A Challenging Design: Addressing Synthetic and Designer Drugs in Adult Drug Courts

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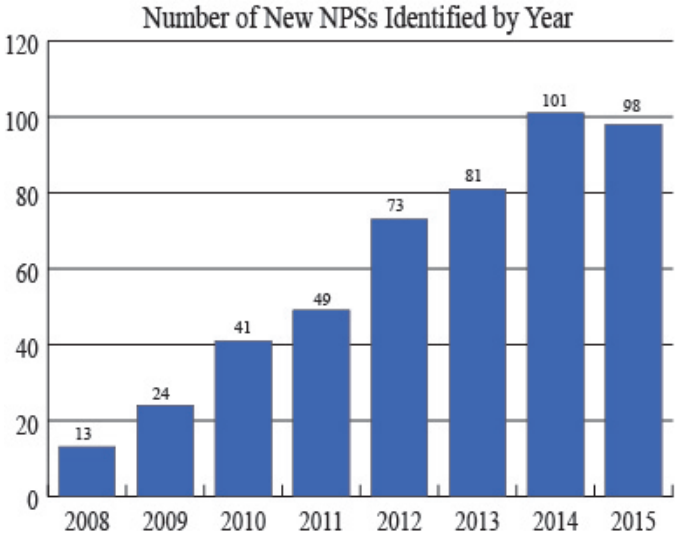
> Synthetic Drugs - *Substances wherein the psychoactive properties of a scheduled drug have been retained, but the molecular structure has been altered in order to avoid prosecution under the Controlled Substances Act.*
>
> *- D.E. Smith and R.B. Seymour, 1985*

Introduction

Over the last decade, the prevalence of synthetic and designer drugs has increased at alarming rates. The European Monitoring Centre for Drugs and Addiction identified 13 new psychoactive substances (NPSs) in 2008 and 98 NPSs in 2015, a 653% increase in only 7 years.[i] A total of 480 NPSs were identified during that time frame.



This surge in availability, along with reported increases in use, difficulties associated with detection of emerging synthetic and designer drugs, and a murky legal landscape create myriad challenges for drug court practitioners and substance abuse treatment organizations.

Legal Status

Currently, there are two laws that specifically address synthetic or designer drugs:

1. The Federal Analogue Act (21 U.S.C. § 813)
2. The Synthetic Drug Abuse Prevention Act (21 U.S.C. 812(c))

The Federal Analogue Act was passed by Congress in 1986. The bill amended the Controlled Substances Act (21 U.S.C. §801 et. Seq) so that synthetic or designer drugs that are "substantially similar" to drugs already on Schedule I or II are treated the same as those controlled substances.[ii]

The Synthetic Drug Abuse Prevention Act was passed by Congress in 2012. It added "cannabimimetic agents" to Schedule I of the Controlled Substances Act, as well as 15 specific cannabinoid compounds and 11 synthetic stimulants and hallucinogens.[iii]

In addition to these laws, the United States Attorney General (AG) possesses the authority to temporarily list a substance under Schedule I if such an action is "necessary to avoid an imminent hazard to the public health."[iv] Of the 37 times this authority has been asserted by the AG, 32 have been within the last 5 years.[v]

Despite these laws and actions, sellers and users of synthetic drugs have been able to advertise these drugs as "legal highs" because of language in Section 203 of the Federal Analogue Act. It states that "a controlled substance analogue shall, to the extent intended for

human consumption, be treated, for purposes of this title and title III as a controlled substance in schedule I."[vi] Packages of synthetic cannabinoids, bath salts and other synthetic drugs will often have warnings on them that state "Not Intended for Human Consumption" as a way to exploit this language.

Form and Modes of Administration

Synthetic cannabinoids are man-made chemicals that are functionally similar to Δ9-tetrahydrocannabinol (THC), the psychoactive constituent found in cannabis. These chemicals are either sprayed on dry plant materials for users to smoke or sold as liquids for vaporizing in e-cigarette devices.

Synthetic Cannabinoids packaged as "liquid incense"

Synthetic cathinones, also known as "bath salts," are a class of drugs that are chemically related to the *khat* plant found in Southern Arabia and East Africa. They usually take the form of white or brown crystal-like powder that can be snorted, ingested, smoked or injected.[vii] Similarly, non-pharmaceutical fentanyl, a potent opioid, comes in powder or tablet form, and users can snort, ingest or inject fentanyl.[viii]

Kratom comes from the plant *Mitragyna speciosa* Korth. Kartom users chew the leaves or gum infused with kratom, or brew dried kratom leaves or powder in a tea.[ix] Kratom is not a synthetic drug, but due to increased use and awareness of kratom in the United States researchers have used the label "designer drug," which is why it is included here.

Incidence of Use

To better understand populations that are at risk for synthetic drug use, researchers have surveyed a variety of groups over the last several years.

In general, these surveys show that synthetic cannabinoids are the most widely abused synthetic drug. The Monitoring the Future Survey, for instance, found that 10% of high school seniors reported using synthetic cannabinoids in the previous year, compared to 1.1% of high school seniors who reported using synthetic cathinones in the previous year.[x]

Use rates fluctuate depending on the population being surveyed however; and survey literature does not suggest that synthetic or designer drugs are "drugs of choice" for most users. Below is a sampling of studies on synthetic drug use:

- A survey of current cannabis users by Gunderson, et al. (2014) found that 24% of respondents reported currently using synthetic cannabinoids.[xi] This suggests that current cannabis users are more likely to be using synthetic cannabinoids.
- Wagner, et al. (2014) found that 7% of injection drug users reported using synthetic cathinones.[xii]
- Caban, et al (2012) surveyed 155 army patients at Fort Bragg, NC who admitted or were suspected of using an illegal substance. Tests revealed that 7.7% had recently used spice.[xiii]

Kratom pills

Two studies of synthetic cannabinoid use have specifically surveyed criminal justice populations: The Community Drug Early Warning System (CDEWS) Pilot

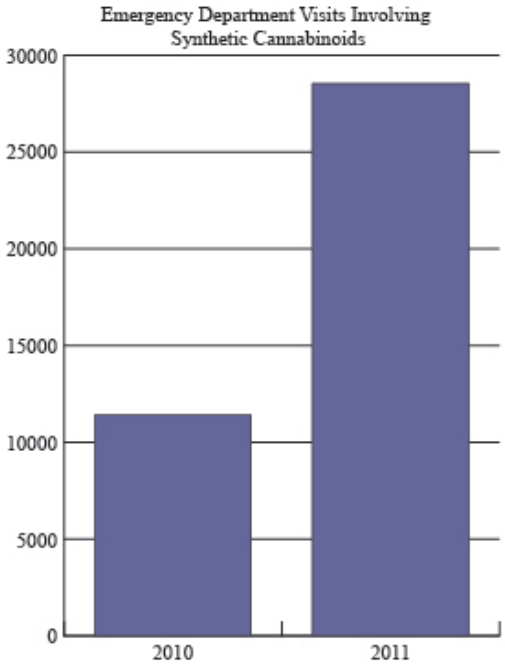
Results of the CDEWS follow-up study by jurisdiction.	**DC Adult Parole and Probation**	**DC Family Court – Juvenile Males**	**Denver Adult Drug Court**
Standard Panel Negative/Tested Positive for SC	17%	17%	8%
Standard Panel Negative/Tested Positive for SC	36%	22%	3%

Project in 2013, and a CDEWS replication study conducted two years later.

In both studies, researchers tested urine samples that were previously tested using a standard drug testing panel with an expanded drug panel. The results suggest that synthetic cannabinoid use is relatively frequent. In the Pilot Project study, they found that 39% of urine specimens from parolees and probationers in D.C. whose standard drug test was negative tested positive for synthetic cannabinoids.[xiv] The expanded sample used in the replication study produced similar results, finding that 36% of parolee and probationer urine samples who tested negative under a standard panel tested positive for synthetic cannabinoids.[xv]

The replication study also obtained urine specimens from an adult drug court in Denver and found that 3% of specimens who tested negative under the standard panel tested positive for synthetic cannabinoids.[xvi]

What factors influence the decision to use synthetic drugs? No doubt the costs, increased availability and legal ambiguity play a role.[xvii] But surveys have also found that many people use synthetic drugs to specifically avoid detection. Bonar, Ashrafioun and Ilgen (2014) found that 71% of patents in a residential treatment facility used synthetic cannabinoids to "get high without having a positive drug test."[xviii] Another survey (Vandery et al., 2012) of people who reported using spice at least once in their life found that 30% endorsed using Spice products to "achieve intoxication while avoiding detection in drug urinalysis testing."[xix]



Data via the Drug Abuse Warning Network

Effects and Health Impacts

The short-and-medium term effects of using synthetic cannabinoids, bath salts, fentanyl and kratom manifest in a variety of ways that drug court programs should be on the lookout for:

- *Synthetic cannabinoids:* Use of synthetic cannabinoids may have a similar effects as cannabis use, although the effects are less predictable.[xx] Users can exhibit sedation, paranoia, anxiety, confusion and delusions.[xxi]
- *Fentanyl and bath salts:* These drugs produce effects akin to methamphetamine use, such as hyperactivity, euphoria, anxiety, confusion, suicidal thoughts, and weight loss.[xxii]
- *Kratom*: The exact effects of kratom use on the behavior and health of human are not fully known at this time,[xxiii] although some research suggests that low doses produce stimulant-like effects, while high doses can mimic the effects of opioids.[xxiv]

What Can Drug Courts Do?

Communicate with law enforcement, emergency departments, and treatment facilities. They may be able to share information on what synthetic and designer drugs are most commonly used in the area, or specific drugs that are emerging. Drug courts may also consider scouting local head shops to see what drugs are being sold.

Include language in manuals and contracts that explicitly mentions synthetic drugs. Contracts and manuals should give participants a clear understanding of what constitutes a prohibited substance, including any illicit synthetic or designer drugs. Beyond mentioning these drugs specifically, drug courts may want to include language that prohibits the use, possession or distribution of drugs that are marked "Not for Human Consumption."[xxv]

Maintain best practices for drug testing protocol. The National Association of Drug Court Professionals suggests:[xxvi]

- Drug testing procedures should be clearly articulated in participant contracts.
- Urine specimen collection should be witnessed.
- Testing should be frequent, random and test for possible dilution or adulteration.
- Results should be available within 48 hours of sample collection.

Conduct drug tests with extended panels. Some companies are beginning to release expanded panel tests, but the costs are often much higher. Prices for confirmation of synthetic cannabinoids and bath salts can range from $15 to $40 per unit.[xxvii] Drug courts may be able to cover

some of these costs through reimbursements from Medicare. The current Clinical Laboratory Fee Schedule (CLFS) includes synthetic cannabinoids, opiate analogues and synthetic stimulants under applicable drug classes.[xxviii] Drug courts should be aware of the limitations of these extended drug panel tests however. Current tests only detect a small handful of synthetic cannabinoid metabo-lites, standardized cutoff limits have yet to be estab-lished, the methods of these tests vary, and there is some uncertainty about windows of detection for newer syn-thetic or designer drugs.[xxix]

Develop sanctions that specifically address synthetic drug use. Due to the fact that synthetic drugs are often used to avoid detection in standard drug tests (Perone et al., 2013),[xxx] drug courts should consider sanctions that address two behaviors: the use of the synthetic drug in question and the potential effort to deceive the court.[xxxi]

Utilize random searches and seizures. Before using this strategy, drug courts should make sure they under-stand all applicable laws related to search and seizure, probationary conditions and parties authorized to per-form to search. Synthetic and designer drugs are often sold online (Fattore & Fratta, 2011;[xxxii] Hillebrand, Olszewski & Sedefov, 2010;[xxxiii] Curtis et al., 2015;[xxxiv] Meyers et al., 2015[xxxv]), so drug courts may want to consider searching internet cache history, online receipts, and ATM transactions in addition to traditional search are-as.

Provide effective treatment services. While there is no standard protocol currently available for synthetic or designer drug use treatment, current literature suggests treatment should use components similar to those of other types of addiction treatment, including medication assisted treatment (MAT)[xxxvi] and individual and group therapy with cognitive behavioral therapy.[xxxvii] Drug court programs should use treatment that targets underlying issues and needs of the client.

End Notes

[i] *EMCDDA–Europol 2015 Annual Report on the implementation of Council Decision 2005/387/JHA.* Available online at: http://www.emcdda.europa.eu/system/files/publications/2880/TDAS16001ENN.pdf

[ii] 21 U.S.C. § 813 (B): Treatment of Controlled Substance Analogues.

[iii] Subtitle D of Title XI of the Food and Drug Administration Safety and Innovation Act (P.L. 112-144) 6 (A full list of cannabimimetic agents included in the bill can be found at:

[iv] 21 U.S.C. § 811 (B)(d)(C)(i).

[v] Sacco, L. N., & Finklea, K. M. (2012). "Synthetic drugs: overview and issues for congress." *Journal of Drug Addiction, Education, and Eradication*, 8(4), 197.

[vi] 21 U.S.C. § 802 (32)(B)(iv)

[vii] NIDA, Drug Facts – Synthetic Cathinones ("Bath Salts") (https://www.drugabuse.gov/publications/drugfacts/synthetic-cathinones-bath-salts)

[viii] NIDA, Drug Facts – Fentanyl (https://www.drugabuse.gov/publications/drugfacts/fentanyl#references)

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[xiv] Wish, E.D., Artigiani, E.E. and Billing, A. S. (2013). *Community Drug Early Warning System: The CDEWS Pilot Project.* Office of National Drug Control Policy. Washington, DC: Executive Office
of the President, pg. vii.

[xiv] Wish, E.D., Billing, A.S., and Artigiani, E.E. (2015). *Community Drug Early Warning System: The CDEWS-2 Replication Study.* Office of National Drug Control Policy. Washington, DC: Executive
Office of the President, pg. ix.

[xv] *Ibid*.

[xvii] Cottencin, O., Rolland, B., & Karila, L. (2013). "New designer drugs (synthetic cannabinoids and synthetic cathinones): review of literature." *Current pharmaceutical design*, 20(25), 4106-4111.

[xviii] Bonar, E. E., Ashrafioun, L., & Ilgen, M. A. (2014). "Synthetic cannabinoid use among patients in residential substance use disorder treatment: prevalence, motives, and correlates." *Drug and alcohol dependence*, 143, pg. 269.

[xix] Vandrey, R., Dunn, K. E., Fry, J. A., & Girling, E. R. (2012). "A survey study to characterize use of Spice products (synthetic cannabinoids)." *Drug and alcohol dependence*, 120 (1), pg. 239.

[xx] "New York Bans 'Synthetic Marijuana'". NPR.org. March 30, 2012 (http://www.npr.org/sections/health-shots/2012/03/30/149679528/new-york-bans-synthetic-marijuana)

[xxi] Gunderson, E. W., Haughey, H. M., Ait□Daoud, N., Joshi, A. S., & Hart, C. L. (2012). '"Spice" and "K2" herbal highs: a case series and systematic review of the clinical effects and biopsychosocial implications of synthetic cannabinoid use in humans." *The American journal on addictions*, 21(4), 320-326.

[xxii] *See*: Miotto, K., Striebel, J., Cho, A. K., & Wang, C. (2013). "Clinical and pharmacological aspects of bath salt use: a re-

view of the literature and case reports." *Drug and alcohol dependence*, 132(1), 1-12.
See also: Nelson, L., & Schwaner, R. (2009). "Transdermal fentanyl: pharmacology and toxicology." *Journal of medical toxicology*, 5(4), 230-241.

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[xxv] An example language like this can be found in the Stone County (MO) Adult Drug Court Participant Handbook online: http://www.ndcrc.org/sites/default/files/stone_county_adc_participant_handbook_6-2013.doc

[xxvi] National Association of Drug Court Professionals: *Adult Drug Court Best Practice Standards Vol. II* (http://www.ndcrc.org/sites/default/files/adult_drug_court_best_practice_standards_volume_ii_0.pdf).

[xxvii] In bid documents submitted to the West Virginia, the following labs provided prices for drug tests that involve synthetic cannabinoids and synthetic cathinones: *Norchem* ($24.95 per unit for synthetic drug confirmation), *Cordant* ($24.95 per unit for synthetic cannabinoid confirmation; $30.95 per unit for synthetic cathinone confirmation), *Redwood Toxicology Laboratory* ($15 per unit for standard synthetic drug panel; $35 per unit for expanded designer stimulant panel and $40 per unit premium synthetic cannabinoid panel), *Phamatech* ($25 per unit for synthetic cannabinoids; $40 per unit for synthetic cathinones). (West Virginia Purchasing Division, CRFQ 0621).

[xxviii] Centers for Medicare and Medicaid Services. Calendar Year (CY) 2016 Clinical Laboratory Fee Schedule (CLFS) Final Determinations. (https://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/ClinicalLabFeeSched/Downloads/CY2016-CLFS-Codes-Final-Determinations.pdf)

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[xxxi] See DeKalb County Drug Court Policy and Procedure (pg. 27) for an example of this. (http://dekalbcounty.org/DrugCourt/pdfs/polprccdrmnl.pdf)

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