# **CDUHR** FACT SHEET

## Novel Psychoactive Substance Use

## **INTRODUCTION**

Novel psychoactive substances (NPS) have been emerging in the US and worldwide at an unprecedented rate, with more than 450 NPS detected in Europe by 2014, up from 166 in 2009.<sup>1</sup> Research suggests that NPS may increase sexual desire and sexual risk behavior, but the impact of NPS on HIV and other STI transmission are unclear.

See NPS Primer on the next page for more information about NPS categories.

## **RECENT FINDINGS**

#### Self-reported NPS in a general population sample<sup>2</sup>

- In the 2009-2013 National Surveys of Drug Use and Health, a nationally representative sample of non-institutionalized individuals in the US, 1% of subjects self-reported any use of the 57 NPS examined.
- Psychedelic tryptamines (primarily DMT) were the most commonly reported NPS, followed by psychedelic phenethylamines and synthetic cannabinoids.
- The prevalence of self-reported NPS use increased from 2009 to 2013 and use was most common among males, whites, older people, those with low socioeconomic status, and those living in cities.

### NPS exposures reported to the New York City Poison Control Center (PCC)<sup>3</sup>

- NPS reports to the NYC PCC increased from 7% in 2011 to 13% in 2014.
  82% involved synthetic cannabinoids, followed by phenethylamines/synthetic cathinones ("bath salts", 10%), and psychedelic phenethylamines (4%).
- □ Compared to other drug related reports to the PCC (including licit and illicit drugs), NPS users were more likely to be young, male, and to not use other drugs.
- Synthetic cannabinoid reports increased sharply in 2014 and the average age of users rose. Females using synthetic cannabinoids were younger than males, and in 2014, synthetic cannabinoid users calling the PCC were more likely to report concomitant use of alcohol than users of other NPS.

#### NPS use among US high school students<sup>4,5</sup>

- The Monitoring the Future (MTF) study is a nationally representative survey of high school seniors.
- □ In 2011-2013, 1% of MTF participants reported using "bath salts" and 10% synthetic cannabinoids in the last 12 months. Those who used either drug were more likely to use other drugs than non-NPS users. Bath salt users had more weekly income that was not from a job, while synthetic cannabinoid users were more likely to be male.

## CONCLUSIONS

Collectively, these studies suggest that the use of NPS are on the rise and males are at increased risk for use. NPS use appears to be underreported on surveys so prevalence is likely underestimated. Unintentional use also appears to be common—with individuals taking NBOMe, thinking it is LSD, or taking "bath salts", thinking it is MDMA.<sup>6</sup>

## RECOMMENDATIONS

As NPS continue to emerge, users, researchers, policy makers and practitioners need to be more educated about NPS and their potential harms, to develop appropriate programs. The relationship between NPS and sexual risk behavior should be further studied. Finally, surveillance systems that are sensitive to changes in NPS are needed, as NPS emerge rapidly and existing prevalence estimates from population-based surveys are likely underestimates.



## **NPS PRIMER**

There are hundreds of NPS and many can be classified into somewhat distinct categories:1,7.9



#### Synthetic cannabinoids

mimic  $\Delta$ -9-tetrahydrocannabinol (THC), the main psychoactive component in cannabis, and are often marketed as a "legal" alternative to marijuana (e.g., K2, Spice), although they tend to be much more dangerous than real marijuana. They are typically herbal mixtures that have been sprayed with the synthetic cannabinoid and then smoked.

#### Synthetic cathinones,

also known as "bath salts," are amphetamine-like compounds related to cathinone, a stimulant compound found in the khat plant. They are often marketed as an alternative to amphetamines or MDMA (i.e., ecstasy or "Molly"). They are typically available as crystallike powder that can be swallowed, smoked, snorted, or injected. Much use appears to be unintentional as synthetic cathinones are commonly sold as adulterants in ecstasy.



#### **Psychedelic tryptamines**



mimic psychedelics like Psilocybin (i.e., magic mushrooms). 5-MeO-DiPT (a.k.a.: "Foxy") is included in this group. Psychedelic tryptamines have hallucinogenic and sometimes stimulant-like effects.

#### **Psychedelic phenethylamines**

are drugs like amphetamines and cathinones that have stimulant, hallucinogenic, and/or psychedelic effects. The most common drugs in this class are those in the 2C series (e.g., 2C-B, 2C-I) and the NBOMe series (e.g., "25i"). These drugs are sold in a variety of formulations including tablets, capsules, powders, liquids, sprays, and blotters (i.e., paper infused with the drug).



## REFERENCES

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This work was supported by the National Institute on Drug Abuse (K01 DA-038800, PI: Palamar; and P30 DA011041, PI: Deren & Hagan)

For further information, contact Joseph Palamar at joseph.palamar@nyu.edu.

