



Emerging Drug Trends Report

April 2017 | Shedding new light, every month, on America's No. 1 public health problem

Concerns Rising Over High-Potency Marijuana Use

New research raises concerns about the ever-increasing potency of marijuana and the new ways it is being used, according to an analysis by the Hazelden Betty Ford Institute for Recovery Advocacy, in partnership with the University of Maryland School of Public Health.

The two organizations report that several recent studies point to rising potencies, a new method of consumption called “dabbing” and the use of synthetic marijuana as areas of concern.

Potency climbing

Tetrahydrocannabinol (THC) is the component of marijuana—also referred to as cannabis—that causes the “high.” A recent analysis of cannabis samples confiscated by the federal Drug Enforcement Agency showed a steady increase in THC content, from 4 percent to 12 percent between 1995 and 2014 ([ElSohly et al., 2016](#)).

Traditional forms of marijuana have long been linked to cognitive problems, underachievement in school and risk for dependence, especially for youth. High-potency marijuana may pose elevated risks for negative outcomes, including emergency department visits, mental health problems, and structural brain alterations such as decreased hippocampal volume and disturbed white matter connections in the corpus callosum.

The link between cannabis use and increased risk for psychosis is fairly clear but might be even stronger for high-potency forms, according to another recent study ([Murray, Quigley, Quattrone, Englund, & Di Forti, 2016](#)). Individuals who used high-potency cannabis on a daily basis were found to be five times more likely to experience a psychotic disorder than non-users. Among people with psychosis, daily users also experienced their first episode of psychosis an average of six years earlier than non-users.

“Synthetics”

Another danger is synthetic marijuana, which can contain THC concentrations of up to 80 percent. It has increased dramatically in popularity since the late 2000s.

Individuals who use synthetic cannabis have been found to be 30 times more likely to visit an emergency unit than those who use traditional forms of cannabis ([Murray et al., 2016](#)). And a recent study of high school students found that those who had used synthetic marijuana were at increased risk for using other drugs such as cocaine, heroin and ecstasy; getting into a physical fight; having unprotected sex; and riding with intoxicated drivers, compared with those who used marijuana only ([Clayton, Lowry, Ashley, Wolkin, & Grant, 2017](#)).

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“Dabbing”

A third reason marijuana is getting more dangerous is the new method of consumption known as “dabbing,” which involves heating a strong cannabis concentrate, usually an oil or wax, and then inhaling the vapor. This results in a quicker and more intense “high” but can also lead to serious health consequences.

A recent study analyzed 5,000 tweets from Twitter to gain insight into the use and effects of dabbing ([Cavazos-Rehg et al., 2016](#)). Among other findings, it noted that:

- Twenty-two percent of the tweets about dabbing referenced extreme physical effects, and 15 percent mentioned using an excessive amount or engaging in several sessions back to back.
- The most common physiological symptom mentioned was passing out/losing consciousness. The second most common symptom mentioned was respiratory effects such as coughing, loss of breath and lung pain. However, only 2 percent described disliking respiratory effects. Less common symptoms included loss of body control or inability to move, nausea and vomiting, perspiration and crying/tearing up.

“Our study adds to the limited understanding of marijuana concentrates and dabbing, which are increasing in use and accessibility across the U.S. and among young people especially, who are most vulnerable to marijuana-related harms,” said Patricia A. Cavazos-Rehg, PhD, co-author of the study. “Our findings signal potentially intense experiences associated with dabbing (e.g., passing out), thereby stressing the need for continued surveillance of marijuana use in this form.”

Implications

Despite the consequences associated with higher potency marijuana, dabbing and synthetics, the percentage of adults and adolescents who believe regular use of marijuana poses “no risk” tripled from 5 percent in 2004 to 15.3 percent in 2014 (Substance Abuse and Mental Health Services Administration, [2004](#); [2014](#)).

“Recent research highlighting the dramatic increase in marijuana potency is concerning given what is known about the possible negative effects of cannabis on cognitive functioning and mental health,” said Dr. Amelia Arria, Associate Professor and Director of the Center on Young Adult Health and Development at the University of Maryland School of Public Health.

Dr. Arria noted that drug use trends in the U.S. are monitored primarily using annual household surveys and classroom-based surveys of schoolchildren, which are useful for understanding how often individuals are engaging in traditional methods of cannabis use. But they do not comprehensively measure new routes of cannabis administration or the potency of products, and she urged those large drug trend surveys to “look at patterns of high-potency cannabis and new routes of administration so we can more thoroughly understand the impact of marijuana on our society.”

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Hazelden Betty Ford Foundation Perspectives

Butler Center for Research:

- Within the Hazelden Betty Ford Foundation's national system of care, more than 22 percent of patients in 2015 had a cannabis use disorder, including 36 percent of the patients at the organization's national youth treatment center in Plymouth, Minnesota.

Nick Motu, Vice President, Hazelden Betty Ford Institute for Recovery Advocacy:

- "As debates continue over legalizing and regulating marijuana, ever-expanding access and demand may be leading to stronger marijuana, with greater potential for negative health consequences."
- "While the perceived risks of marijuana use are decreasing, some health concerns are actually on the rise."

Dr. Joseph Lee, Medical Director, Hazelden Betty Ford Foundation Youth Continuum:

- "It's economics. No matter what the consumable substance is, there will always be a demand for bigger, better, faster and more. This is true for caffeinated beverages and alcohol. It's also true for marijuana. Potency is one differentiator in a capitalistic marketplace."
- "The issue of higher potency cannabis, even five or six years ago, got a lot of laughter from those who joked that 'this isn't your parents' marijuana.' Today, though, there's no question that higher-grade marijuana is here, and some young people are actively seeking it out."
- "We are seeing more signs of psychosis among our young patients who use concentrates. Some kids even swear off dabs and concentrates because of the paranoia and anxiety they experience."
- "We know the earlier a young person starts to use any mood- and mind-altering substance, the greater the possibility of developing addiction. There are two important variables here. One is the impact of the substance on a developing person. The other is that early adopters of substance use are readily identifying themselves as high risk for future substance-related problems, in much the same way that people who frequent fast food restaurants are identifying as being at risk for metabolic syndrome."
- "Some people start dabbing because they have developed a tolerance for regular cannabis, and dabbing is the next step up. Some young people who smoke, however, are wary of dabbing and its psychoactive effects, so you'll find a diversity of opinion from using youth."
- "There are very specific kinds of psychotic symptoms that marijuana and concentrates can cause. They usually aren't hallucinations and are better classified as 'ideas of reference,' where they feel certain things in their environment are connected and that they have the unique perspective to tease out these hidden meanings. Kids joke about illuminati, aliens and conspiracy theories but also comment on people they know who smoke and become truly delusional about such concepts."

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- “I actually think some kids who smoke daily and use concentrates are more in tune with the pitfalls of compulsive use than adults. The youth we see talk quite honestly about whether they feel their use is compulsive or whether their use has had negative impacts on their lives. Some report being concerned by fellow smoking friends for getting ‘carried away’ or addicted. For the ones who do develop problems with marijuana, they actually fear backlash from others that their addiction won’t be taken seriously and don’t feel safe or supported in a social dialogue that invalidates their struggles.”
- “Marijuana legalization efforts alter black market economics but are not effective in stopping black market sales. Perhaps due to poor regulation or supply chain issues, many young people I see from across the country talk about getting their ‘high quality’ marijuana and concentrates from ‘legitimate’ growers who liquidate their surplus at a heavily discounted price.”

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This report was produced in collaboration with the University of Maryland School of Public Health, with support from the Hazelden Betty Ford Foundation’s Butler Center for Research.

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Our mission is to provide a trusted national voice on all issues related to addiction prevention, treatment and recovery and to facilitate conversation among those in recovery, those still suffering and society at large. We are committed to smashing stigma, shaping public policy and educating people everywhere about the problems of addiction and the promise of recovery.