No lethal cases were registered. Treatment included sedation with benzodiazepines (6 cases), intubation and respiratory support (5 cases). Hospital stay ranged from 10 hours to 11 days for patients needing intensive care treatment.
Conclusion: This case series confirms the presence of at least 4 types of NBOMe molecules (25I-, 25B-, 25C- and 25H-NBOMe) in the Italian territory. Seven patients were positive for 25I-NBOMe and 2C-I, and this may be due to the metabolism of NBOMe to 2C analogues, or to the simultaneous abuse of 25I-NBOMe and 2C-I. Clinicians should be aware of the presence of these new psychoactive substances and their potential for toxicity, and they should suspect possible NBOMe usage in patients reporting the recent use of LSD or other hallucinogens. All the cases have been reported to the National Early Warning System.
Acknowledgements: Study carried out with the support of Antidrug Policy Department, Italian Presidency of the Council of Ministers.

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166. Cocaethylene formation following ethanol and cocaine use: a case report

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Objective: Ethanol alters the hepatic biotransformation of cocaine, resulting in trans-esterification to an active metabolite, cocaethylene (ethylbenzylecgonine). Cocaethylene is metabolized along the same pathway of cocaine and both alcohol and cocaine decrease the clearance of cocaine by 47% and 26%, respectively, thus prolonging cocaine toxicity and behavioural changes.
Case report: A 23-year-old male with history of cocaine and alcohol abuse on a daily basis, was brought by ambulance to the First Aid Unit of the Careggi Hospital, Florence (Italy) as he was found in the street in a state of psychomotor agitation. He had epistaxis and referred chest pain, palpitations and nose pain and reported that he had been sniffing cocaine for the past 3 days. The electrocardiogram (ECG) showed tachycardia and non-specific alterations. He had no blood markers of chronic alcohol abuse and the toxicological screening of urine was positive for cocaine (benzoylecgonine >6 mg/L), tetrahydrocannabinol (THC) (223 µg/L); blood alcohol was negative (<0.2 g/L). A blood sample was sent to the Forensic Toxicology Unit for cocaethylene detection using a selective and sensitive gas chromatography-mass spectrometry (GC-MS) method. The determination revealed a positive value of 84.178 ng/mL. The patient was transferred to the Short-Stay Toxicological Observation Unit, where, apart from an episode of epistaxis about 6 hours after admission, he had no other complications. Cardiovascular parameters remained normal during the whole hospital stay, while an otorhinolaryngological visit revealed a hyperemic septal mucosa and signs of ischemia of the mucosa of the ala nasi bilaterally. Since he had no further toxicological signs, he was discharged the day after admission.
Conclusion: From epidemiological and toxicological data, it has been suggested that the combination of alcohol and cocaine produces an increased cardiac toxicity with respect to cocaine alone, in addition to behavioral changes. However cocaine and cocaethylene appear to differ in some respects, including the relative potency of their actions on the dopamine and serotonin transporters and on behavioral alterations. In this patient, although he had positive blood results for benzoylecgonine, the metabolite of cocaine, and of cocaethylene, parameters that are not frequently revealed together, he developed psychomotor agitation but no cardiotoxic effects.

167. Comparison of prevalence of illicit recreational drug use in the annual Crime Survey England and Wales and the UK Survey of Non-Medical Use of Prescription Drugs Programme between 2014 and 2016

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Objective: To compare lifetime and annual prevalence of illicit/recreational drug use reported in the annual Crime Survey England and Wales (CSEW), a population level survey, to that reported in the UK Survey of Non-Medical Use of Prescription Drugs (NMURx); this is a repeated online survey conducted to determine the prevalence of non-medical use of a range of prescription/over-the-counter drugs.
Methods: Data was extracted from CSEW for 2013–14, 2014–15 and 2015–16 on the percentage of respondents reporting lifetime and last year use of any illicit/recreational drug and of cannabis, the most commonly reported drug. Similar data was extracted for respondents from England and Wales for the NMURx surveys in 2014, 2015 and 2016; since CSEW data is for those aged 16–59 years old, the same age range was used for the NMURx dataset.
Results: In total 62,510 respondents completed the CSEW surveys and 14,449 respondents aged 16–59 years in England and Wales completed the NMURx surveys during the study period. As shown in Table 1, lifetime and last year prevalence of use of any illicit/recreational drug and of cannabis were comparable between the two datasets over the three year time period.
Conclusion: Prevalence of lifetime and annual use of any illicit/recreational drug and of cannabis was comparable between CSEW and NMURx over this 3-year period. The CSEW is

Table 1. Percent of respondents aged 16–59 years old reporting last year and lifetime use of cannabis and of any illicit/recreational drug in the Crime Survey England and Wales (CSEW) and the UK Survey of Non-Medical Use of Prescription Drugs (NMURx).

	CSEW			NUMRx		
Drug	2013–14	2014–15	2015–16	2013	2014	2016
Cannabis						
Last year	6.6%	6.7%	6.5%	7.4%	7.2%	8.0%
Lifetime	29.9%	29.1%	29.4%	31.1%	30.9%	30.5%
Any drug						
Last year	8.8%	8.6%	8.4%	8.9%	9.0%	10.3%
Lifetime	35.7%	34.7%	35.0%	32.8%	32.8%	33.0%

considered the "gold standard" indicator of population prevalence of illicit/recreational drug use in England and Wales. Therefore, this study suggests that since the NMURx survey has a comparable prevalence of illicit/recreational drug use to CSEW, data on the non-medical use of prescription drugs from the NMURx could be considered representative of population-level data.

168. Confirmed intoxication by 2-methoxphenidine and flubromazepam mimicking ischemic cerebral disease

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Objective: Intoxications by new psychoactive substances (NPS) are frequently associated with unexpected and unpredictable clinical manifestations. Flubromazepam and methoxphenidine have recently appeared on the illegal drug market and there is very limited information about analytical evaluations on biological samples and acute toxicity profile of these substances [1,2]. We report a case of analytically confirmed intoxication by methoxphenidine and flubromazepam.
Case report: A 25-year-old male was brought to the emergency department (ED) 20 hours after an episode of syncope with secondary head trauma and a wound to the right orbital region. On arrival, he had excitatory behaviour, severe psychomotor agitation, confusion, dysarthria and aphasia, mild hypertension (150/100 mmHg) and slight tachycardia (85 bpm). He was unable to maintain an upright position, and had lower limb hyposthenia. He denied any pharmacological therapy. A cranial computerised tomography (CT) scan for suspected cerebral ischemia was negative. He remained confused, seriously agitated and hypertensive (BP 180/100 mmHg), with a weakness on the left side of the body, so he underwent perfusional and angiographic cerebral CT scans; both were normal. During the first hours of hospitalization, he required massive sedation therapy with high doses of midazolam and propofol. Immunoenzymatic urinary tests were positive for tetrahydrocannabinol (THC) and benzodiazepines. He was discharged two days later with a prescription for paroxetine. His parents brought in some pills and a powder purchased on the Internet and labelled "flubromazepam" and "2-methoxphenidine", respectively. Urine, blood and product samples were analysed by gas chromatography-mass spectrometry and liquid chromatography with tandem mass spectrometry. The products contained the declared compounds and blood samples flubromazepam (247 ng/mL) and methoxyphenidine (411 ng/mL).
Conclusion: Standard urine screen tests are insufficient to make a correct diagnosis when NPS are taken. In patients with unusual symptomatology onset (e.g., for age and/or history) it is advisable to suspect the consumption of NPS. Considering the wide variety of NPS and the attitude of users to mix substances that may act in different ways, the use of advanced techniques for the detection of specific substances and their quantification in serum are fundamental tools in order to support a correct diagnosis and undertake an effective therapy.

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169. Does one affect the other? A 5-year characterization of US Poison Center data comparing human marijuana and synthetic cannabinoid exposures

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Objective: An increasing number of US states are considering legalizing recreational marijuana, while synthetic cannabinoid outbreaks continue to occur. We sought to compare trends of US Poison Center marijuana exposures to synthetic cannabinoids exposures over a 5-year period.
Methods: We queried the National Poison Data System (NPDS) for US aggregate poison center data involving closed, human exposures to marijuana and synthetic cannabinoids (SCs) from 2011 to 2015 using American Association of Poison Control Center (AAPCC) generic codes 0083000 (marijuana) and 0200617 (SCs). Cases for inclusion were not limited to single-substance exposures. Parameters evaluated were age, clinical effects, gender, management site, medical outcome, reason, route, and therapies. Descriptive statistics were used.
Results: Nationally, NPDS reported 27,578 exposures to marijuana from 2011 to 2015; 17,076 (62%) were male. Marijuana exposures have risen since 2012 ($n = 4934$) to 2015 ($n = 6600$). The age range with the most number of exposures was 15–21 years ($n = 10,906$ representing 40% of the total number of exposures over the 5-year period). A majority ($n = 20,768$, 75%) were already in or en route to a healthcare facility when the poison center was called; 11% ($n = 2926$) were managed on site (non-healthcare facility). The 10 most frequently reported clinical effects were drowsiness, tachycardia, agitation, confusion, hypertension, vomiting, hallucinations, nausea, mydriasis, and slurred speech. Overall 36% ($n = 10,041$) of exposures reported minor or no effects; 34% ($n = 9421$) had moderate effects, and 6% ($n = 1527$) had major effects. There were 118 deaths (combined indirect and direct reports). Regarding SC exposures, there were 26,345 exposures from 2011 to 2015. A majority (76%) were male. SC exposures dropped from 6968 in 2011 to 2668 in 2013. But in 2015 there were 7797 SC exposures nationwide (surpassing marijuana exposures). Age distribution was similar to marijuana (age 15–21 years comprised 42% of total exposures); 94% ($n = 24,714$) of exposures were referred or already in a healthcare facility. The most frequently reported clinical effects were similar to marijuana; 33% ($n = 8722$) of exposures reported minor/no effect, 41% ($n = 10,900$) had moderate effects, 7% had major effects, and 77 deaths were reported.
Conclusion: Ever-changing federal and state laws governing marijuana and SCs are reflected in yearly changes to abuse patterns. We compared US poison center data involving marijuana