



Synthetic Cannabinoids Data Brief



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Synthetic Cannabinoids: A Public Health Threat

Synthetic cannabinoids, manmade chemicals with psychoactive properties, are a growing class of street drugs that are usually sprayed onto dried leaf matter and smoked or ingested in order to get “high.” Users of these drugs expect a similar intoxication to that of marijuana. While the chemical structure of synthetic cannabinoids are related to the psychoactive compound found in the marijuana plant, the health effects are vastly different.



Synthetic cannabinoids appear to be more potent, causing symptoms of severe agitation, anxiety, nausea, vomiting, tachycardia, elevated blood pressure, seizures, hallucinations, paranoid behavior, or unresponsiveness. While the U.S. Drug Enforcement Agency (DEA) has ruled these chemicals under Schedule I of the Controlled Substance Act, manufacturers of synthetic cannabinoids evade these regulations by slightly modifying the chemical structures.

Last year, the CDC reported an increase in phone calls to U.S. poison control centers¹. These calls are tracked by the National Poison Data System, which reported adverse health effects related to synthetic cannabinoid use more than tripled from January 2015 (349 calls) to April 2015 (1,501 calls). The CDC analyzed the data for the period January – May 2015, and found that 3,572 calls were made reporting adverse effects from synthetic cannabinoid use. This was an increase from the previous year, looking at the same time period of January – May 2014 (1,085 calls). Analysis of the reported phone calls from January – May 2015 found that the most common methods of exposure was through inhalation (80.3%) and ingestion (19.5%). Severe adverse health outcomes were more likely to occur to males than less severe outcomes. Lastly, persons aged 30-39 years and persons > 40 years were significantly more likely to have an adverse health outcome when compared to those aged 10-19 years.



The Drug Abuse Warning Network (DAWN), another public health surveillance system, identified 28,531 emergency department visits in 2011 that involved synthetic cannabinoids². Looking at this data, the majority of these visits were by males (69.8%) and were between the ages of 12-20 years (55.4%). Those aged 20 years or younger were more likely to have been exposed to synthetic cannabinoids only (65%), while those aged 21 years and over were more likely to use the drugs in combination with other illicit drugs and stimulants (53%).

¹ CDC. (2015). “Increase in Reported Adverse Health Effects Related to Synthetic Cannabinoid Use — United States, January–May 2015.” Morbidity and Mortality Weekly Reports. Retrieved from: <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6422a5.htm>
² Substance Abuse and Mental Health Services Administration. (2011). “Update: Drug-Related Emergency Department Visits Involving Synthetic Cannabinoids.” U.S.DHSS. Retrieved from: <http://www.samhsa.gov/data/sites/default/files/SR-1378/SR-1378.pdf>

Due to the unpredictable nature of these chemicals and their high potential for abuse, the public health concern remains high. This emerging public health threat warrants increased public health surveillance, public awareness, targeted messaging, and regulatory efforts to keep these products off the market.