

WEDINOS Headlines

TOTAL number of samples received by WEDINOS (to June 2015)

3396
Samples received

2898
Samples Analysed

498
Samples Rejected

296
Substances Identified in either combination or isolation

Samples in the last quarter (April 2015 to June 2015)

443
Samples received

347
Samples Analysed

122
Samples Rejected

96
Substances Identified in either combination or isolation

Two reporting forms submitted to the EMCDDA Early Warning System (EWS) – McPT and Ocfentaniil

The WEDINOS project does not test food samples, biological samples, samples submitted within paraphernalia of use, samples that are submitted with an incomplete effects form. On Friday 25th July 2014 WEDINOS stopped accepting samples of Steroids and Image Enhancing Drugs other than those submitted by sentinel contributors.

When submitting a sample please accurately complete as much of the sample and effects record as possible. Samples may be rejected if no postcode is supplied, demographic information is missing or where a sample has been consumed the grey 'Dose and Effects' section on the sample and effects record has not been completed. Samples submitted from outside of the United Kingdom will also be rejected.

Synthetic Cannabinoid Receptor Agonists (SCRAs)

The term 'synthetic cannabinoids' covers all synthetic substances that bind to one of the two known cannabinoid receptors (CB1 or CB2)¹.

The majority of SCRA compounds identified by the WEDINOS project have been found in ready-to-smoke products, but some have occurred as pure substances in powder form, a trend also reflected in the UNODC report: Synthetic Cannabinoids in herbal products².

Most SCRAs found in ready-to-smoke / herbal products analysed to date have higher affinities for the CB1 receptor than Tetrahydrocannabinol (THC) and are full agonists of this site³. THC in comparison acts as a partial agonist⁴.

European Monitoring Centre for Drugs and Drug Addiction (EMCDDA)

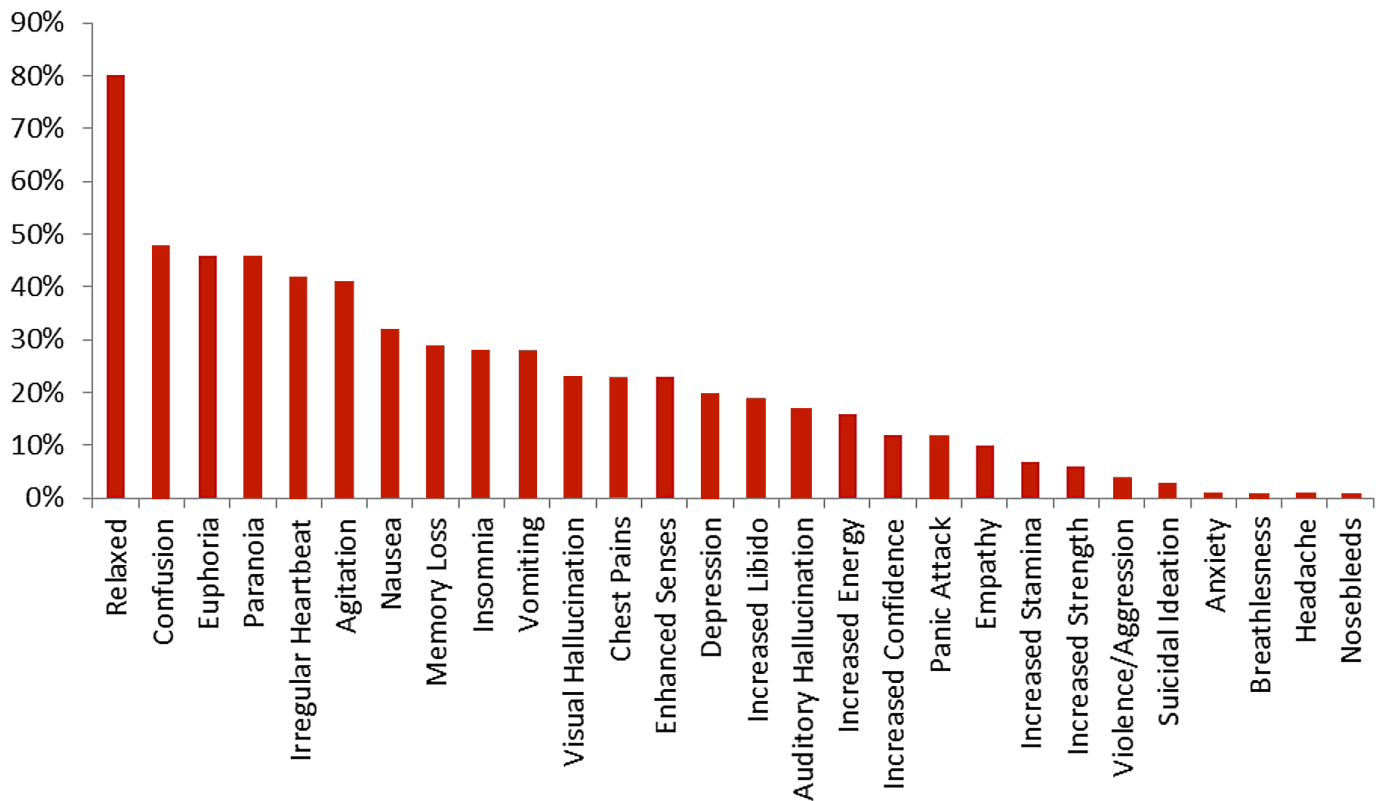
The EMCDDA states "these substances can be extremely potent, but are not chemically similar to cannabis, and therefore may result in different and potentially more serious health consequences. Although our current understanding of the health implications of consuming these substances remains limited, there is increasing concern about reports of acute adverse consequences associated with their use"⁵.

Over 130 different SCRAs have been detected in recent years. In 2013, 10 000 seizures of SCRAs were reported by EU countries to the Early Warning System. This figure has risen sharply since 2011⁶.

1. Auwater V, Dargan PI, Wood DM. Synthetic cannabinoid receptor agonists. In: PI Dargan, DM Wood(eds). Novel psychoactive substances. Classification, pharmacology and toxicology. London: Elsevier, 2013. P319
2. UNODC: Synthetic cannabinoids in herbal products
3. Identification and quantitation of a benzoylindole (2-methoxyphenyl)(1-pentyl-1H-indol-3-yl)methanone and a naphthylindole 1-(5-fluoropentyl-1H-indol-3-yl)-(naphtha-1-ene-1-yl)methanone (AM-2201) found in illegal products obtained via the Internet and their cannabimimetic effects evaluated by in vitro [³⁵S]GTPγS binding assays (Nakaji-ma, Takahashi, Nonaka et al)
4. Δ⁹-Tetrahydrocannabinol acts as a partial agonist/an-¹-agonist in mice (Paronis, Nikas, Shukla and Makriyannis)
5. EMCDDA - European Drug Report 2014: Trends and developments
6. EMCDDA - European Drug Report 2015: Trends and developments

SCRAs Continued...

Of all the SCRA samples submitted from project launch to 31st June 2015, 20 per cent (n=71) were submitted with information relating to the effects experienced by the sample provider. The chart below shows the self-reported effects experienced, and the percentage of users who experienced each effect.



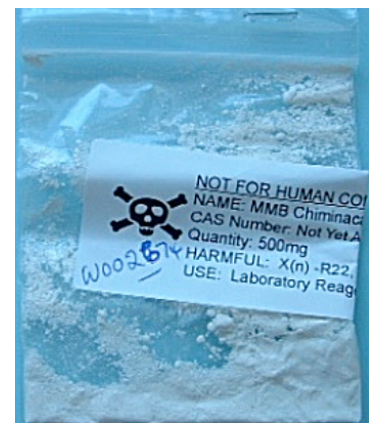
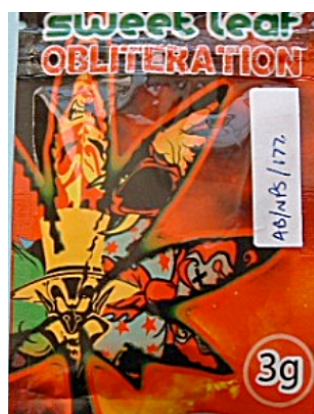
MMB-CHMINACA

There have been recent media reports, reports to WEDINOS and Public Health Wales (WEDINOS) alerts highlighting the acute adverse health consequences associated with SCRAs. In relation to MMB-CHMINACA (aka MDMB-CHMICA) four deaths in Sweden and two deaths in Germany have been reported to European Monitoring Centre for Drugs and Drugs Addiction (EMCDDA) early warning system. A 2015 review reported the most common adverse health effects associated with synthetic cannabinoids to be tachycardia, extreme agitation and hallucinations⁷.

To 30th June 2015 WEDINOS received and analysed 17 samples (14 from Wales, 3 from England) containing MMB-CHMINACA. Samples were submitted either as plant matter or white powders. Reported adverse effects from those submitting samples include: irregular heartbeat, nausea, paranoia, confusion, agitation, vomiting, breathlessness, auditory hallucination and panic attack. It is therefore of concern that in this quarters 'Top 10' most commonly identified substances MMB-CHMINACA has moved up the chart from 'Number 10' to 'Number 6' (see page 6).

MMB-CHMINACA has been profiled by WEDINOS in the following branded products:

- Vertex Pirate Edition
- Sweet Leaf Obliteration
- SKYHIGH



An alert from abroad – Poland

On 17th July 2015 EUROPOL issued an alert on serious intoxications in Poland due to overdose of new psychoactive substances (NPS).

Over 200 people were hospitalised in Poland following use of “MOCARZ”. Some individuals remain in a very serious condition; and one fatality has been reported. In all cases product contained crushed herbal material with synthetic cannabinoids. The forensic examinations of samples have revealed that same product labelled as “MOCARZ” contained different mixture of synthetic cannabinoids. For example samples of product, which caused serious intoxications were examined and confirmed the presence of the following synthetic cannabinoids: UR-144, BB-22, 5F-PB22, XLR-144, AB-CHMINACA. The concentration of these synthetic cannabinoids was very high, therefore could cause overdosing effects. In other seizures the product labelled as “MOCARZ” contained mixture of the following synthetic cannabinoids: AM-2201, JWH-081, JWH-019, JWH-203. Polish authorities don't exclude that other samples of product labeled as “MOCARZ” may contained another and different mixture of NPS (especially synthetic cannabinoids).

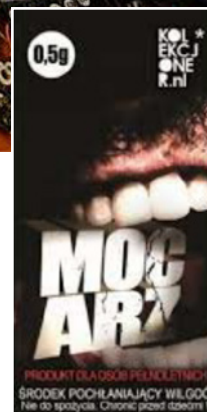


Images: Europol Alert on serious intoxications in Poland due to overdose of new psychoactive substances (NPS) – 17th July 2015-07-21

Prisons and Probation Ombudsmen for England and Wales

In July 2015 the Prisons and Probation Ombudsmen for England and Wales released a ‘learning lessons’ bulletin examining the deaths of prisoners where the use of NPS type drugs was suspected. This report looked at 19 deaths in prison between April 2012 and September 2014 where the prisoner was known, or strongly suspected, to have been using NPS-type drugs before their death. This report focused on synthetic cannabinoids and their associated behaviour and health risks, as well as problems relating to debt and bullying. The full report can be found here:

http://www.ppo.gov.uk/wp-content/uploads/2015/07/LLB_FII-Issue-9_NPS_Final.pdf



Synthetic Opioids

Following last quarter's section on 'white heroin'; this quarter we highlight the synthetic opioids, and in particular, fentanyls.

Synthetic opioids are man-made substances that have been manufactured to mimic the effects of natural opioids including opium and heroin. This category of substances includes prescription on medicines (POMs) including fentanyl and pethidine (fentanyl and pethidine are also controlled by the Misuse of Drugs Act 1971 as a Class A substance), and NPS including AH-7291 and MT-45 which have very little history of use and no evidenced medicinal uses.

According to the 'Fentanyl in Europe – EMCDDA trendspotters study'⁸, the emergence of synthetic opioid use, and more explicitly fentanyls within the European drug market, dates back to the mid-1990s.

Although, the use of fentanyls has been reported across Europe, use predominates in Eastern European countries where a substantial rise in fentanyl use is seen during periods where heroin has been in short supply e.g. Bulgaria (2010/11) and Slovakia (2011). In 2012 there was evidence of localised fentanyl use and fentanyl-related deaths amongst opioid users in Sweden, Finland and Germany. In Estonia, fentanyl use has been described as endemic in the injecting drug use population, with fentanyls becoming the most used opioid since 2000⁹.

Ocfentanil

Ocfentanil is a potent synthetic opioid substance structurally related to fentanyl. **Ocfentanil is a naloxone-reversible substance**¹⁰.

More potent than heroin, it has similar effects to fentanyl producing strong analgesia and sedation. However, it is slightly more potent than fentanyl, with 3µg/kg of ocfentanil being equivalent to 5µg/kg of fentanyl¹¹, and as such is a clear risk for overdose.



07/04/2015 - A powerful powder circulates in Belgium - <http://www.metronews.fr/lille/drogue-de-l-ocfentanil-une-poudre-ultra-puissante-circule-en-belgique/modglw6YsnrLKrmBf0/>

Between 19th March 2015 and 16th July 2015 WEDINOS received six samples in powder form that upon analysis was found to be ocfentanil. Of these powders, three were white powders and three brown powders. The route of administration for these samples was snort/sniff in two cases, smoked in one and the remaining three samples did not have any details around the route of administration.

Effects experienced included: euphoria, relaxed, nausea, chest pains, paranoia and agitation.

Following analysis of these samples, the following substances were identified in varying combinations. Three combinations were profiled:

- Ocfentanil, paracetamol and caffeine
- Ocfentanil, paracetamol, caffeine and mannitol
- Ocfentanil, paracetamol, caffeine and methamphetamine.



Ocfentanil, paracetamol and caffeine



Ocfentanil, paracetamol, caffeine and mannitol



Ocfentanil, paracetamol, caffeine and methamphetamine

Other Fentanyl samples

In August 2015 WEDINOS received a white powder sample purchased as fentanyl, that following analysis was found to contain heroin.

In September 2014 WEDINOS received a brown/yellow granular sample purchased as heroin, that following analysis was found to contain the synthetic opioid - thiofentanyl.

8. Fentanyl in Europe – EMCDDA trendspotters study <http://www.emcdda.europa.eu/scientific-studies/2012/trendspotters-report>

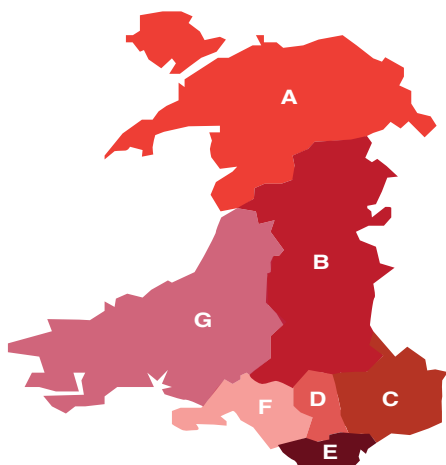
9. Talu et al 2010, Vorobjov et al 2012

10., 11. Comparison of ocfentanil and fentanyl as supplements to general anesthesia - Fletcher JE, Sebel PS, Murphy MR, Mick SA, Fein S - Anesth Analg. 1991 Nov;73(5):622-6.

FINDINGS...

WHERE...

Samples were submitted from all 7 of the Welsh Health Boards.



Breakdown of sample submissions by Health Board areas

- A** - Betsi Cadwaladr University Health Board – 31 samples.
- B** - Powys Teaching Health Board – 2 samples.
- C** - Aneurin Bevan University Health Board – 68 samples.
- D** - Cwm Taf University Health Board – 8 samples.
- E** - Cardiff & Vale University Health Board – 40 samples.
- F** - Abertawe Bro Morgannwg University Health Board – 32 samples.
- G** - Hywel Dda University Health Board – 2 samples.

- 322 samples were received from outside of Wales.

WEDINOS does not analyse samples received from outside of the United Kingdom.

In relation to Welsh Health Board areas, the highest proportion of samples came from Aneurin Bevan University Health Board, 68 samples were received (59 analysed), accounting for 17 per cent of all samples analysed (n=59 of 347).

Psychoactive Substances

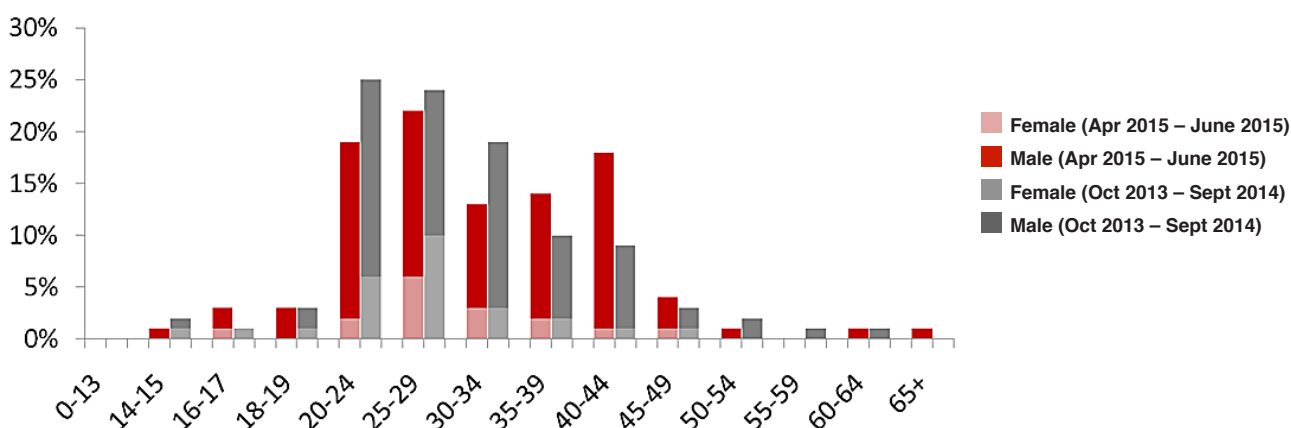
Who...

A WEDINOS Effects Record was submitted for 90% of the samples received (n = 313). 85 per cent of submissions were from males and 15 per cent from females, relatively consistent with the previous quarter's gender: 81 per cent male and 19 per cent female.

- Females - median age - 29 years and an average age of 29 years (range: 17-51 years)
- Males - median age 31 years, with an average age of 32 years (range 14-68 years)

The median age for all mind altering / psychoactive sample providers (Wales and wider UK) was 32 years (average age 32 years old); with an age range of 14-68 years. In the last quarter median age was 33 (average age 31) and age range 15-61 years.

Gender / Age profile of samples providers – Psychoactive. Comparison: Jan-Mar 2015 with first year (Oct 2013 to Sept 14) profile



Reason for purchase

All samples

Of the total number of samples submitted and analysed in the last quarter:

- 93.4 per cent (n = 324) were Mind Altering / Psychoactive samples
- 6.6 per cent (n = 23) Steroids and Image Enhancing Drug (SIEDs) were submitted for analysis via Public Health Wales agreed sentinel providers / SIED experts from across the UK.

Samples Submitted from Wales

64 per cent of Welsh samples were submitted via 23 services / organisations; with the remaining 36 per cent being submitted anonymously.

WHAT...

Of the 324 Mind Altering/Psychoactive samples:

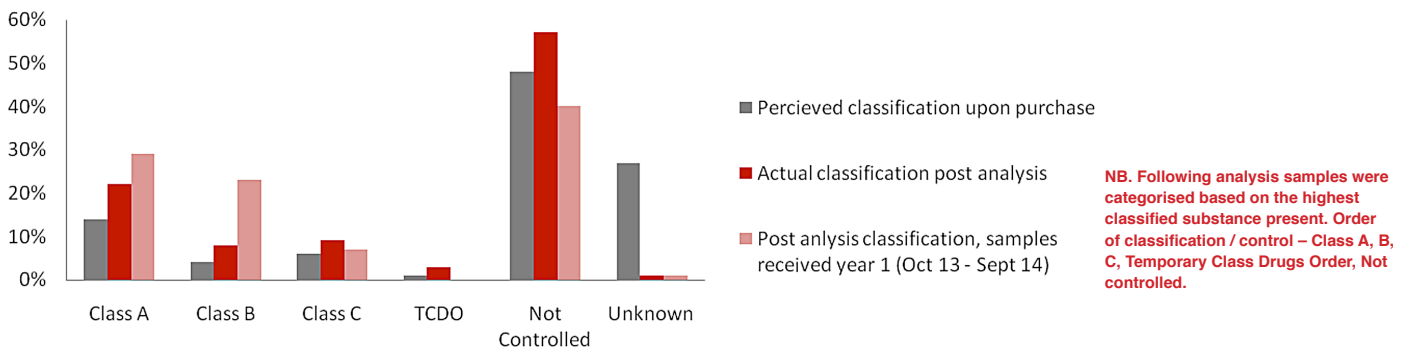
- 48 samples were purchased in the belief that they were Class A substances
- 14 Class B
- 16 Class C
- 5 were subject to a Temporary Class Drug Order (TCDO)
- 159 were believed to be 'not controlled'
- A further 82 were submitted without any information relating to purchase intent, or perceived legal status

Post analysis we see that Class A increased from 48 samples to 75. Class B increased from 14 to 28 and Class C from 16 to 17. The number of samples subject to a TCDO rose from 5 to 9. Substances and those that are 'not controlled' increased from 159 to 191. It must be noted that although all groups increased with the post analysis categorisation of the "unknown" substances, several samples moved between classifications, or remained within the same classification, but were found to contain a different substance.

Examples of this include:

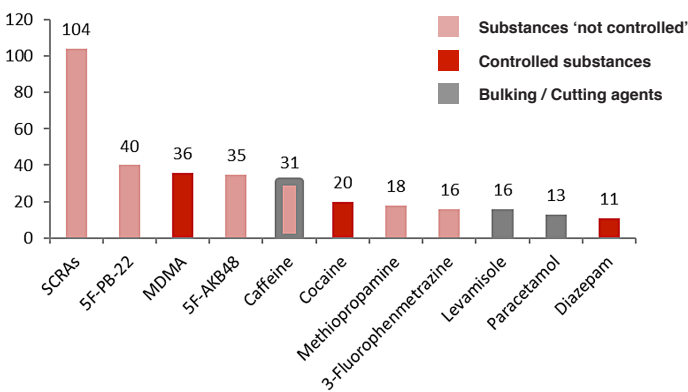
- 5 samples submitted as MDMA/Ecstasy found to contain: Sample 1 - Ephedrine, sample 2 - Ethylone, sample 3 - Caffeine, sample 4 - alpha-PVP and sample 5 - BZP & MeOPP
- Sample believed to be Amphetamine – found to contain Salbutamol
- Sample believed to be SCRA – found to contain Cannabis (herbal)
- Sample believed to be Diazepam – found to contain Etizolam
- Sample believed to be Ketamine – found to contain Flephedrone
- Sample believed to be Ketamine – found to contain Methoxetamine
- Sample believed to be 3-Fluorophenmetrazine – found to contain Mephedrone
- Sample believed to be Methiopropamine – found to contain MDMA
- Samples believed to be a legal product, branded 'Ching' – found to contain Ethylphenidate (TCDO)
- Samples believed to be a legal product, branded 'Banshee Dust' – found to contain Ethylone

Proportion of controlled and not controlled / legal – Perceived and Actual (Psychoactive Substances) Comparison: April - June 2015 with first year (Oct 2013 - Sept 2014)



Most commonly identified substances

Most commonly identified substances in all Mind Altering / Psychoactive Substance samples (April - June 2015).

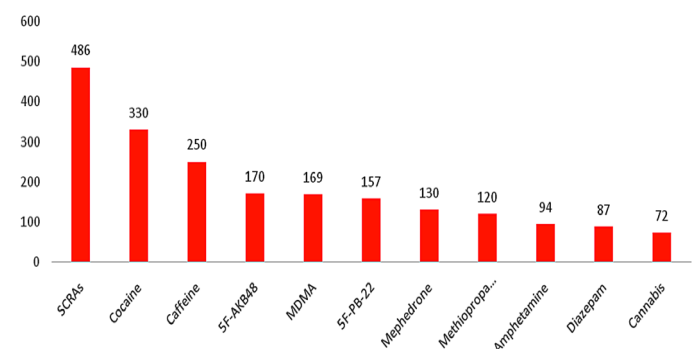


The most commonly identified psychoactive substances were SCRA as a group. The most commonly identified individual substance was the SCRA 5F-PB-22. This is the first time that a substance that is not currently controlled was the most commonly identified substance.

The rise in prevalence of 5F-PB-22 also resulted in the displacement of 5F-AKB48 as the most commonly identified psychoactive substance that is not controlled (see NPS Top Ten); a position that it had held between April 2014 and 31st March 2015.

Caffeine was the most commonly identified bulking / cutting agent. Consistent with previous findings it is a component in a diverse range of samples. This quarter, 10 samples were found to contain caffeine in isolation. Following similar findings last quarter, we are no longer able to identify caffeine solely as a bulking / cutting agent.

Ten most commonly identified psychoactive substances: WEDINOS samples from launch to 31st June 2015



Top Ten New Psychoactive Substances

TOP 10

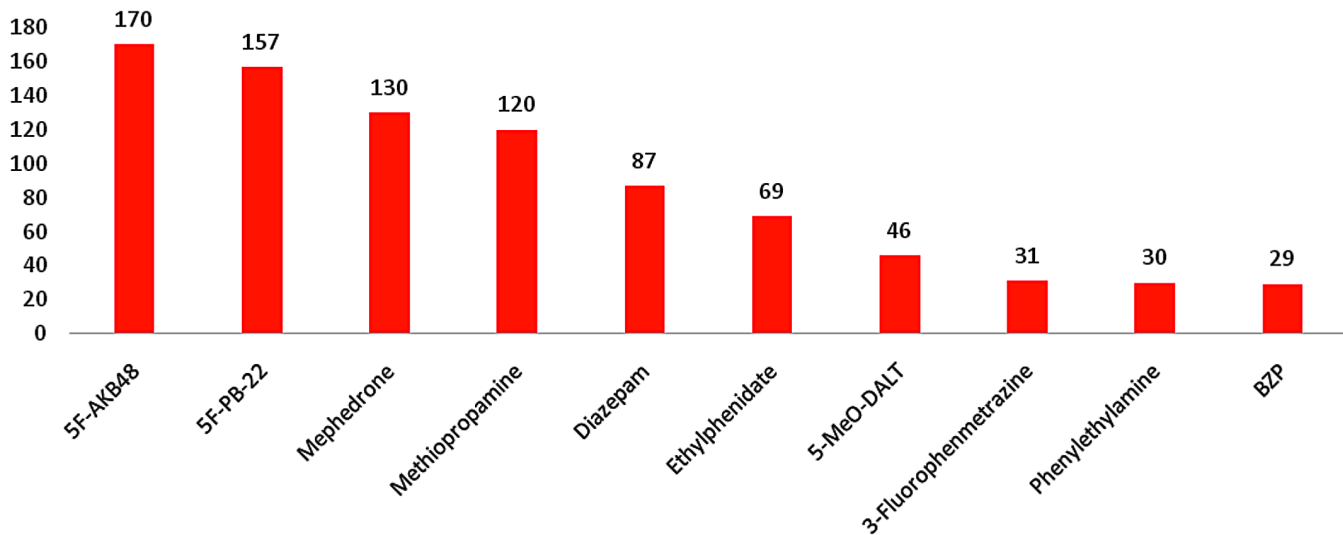
April 2015 to June 2015

Number 1 – Up 1	↑	5F-PB-22
Number 2 – Down 1	↓	5F-AKB48
Number 3 – Up 3	↑	Methiopropamine
Number 4 – Up 5	↑	3-Fluorophenmetrazine
Number 5 – Non Mover	→	Diazepam
Number 6 – Up 4	↑	MMB-CHMINACA
Number 7 – New Entry	⊗	MDAI
Number 8 – New Entry	⊗	AB-CHMINACA
Number 9 – New Entry	⊗	Bk-2C-B
Number 10 – New Entry	⊗	Etizolam

Consistent with previous quarters and findings in the first WEDINOS annual report (Oct 13 – Sept 14) (<http://www.wedinos.org/resources/downloads/WN%20Annual%20Report%205012015.pdf>), SCRA remain the most frequent NPS submitted to and identified by the WEDINOS project. This quarter nine SCRA were identified either in isolation or combination in 71 samples, accounting for 22 per cent of all samples psychoactive samples analysed, up from 12 per cent (n=42) last quarter. To date WEDINOS has profiled 30 SCRA. During our last quarterly Philtre report we discussed monitoring the prevalence of Ethylphenidate and Isopropylphenidate; both of which

were at that time sitting in the top ten. Both substances became subject to a Temporary Class Drugs Order on 10th April 2015 (see section Methylphenidate related compounds). As with the Tryptamines before them we saw these substances fall out of the top ten following their change in classification. Unlike the Tryptamines, however, of which we have seen two samples since December 2014, small numbers of Methylphenidate related compounds continue to be profiled, with eight samples containing either Ethylphenidate or Isopropylphenidate being submitted.

Ten most commonly identified New Psychoactive Substances: WEDINOS samples from launch to 31st June 2015

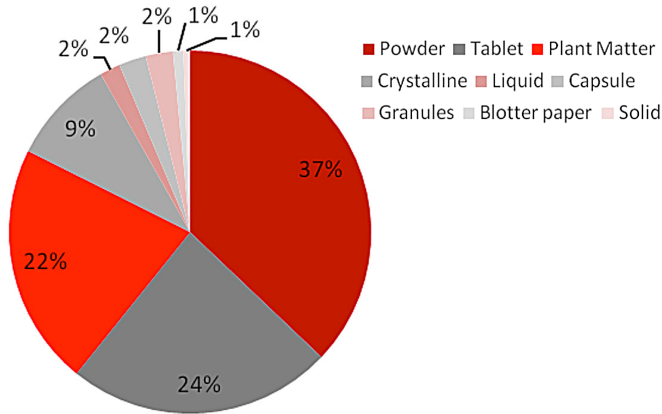


Form of Sample & Method of Consumption (April - June 2015)

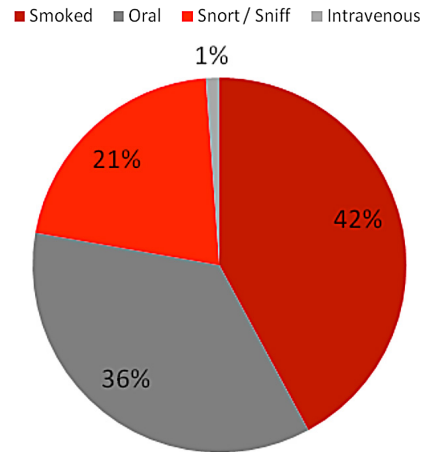
Mind Altering/Psychoactive

Powder remains the most prevalent sample form

Samples provided that would have a Mind Altering/Psychoactive effect came in a variety of forms, consistent with previous quarters the most prevalent sample form was again powder.



Where samples were purchased as Mind Altering/Psychoactive and a method of consumption was recorded (50 per cent, n=174), and assuming that all plant matter and plant matter SCRAs are smoked, samples were consumed through a variety of methods, the most common method was to consume a substance by smoking (42 per cent) followed by orally (36 per cent). The increased prevalence of smoking as a preferred route of administration is as a direct result of an increase in the number of SCRA plant matter samples received.

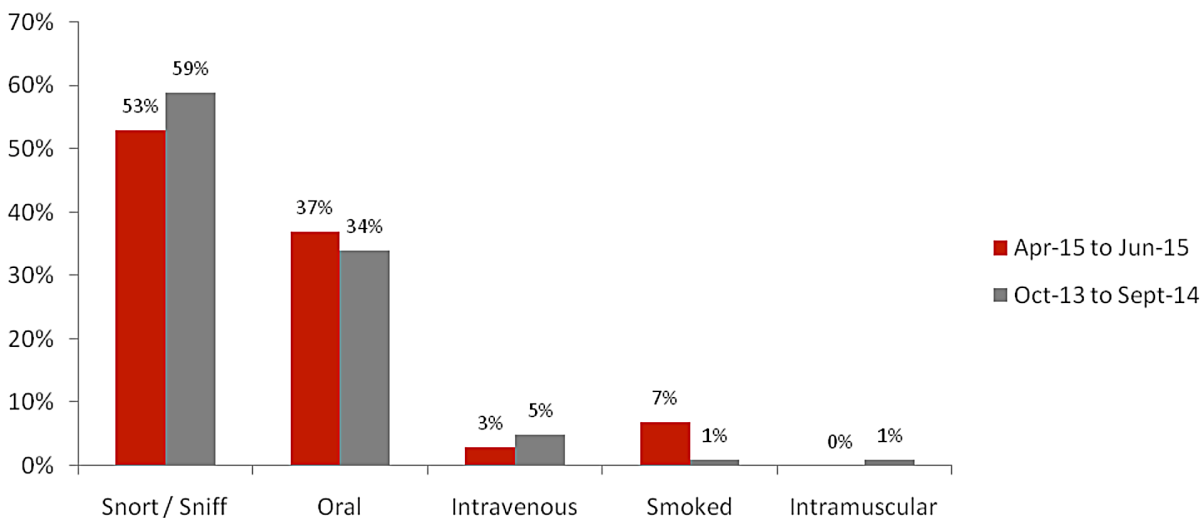


Methods of consumption for powders

Focusing on the method of use for powders and crystalline materials; as is consistent with previous quarters, we see the most common method was to consume a substance by snorting / sniffing.

Intravenous use again fell; from 21 per cent in Oct-Dec 2014, to 7 per cent in Jan-Mar 2015 and again to 3% this quarter; compared to 5% reporting intravenous use in year one (Oct 2013 – Sept 2014). This intravenous use relates to samples of Amphetamine.

Method of consumption - Comparison: April - June 2015 with first year (Oct 2013 to Sept 14) profile



GEOGRAPHIC PROFILES / LOCAL TRENDS

Abertawe Bro Morgannwg University Health Board (ABMU)

- Cumulative total: 182 samples.
- 32 samples were received from ABMU this quarter.
- 22 samples analysed.
- During analysis 18 substances were identified either in combination or in isolation. Two were found to contain no active compound
 - SCRA's were the most commonly identified substance. We have also been informed of a hospitalisation in relation to the consumption of the 'herbal incense' blend Vertex: Space Cadet. Following analysis this product was found to contain the SCRA 'AB-CHMINACA'.

Aneurin Bevan University Health Board (ABU)

- Cumulative total: 490 samples.
- 68 samples were received from ABU this quarter.
- During analysis of those samples, 28 substances were identified either in combination or in isolation, with three samples having no active compound identified.
- During analysis of those samples, 28 substances were identified either in combination or in isolation, with three samples having no active compound identified
 - SCRA's were the most commonly identified substance, being present in 56% of samples analysed. Seven SCRA's were identified in ABU samples.
 - Samples of interest include:
 - A sample submitted as a SCRA that upon analysis was found to contain Cannabis (herbal)
 - A sample submitted as Cocaine that upon analysis was found to contain the Temazepam.

Betsi Cadwaladr University Health Board (BCU)

- Cumulative total: 142 samples
- 31 samples were received from BCU this quarter.
- During analysis of those samples, 27 substances were identified either in combination or in isolation, with one sample containing no active compound.
- Caffeine and MDMA were the most commonly identified substance within BCU.
 - Samples of interest include:
 - A sample submitted as an MDMA that upon analysis was found to contain alpha-PVP.

Cardiff & Vale University Health Board (CVU)

- Cumulative total: 364 samples.
- 40 samples were received from CVU this quarter.
- 39 samples analysed.
- During analysis 39 substances were identified either in combination or in isolation, with one sample found to contain no active chemical compound and two that remain unknown due to a lack of material required for the completion of further analysis.
- Four SCRA's were identified. Consistent with last quarter, following the high prevalence of SCRA's, Diazepam was one of the most commonly identified substances; along with MDMA.
 - Samples of interest include:
 - A sample submitted as an MDMA tablet that upon analysis was found to contain BZP & MeOPP.
 - A sample submitted as Crack Cocaine that upon analysis was found to contain Buprenorphine.

Cwm Taf University Health Board (CTU)

- Cumulative total: 66 samples.
- 8 samples were received from CTU this quarter.
- 7 samples analysed.
- During analysis 10 substances were identified either in combination or in isolation, with one sample found to contain no active chemical compound.

Hywel Dda University Health Board (HDU)

- Cumulative total: 55 samples.
- 2 samples were received from HDU this quarter.
- 1 sample analysed.
- This sample contained the SCRA 5F-PB-22.

Powys Teaching Health Board (PT)

- Cumulative total: 19 samples.
- 2 samples were received from PT this quarter.
- During analysis 7 substances were identified in isolation, or combination. Two samples contained no active compounds.
- Diazepam was the most commonly identified substance. However the stimulants Mephedrone, Amphetamine and Ethylphenidate also accounted for just under half of PT samples. A single sample of SCRAs was also submitted.

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Samples may be rejected if no postcode is supplied, demographic information is missing or where a sample has been consumed the grey 'Dose and Effects' section on the sample and effects record has not been completed.

News from the Home Office and abroad

April

Advisory Council on Misuse of Drugs (ACMD) Methylphenidate-based novel psychoactive substances: temporary class drug order report

<https://www.gov.uk/government/publications/methylphenidate-based-novel-psychoactive-substances-temporary-class-drug-order-report>

Temporary control of 5 methylphenidate-based NPS

<https://www.gov.uk/government/publications/circular-0152015-temporary-control-of-5-methylphenidate-based-nps>

May

Overview of the Psychoactive Substances Bill and supporting documents

<https://www.gov.uk/government/collections/psychoactive-substances-bill-2015>

June

Ministerial response to the ACMD about two new methylphenidate-based substances; 4-methylmethylphenidate and Ethynaphthidate.

<https://www.gov.uk/government/publications/ministerial-response-to-the-advisory-council-on-the-misuse-of-drugs-about-2-new-methylphenidate-based-substances>

EMCDDA - European Drug Report 2015: Trends and developments.

<http://www.emcdda.europa.eu/publications/edr/trends-developments/2015>

EMCDDA - New psychoactive substances in Europe: Innovative legal responses.

<http://www.emcdda.europa.eu/publications/2015/innovative-laws>

2014 National Report (2013 data) to the EMCDDA by the Reitox National Focal Point – United Kingdom. New developments and trends.

http://www.emcdda.europa.eu/attachements.cfm/att_239716_EN_UK%20FP%20annual%20report%202014.pdf

EMCDDA EWS Report

Ocfentanil - is a potent synthetic opioid substance structurally related to fentanyl.

McPT - 5-Fluoropentyl-3-pyridolyindole - is a synthetic analogue of AM-2201. One functional group of AM-2201 (1-naphthyl) has been changed to 3-pyridyl in this new substance. There is little information on 5-fluoropentyl-3-pyridolyindole, but it would likely mimic effects of AM-2201. Information provided by Dr Andrew D. Westwell - BSc(Hons) PhD MRSC.



McPT – WEDINOS sample: W003468