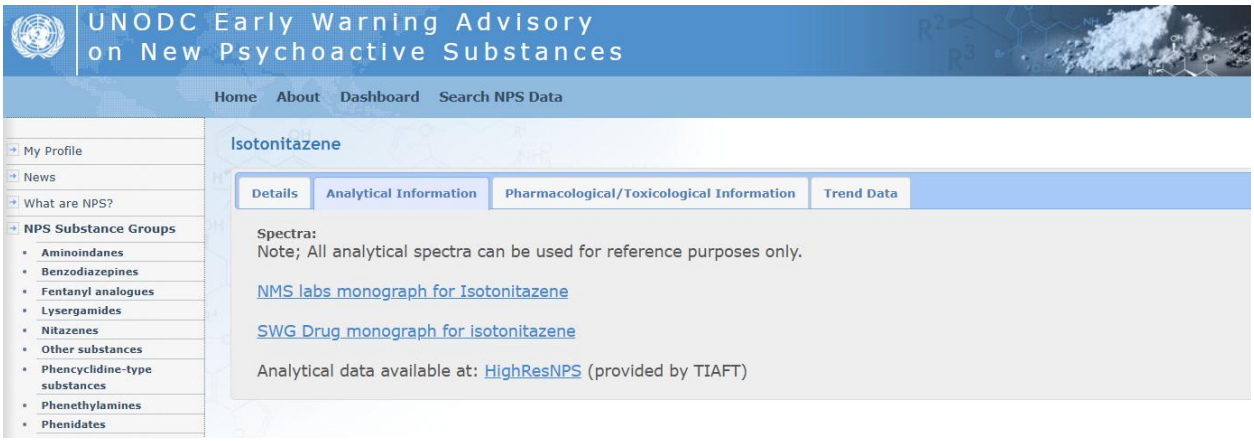


Improved timeliness and comprehensiveness

The frequency of data submissions and number of data sources increased. In addition, since January 2024, EWA captures all NPS drug sample detections reported from countries[3]. Dashboards are updated at least on a weekly basis.

Increased access to analytical data

EWA now highlights all substances in the NPS database (requires registration separate to Tox-Portal) with corresponding entries in HighResNPS.com (analytical data available for registered users only).



New EWA portal in development

A new combined database is currently in development to enable reporting across all sample types, including the addition of new sample types such as syringe residue and wastewater. Additional new features include the ability to report on mixtures in drug samples, involving substances other than NPS and polysubstance information (medicines, precursors, toxic adulterants and mixtures). The new portal will allow expanded information and user customization.

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For previous case contributors, please refer to the acknowledgement section in the earlier editions of the Current NPS Threats reports available here.

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Contact Details

UNODC Laboratory and Scientific Service

Vienna International Centre P.O.

Box 500 A-1400, Vienna Austria

unodc-ewa-tox@un.org; unodc-ewa@un.org

EWA portals:

UNODC Early Warning Advisory on New Psychoactive Substances

UNODC Early Warning Advisory Tox-Portal

Social media:

X & Linkedin