

Marijuana Use Among California Adults



About Marijuana

In California, using marijuana is legal for all adults age 21 and over. The marijuana plant naturally contains the chemical tetrahydrocannabinol (THC), which is what gives the user a feeling of being “high.”

The plant contains other chemicals such as cannabidiol (CBD) and flavor compounds called terpenes, which may also have an effect on the user's mood. There are many different forms of marijuana, and some forms can have very high amounts of THC, which may have a much stronger effect on the user.



Credit: Adobe Stock Image

Fast Fact

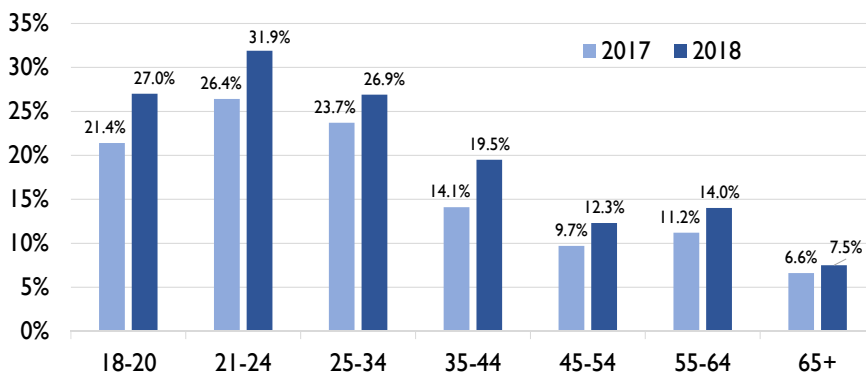
Marijuana is the most commonly used drug in the United States.¹

Some people use marijuana for recreation, others may use marijuana medically to treat a wide range of conditions, although the United States Food and Drug Administration (U.S. FDA) has not approved marijuana use for the treatment of any medical condition.² As of June 2020, there were over 1,000 licensed recreational and medical marijuana retailers in California.³

Like alcohol and other drugs, marijuana use may lead to dependence or abuse in some users. Marijuana may also make some mental health conditions worse or cause symptoms such as psychosis, although most users do not experience this effect.

Adult Marijuana Use in California

Figure 1. Adult past 30-day marijuana use in California by age group. Source: 2018 California Health Interview Survey.



In 2018, 17.7 percent of California adults aged 18 and over reported using marijuana in the past 30 days. This is higher than the percentage of adults who use marijuana in the U.S. as a whole, which is 10.5 percent.⁴

Young adults, aged 21-24 have the highest rates of marijuana use in California.

Marijuana use increased among adults of all ages between 2017 and 2018.





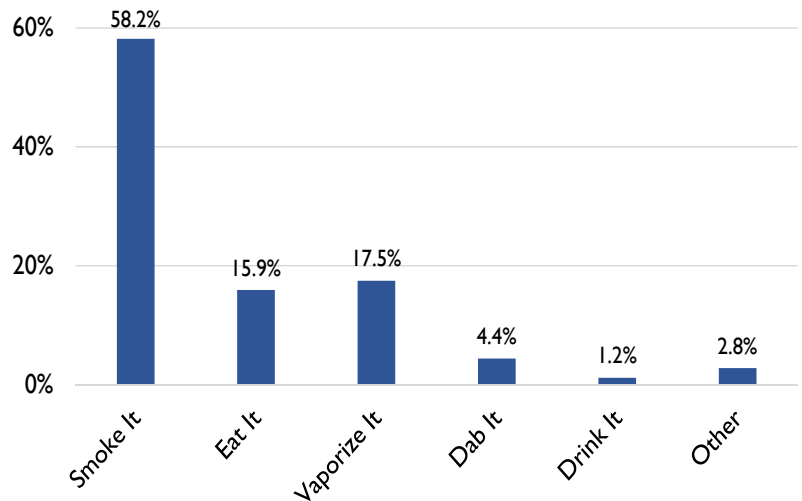
Fast Fact

58 percent of California adults smoke marijuana as their primary method of use.

Marijuana can be taken in many forms, including edibles such as cookies, gummies, and candies, smoked either alone or with tobacco, vaped as an oil, or dabbed (i.e. heating a small amount of concentrated "wax" or resin and inhaling the vapor).

The amount of THC can vary widely by form – for example, marijuana that is dabbed can have up to ten times more THC per puff than smoked marijuana.⁵ The amount of THC in marijuana has increased significantly over the last 25 years, from about four percent in 1995 to over 15 percent by 2018. Some forms of marijuana, like edibles and concentrates have very high levels of THC – up to 90 percent.^{6,7}

Figure 2. Primary method of marijuana use among California Adults Age 18+ Past 30-Day Marijuana Users, 2018. Source: 2018 California Behavioral Risk Factor Surveillance System

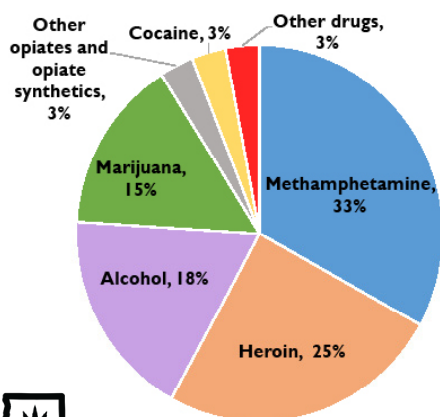


Most adults who use marijuana smoke it, such as in a bong, pipe, or joint, but increasingly, other forms of marijuana are becoming popular, such as vaping, dabbing, and edibles.

In 2018, nearly 42 percent of California adults reported that they most often use a form of marijuana other than smoking⁸ (Figure 2).

Dependence and Abuse

Figure 3. Primary drug reported at treatment admission. Source: California Outcomes Measurement System Treatment, Department of Health Care Services.



It is commonly believed that marijuana use does not lead to abuse or dependence. However, recent research suggests that as many as 30 percent of adult marijuana users in the U.S. meet the criteria for a cannabis use disorder, in some cases severe enough to interfere with daily life.⁹

Heavy and dependent marijuana users can experience symptoms of withdrawal, including depression, anxiety, insomnia, tremors, and decreased appetite.¹⁰

In California, among adults admitted to substance use treatment at publicly-funded treatment centers, 15 percent reported that the main drug they were concerned about was marijuana (Figure 3).

Fast Fact

In 2017, 15 percent of people seeking treatment at publicly funded drug treatment centers in California cited marijuana as the drug that was most problematic.

Fast Fact

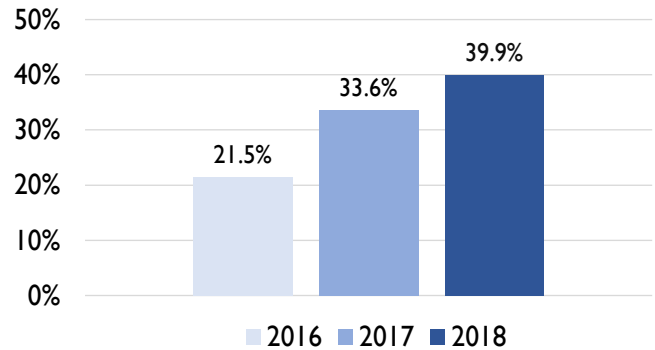
Between 2016 and 2018, exposure to secondhand marijuana smoke increased by 85 percent among California adults.

Secondhand marijuana smoke contains many of the same chemicals as cigarette smoke, and has been shown to be dangerous to health even over short time periods.^{11,12}

Between 2016 and 2018, exposure to secondhand marijuana smoke among California adults increased from 22 percent of adults to 40 percent of adults, an increase of 85 percent in just two years (Figure 4).

People who breathe secondhand marijuana smoke may be exposed to chemicals that are known to the State of California to cause cancer and other health effects.¹³

Figure 4. Percentage of California adults exposed to secondhand marijuana smoke in the previous two weeks. Source: California Adult Tobacco Survey, 2016-2018.



Credit: Adobe Stock Image

Drugged Driving

In 2018, over 12 million U.S. adults reported that they had driven while under the influence of marijuana in the previous 12 months, an increase of 47 percent since 2014.¹⁴

After using marijuana, a driver's risk of being involved in an automobile crash is two times higher than if they had not used marijuana.¹⁵

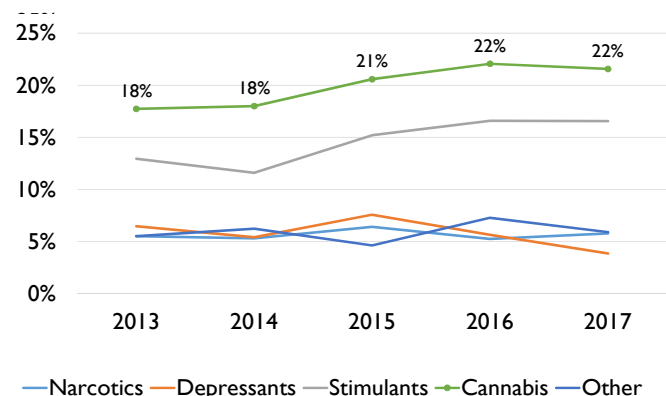
In California, marijuana is associated with more fatal automobile crashes than any other drug.¹⁶

Between 2013 and 2017, the percentage of California drivers involved in fatal crashes who tested positive for marijuana, increased from 18 percent to 22 percent (Figure 5).

Fast Fact

In California, marijuana is associated with more fatal automobile crashes than any other drug.

Figure 5. Drug types among drivers involved in a CA fatal motor vehicle crash who were tested for drugs, 2013-2017. Source: Fatality Analysis Reporting System (FARS) 2013-2017 Final Files.





Marijuana overdose is rarely fatal, but can cause serious behavioral and physical health effects that can be life-threatening. These can include: psychosis, paranoia, worsening of existing psychiatric symptoms, respiratory distress, severe vomiting, and cardiac symptoms.¹⁷⁻¹⁹

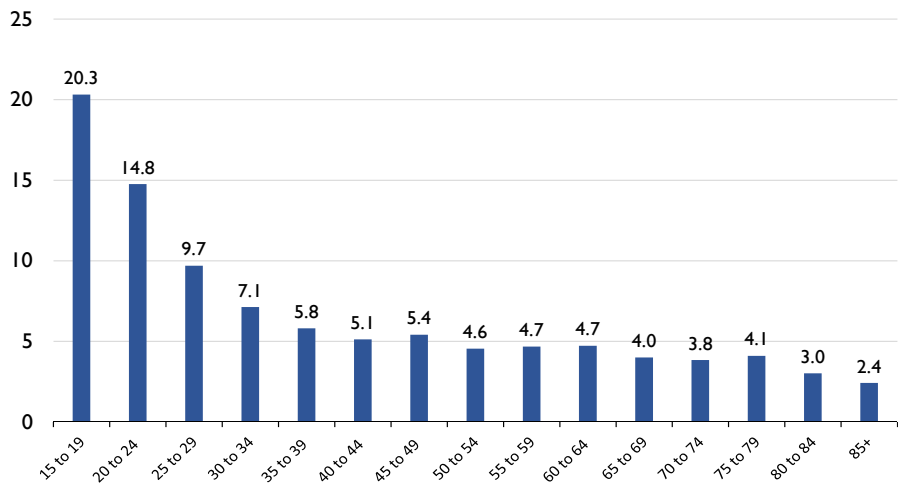
Fast Fact

Marijuana overdose can cause severe negative health effects that require emergency medical care.

In 2018, there were 748 calls to California Poison Control Centers regarding exposure to cannabis among adults age 20 and older.²⁰

In California, hundreds of people visit the emergency room each year due to marijuana poisoning. The rate of emergency room visits is highest among adolescents, but young adults aged 20 to 24 and 25 to 29 have higher rates of marijuana-poisoning related ER visits than older adults²¹ (Figure 6).

Figure 6. Rates of emergency department visits for marijuana poisoning per 100,000 residents by age group in California, 2018. Source: California Office of Statewide Health Planning and Development, Emergency Department Visit Data, 2018.



1. NIDA. Media Guide. National Institute on Drug Abuse, 2 Jul. 2018
<https://www.drugabuse.gov/publications/media-guide>. [Accessed 8 May 2020.]
2. NICIH. Cannabis (Marijuana) and Cannabinoids: What You Need To Know. National Institute for Complementary and Integrated Health.
<https://www.nccih.nih.gov/health/cannabis-marijuana-and-cannabi-noids-what-you-need-to-know>. Nov. 2019. [Accessed on May 28, 2020].
3. BCC. The California Cannabis Portal. California Bureau of Cannabis Control. 2020.
<https://cannabis.ca.gov/>. [Accessed on May 28, 2020.]
4. Substance Abuse and Mental Health Services Administration. (2019). Key substance use and mental health indicators in the United States: Results from the 2018 National Survey on Drug Use and Health (HHS Publication No. PEP19-5068, NSDUH Series
 - a. 54). Rockville, MD: Center for Behavioral Health Statistics and Quality, Substance Abuse and Mental Health Services Administration. Retrieved from <https://www.samhsa.gov/data/>
5. Loflin, M., & Earleywine, M. (2014). A New Method of Cannabis Ingestion: The Dangers of Dabs? *Addictive Behaviors*, 39(10), 1430-1433.
6. NIDA. Marijuana Potency. National Institute on Drug Abuse, 1 Apr. 2020,
<https://www.drugabuse.gov/drugs-abuse/marijuana/marijuana-potency>. [Accessed 14 May 2020.]
7. Leos-Toro, C., et al. (2020). Cannabis labelling and consumer understanding of THC levels and serving sizes. *Drug and Alcohol Dependence*. 208:107843.
8. Tomassilli, JC. & Morris, JC.. California Behavioral Risk Factor Surveillance System (BRFSS). 1984-2018. Public Health Survey Research Program, California State University, Sacramento, 2018.
9. Hasin, DS. (2018). US epidemiology of cannabis use and associated problems. *Neuropsychopharmacology*. 43(1), 195-212.
10. American Psychiatric Association: Diagnostic and Statistical Manual of Mental Disorders: Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA: American Psychiatric Association, 2013.
11. Moir, D., et. al. (2008) A Comparison of Mainstream and Sidestream Marijuana and Tobacco Cigarette Smoke Produced under Two Machine Smoking Conditions. *Chemical Research in Toxicology*. 21(2), 494-502.
12. Wang, Xiaoyin, et al. (2016). One Minute of Marijuana Secondhand Smoke Exposure Substantially Impairs Vascular Endothelial Function. *Journal of the American Heart Association* 5.8. e003858.
13. OEHHA. Proposition 65: No Significant Risk Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity. Vol. 2019. California Environmental Protection Agency, Office of Environmental Health Hazard Assessment; Sacramento, CA: 2016. [Accessed May 11, 2020].
14. Azofeifa A, et.al. (2019). Driving Under the Influence of Marijuana and Illicit Drugs Among Persons Aged ≥16 Years — United States, 2018. *MMWR Morb Mortal Wkly Rep*. 68:1153–1157.
15. Hartman RL & Huestis MA. (2013). Cannabis Effects on Driving Skills. *Clin Chem*. 59(3):478-492.
16. Fatality Analysis Reporting System (FARS) 2013-2017 Final Files. Data retrieved October 2019 from the National Highway Traffic Safety Administration. <ftp://ftp.nhtsa.dot.gov/FARS>.
17. Monte AA, et al. (2019). Acute Illness Associated With Cannabis Use, by Route of Exposure: An Observational Study. *Ann Intern Med*. 170(8):531-537.
18. Rezkalla S. & Kloner RA. (2019). Cardiovascular Effects of Marijuana. *Trends Cardiovasc Med*. 29(7):403-407.
19. Grotenhermen F. (2003). Pharmacokinetics and Pharmacodynamics of Cannabinoids. *Clin Pharmacoki-net*. 42(4):327-360.
20. California Poison Control System, 2017.
21. California Office of Statewide Health Planning and Development, Emergency Department Visit Data, 2018.