



## 2018 Advisory #7

### Cluster of synthetic cannabinoid (K2)-related adverse events and emergency department visits, New York City

May 22, 2018

The New York City Department of Health and Mental Hygiene (DOHMH) continues to monitor daily emergency department (ED) visits related to synthetic cannabinoids (K2). From May 19-21, there were at least 84 suspected K2-related ED visits, geographically clustered; the majority (83%, n = 70) were at facilities located in Brooklyn. The majority of patients presented as drowsy/sedated, not agitated, and were discharged from the ED. No cases of unexplained bleeding have been identified.

K2-related emergency department visits peaked in July 2015 with more than 1,200 visits detected in a single month. Following multi-agency enforcement at stores selling synthetic cannabinoid products, K2-related ED visits decreased sharply. Prior to May 19, there were fewer than 600 K2-related ED visits in 2018. In May, daily K2-related ED visits had averaged fewer than 10 per day.

Since January 2015, DOHMH surveillance has detected more than 11,000 synthetic cannabinoid-related ED visits in NYC. Males accounted for approximately 90% of the visits; patients had a median age of 36. Nearly all (99%) patients were aged 18 and older.

The May 19-21, 2018 cluster of K2-related ED visits does not appear to be related to an ongoing, multi-state outbreak of adverse health events related to ingestion of synthetic cannabinoid products contaminated with brodifacoum. Brodifacoum, a pesticide primarily used to kill rats, can cause a vitamin K-dependent antagonist coagulopathy and bleeding. As of April 23, no cases of vitamin K-dependent antagonist coagulopathy associated with synthetic cannabinoids use have been identified in New York State. K2-related coagulopathy cases have been identified in the following nine states: Illinois, Florida, Indiana, Kentucky, Maryland, Missouri, Pennsylvania, Virginia, and Wisconsin.

Healthcare providers should maintain a high index of suspicion for vitamin K-dependent antagonist coagulopathy in patients presenting with clinical signs of coagulopathy, bleeding unrelated to an injury, or bleeding without another explanation and with a possible history of K2 use. Some patients may not divulge use of K2. These patients should be screened for vitamin K-dependent antagonist coagulopathy by checking their coagulation profile (e.g., international normalized ratio (INR) and prothrombin time (PT)).

#### Clinical information

- Synthetic cannabinoids are referred to by different names, including: K2, Spice, synthetic marijuana, or “legal” marijuana.
- Common brand names include: Geeked Up, Smacked, Scooby Snax, Green Giant, Red Giant, Mr. Bad Guy, Trippy, Ice Dragon, AK-47 and Kick.
- Type and severity of symptoms are variable, but two common clinical patterns occur:
  - Patients may appear sluggish and have some symptoms similar to an opioid overdose, including: lethargy, confusion, respiratory depression, bradycardia, vomiting, seizure,

- loss of consciousness, or unresponsiveness.
- Patients may appear highly agitated and have symptoms similar to those of phencyclidine (PCP) use, including: elevated heart rate, hallucinations, aggressive behavior, paranoia or psychosis.
- More patients have lethargy-like symptoms compared to agitation or aggressive behavior.
- No antidote is presently available for synthetic cannabinoid intoxication; however, symptoms are usually short-lived and self-limited.
- Synthetic cannabinoids are not detected by standard urine toxicology screens; therefore, synthetic cannabinoid exposure should not be ruled out based on negative screening results. Consult your laboratory for preferred testing methods.
- Because the exact compounds contained in synthetic cannabinoid products change frequently, risks and adverse consequences are unpredictable.
- Treatment of agitation and restlessness with benzodiazepines is an acceptable and effective intervention.
- Scientific evidence for treatment of individuals with chronic use is lacking, but motivational counseling and cognitive behavioral therapy might be effective.

### **Legal information**

- It is illegal in New York State to possess, sell, offer to sell, or manufacture synthetic cannabinoids.<sup>1</sup> In October 2015, New York City Council legislation made the sale of K2 products a misdemeanor offense that can carry both criminal and civil penalties. Continuing or repeat violation may result in closure of the retail establishment and entities.

You can educate your patients about the undesirable effects of synthetic cannabinoids and inform them that these drugs are illegal. Drug treatment locators are available at: [www.oasas.ny.gov](http://www.oasas.ny.gov). Referrals for treatment are available at 1-888-NYC-WELL (1-888-692-9355).

**ED providers and staff serving populations at increased risk should be aware of the recent increase in adverse events associated with synthetic cannabinoids in New York City.** We would like to remind medical providers that they are required to report suspected or confirmed cases of poisoning (including overdose) by drugs or other toxic agents within 24 hours to the Poison Control Center at 1-800-222-1222 or 212-764-7667 (POISONS). These reports are critical in detecting and preventing overdose outbreaks.

If you become aware of stores selling synthetic cannabinoid products we encourage you to report them to 311.

*Please share this with any providers you know working with people who use drugs in New York City.*

Sincerely,

*Hillary Kunins*

Hillary Kunins, MD, MPH  
Assistant Commissioner  
Bureau of Alcohol and Drug Use Prevention, Care and Treatment

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<sup>1</sup>Public Health Law Section 225, Title 10, Part 9 states “It shall be unlawful for any individual or entity to possess, manufacture, distribute, sell or offer to sell any synthetic phenethylamine or synthetic cannabinoid or product containing the same”