



Prevention Resources, Inc.

Research

The Impacts of Marijuana on  
Communities

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[www.njprevent.com](http://www.njprevent.com)

# Executive Summary

In November of 2020, New Jersey voters will be asked to decide whether or not recreational (retail) marijuana should be legalized. The purpose of this white paper is to provide data and information on what the impacts of marijuana on communities are through lessons learned from states who have already legalized the drug.

## THC and Potency

- In the 1990's, the average THC (the active ingredient which makes the user get high) level was 3.8% and the marijuana available now in retail dispensaries has the average THC level between 17.7% and 23.2%. (33)
- Marijuana concentrates such as dabs, waxes, vaping oils, and edibles can contain more than 90% THC. (34)

## Youth/Normalizing Marijuana Use

- Every day 3,287 teens use marijuana for the first time.
- Using marijuana in adolescence is detrimental to the developing brain. It affects attention, memory, and learning skills. (37)
- In states where marijuana has been legalized for recreational use, youth marijuana use is substantially higher. (40)
- As more and more states legalize marijuana, the perception of harm decreases and teen marijuana use increases. (40)

## Addiction

- 1 in 10 marijuana adult users will develop an addiction to the substance. (18-19)
- For those who begin using in adolescence, the rate of addiction rises to 1 in 6. (18-19)
- Cannabis (Marijuana) Use Disorder is users experiencing dependence on the drug.

## Public Safety

- Car crashes related to marijuana use increased 6% in Washington, Oregon, and Colorado, compared to neighboring states that have not legalized marijuana. (55)
- In 2018, marijuana-impaired drivers were implicated in 18.2% of traffic fatalities in the state of Colorado, marking a 109% increase since legalization was implemented. (56)
- Since legalization, Colorado saw a 151% increase in fatal motor-vehicle deaths involving marijuana, and a 35% increase in motor-vehicle fatalities overall. (21)

## Tax Revenue

- Marijuana tax revenue represents approximately nine tenths of 1% of Colorado's FY 2018 budget and is allocated for health care, health education, substance abuse prevention and treatment programs, and law enforcement. (43)
- In Colorado, for every dollar gained in tax revenue, approximately \$4.50 is spent to mitigate the effects of legalization. (35)

## Workplace

- Employees who tested positive for marijuana had 55% more industrial accidents, 85% more injuries, and 75% greater absenteeism compared to those who tested negative.

# Introduction

In November 2020, when New Jersey voters hit the polls, there will be a question on the ballot that asks whether the state of New Jersey should legalize marijuana for recreational use for adults 21 and over.

The ballot question is as follows:

## **CONSTITUTIONAL AMENDMENT TO LEGALIZE MARIJUANA**

“

Do you approve amending the Constitution to legalize a controlled form of marijuana called “cannabis”?

Only adults at least 21 years of age could use cannabis. The State commission created to oversee the State’s medical cannabis program would also oversee the new, personal use cannabis market.

Cannabis products would be subject to the State sales tax. If authorized by the Legislature, a municipality may pass a local ordinance to charge a local tax on cannabis products.

”

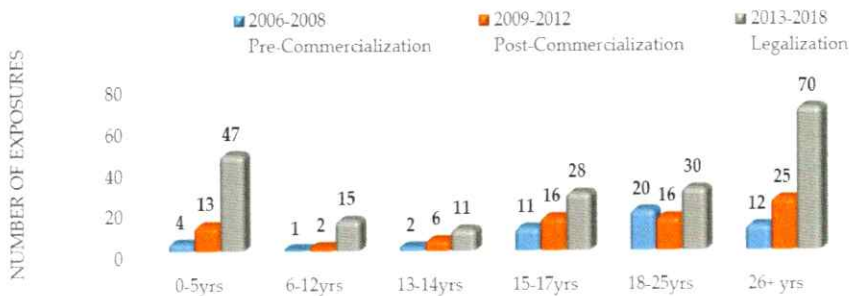
The ballot measure would not provide additional specifics, such as possession limits, home-grow rules, and retail regulation; rather the legislature and Cannabis Regulatory Commission (CRC) would need to enact additional laws and regulations.

Colorado and Washington became the first two states to legalize marijuana for recreational use in 2012 and since then nine other states have followed suit.

# Emergency Room

In the time since Colorado legalized recreational marijuana in 2012, there has been a substantial increase in emergency room visits and hospitalizations. Comparing 2013 to 2017, the yearly number of emergency department visits related to marijuana increased 54% after legalization. The yearly number of marijuana-related hospitalizations increased 101% after

## Average Marijuana-Related Exposures by Age Range



the legalization of recreational marijuana. Marijuana only exposures more than quadrupled in the six-year average (2013-2018) since recreational marijuana was legalized compared to the six-year average (2007-2012) prior to legalization. (35)

Figure 3 Source: <https://rmhidta.org/files/D2DF/FINAL-Volume6.pdf>

Marijuana related poison control calls and emergency room visits are on the rise. In Colorado, in 2017, there were 21,769 emergency department visits and 16,614 hospitalizations connected to marijuana. The Rocky Mountain Poison and Drug Center reported 266 marijuana-related exposures in 2018 overall with 147 of those affecting youth ages 0-18 years-old. (54)



Figure 4 Marijuana edibles mirror popular kids' candy

# Normalizing Marijuana Use

As more and more states legalize marijuana, the perception of harm decreases and teen marijuana use increases. In Colorado, only 15.9% of young people aged 12 to 17 years-old perceive a great risk from using marijuana once a month, compared to a national rate of 23.6%.<sup>(40)</sup>

In Colorado since legalization in 2012, past month marijuana use for ages 12 and older increased 58% and is 78% higher than the national average. Adult marijuana use increased 94% and is 96% higher than the national average. College age marijuana use increased 18% and is 48% higher than the national average.<sup>(35)</sup>



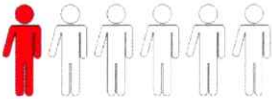
Figure 6 Source: National Institutes of Health

# Addiction

Approximately 1 in 10 adult marijuana users will develop an addiction to the substance. For those who begin using in adolescence the rate of addiction rises to 1 in 6, as their brains are not fully developed, in turn, priming their brain for addiction.<sup>(18-19)</sup> Cannabis (Marijuana) Use Disorder is users experiencing dependence on the drug, meaning they experience withdrawal symptoms when stopping their use.<sup>(25)</sup> Roughly 30% of users exhibit some degree of Cannabis Use Disorder. Users who begin using marijuana as teenagers are four to seven times more likely to develop Cannabis Use Disorder than their adult counterparts.<sup>(18-19)</sup>



1 in 10 marijuana users will develop an addiction to marijuana.



1 in 6 marijuana users will develop an addiction to marijuana if they begin using in adolescence.

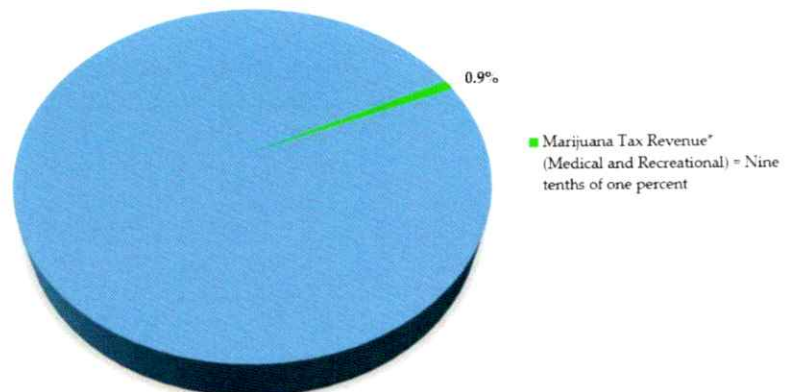
# Tax Revenue

According to a Gallop poll of more than 1000 people, conducted in May 2019, 56% of respondents deemed providing a tax revenue source for state and local government as “very important.” (42)

Marijuana tax revenue represents approximately nine tenths of 1% of Colorado’s Fiscal Year 2018 budget. (35)

According to the Colorado Department of Revenue, state lawmakers decided exactly how the marijuana tax cash fund would be spent. The tax cash fund receives the largest share of cannabis related revenue. The money is allocated for health care, health education, substance abuse prevention and treatment programs and law enforcement. It is important to note that one third of the revenue is undesignated giving state lawmakers some leeway in their spending. (43)

**Colorado's Statewide Budget, FY 2018**



\*Revenue from marijuana taxes as a portion of Colorado's total statewide budget

Figure 8 Source: <https://rmhidta.org/files/D2DF/FINAL-Volume6.pdf>

While states receive tax revenue through the sale of retail marijuana, the reality is that states are utilizing more money from the statewide budget to offset legalization. Specifically, in Colorado, for every dollar gained in tax revenue, approximately \$4.50 is spent to mitigate the effects of legalization. (35)

# Marijuana and Pregnancy

Marijuana is the most used illicit drug by pregnant women. Marijuana use among pregnant women rose by 69% between 2009 and 2016. In states where recreational marijuana is legalized, many dispensaries recommend marijuana to pregnant women for morning sickness.



Figure 10 Source: <https://kushca.com/more-pregnant-women-using-marijuana-study-finds/>

Marijuana use during pregnancy can affect the developing fetus because THC can enter the fetal brain from the mother's bloodstream. Studies have shown that marijuana use in pregnancy is associated with adverse outcomes. The Colorado Pregnancy Risk Assessment Monitoring System reported that maternal marijuana use was associated with a 50%

increased risk of low birth weight regardless of maternal age, race, ethnicity, education, and tobacco use.

The American College of Obstetricians and Gynecologists recommends that women who are pregnant or contemplating pregnancy should discontinue marijuana use. Post birth, there are still dangers to the baby with maternal marijuana use. THC has been found in breast milk for up to six days after the last use. Marijuana can affect the baby's brain development, resulting in hyperactivity, poor cognitive function, and other long-term consequences. (46)

In states where marijuana is legalized, if a baby is born with marijuana in his/her system, it does not necessarily mean the baby will be taken away. However, a call will be made to Social Services and the agency will make a home visit to educate the mother about the effects of smoking marijuana during pregnancy and while breast feeding. (65)

# Environment

Based on studies from other states where recreational marijuana has been legalized, there has been a significant impact on the environment and wildlife due to its production. The commercial-scale cultivation of marijuana in remote areas causes forest fragmentation, stream modification, soil erosion, and landslides. Based on a study done by the University of California Cooperative Extension, on a per-unit-area basis, the cannabis grows resulted in 1.5 times more forest loss and 2.5 times greater fragmentation of the landscape, breaking up large, contiguous forest into smaller patches and reducing wildlife habitat. (48)

Marijuana is a water hungry crop and requires almost 22 liters of water *per plant per day* during its growing season. In California, where drought issues persist, irrigation demands can actually exceed the amount of water flowing in a river leaving minimal water to sustain aquatic life. (49)

Another major issue in the cultivation of marijuana are “trespass grows.” Illegal cultivators operate on unpermitted farms on public lands which are often national forests or tribal lands. Specifically, in Humboldt County, California alone, in 2018 there were approximately 14,000 trespass grows on federal and private lands. Non-permitted cultivators want to avoid detection so they often choose these prime locations to hide their operations. These public and tribal lands are pristine wildlife habitats. These grows degrade watershed and kill wildlife by draining and polluting streams.

Trespass grows also use mass quantities of rodenticides and pesticides to control the rodents from chewing the irrigation lines and pests from eating the plants. Impact of using the rodenticide has resulted in the death of fish, birds and mammals. Pesticides have been ingested and subsequently poisoned animals and birds such as mule deer, grey foxes, coyotes, northern spotted owls and ravens. Once finished, the illegal growers leave trash and debris at these “trespass grows.”



Figure 13 Garbage and debris left by a “trespass grow.”  
Source: <https://www.usda.gov/media/blog/2017/08/21/cleaning-illegal-marijuana-grow-sites>

It is not only illegal cultivation that is causing environmental damage. Indoor cannabis cultivation is not green. In Denver, Colorado, there are over 600 licensed cultivation facilities that emit harmful pollutants that impact air quality. Marijuana plants during commercial cultivation produce volatile organic compounds (VOCs) that yield harmful pollutants which can impact the ozone. “In 2016, the marijuana industry was responsible for approximately 393,053 pounds of CO<sub>2</sub> emissions.” (35) In layman’s terms, that means that producing a few pounds of marijuana can have the same environmental toll as driving across America seven times. (66)

# Market Structure

Medical marijuana is legal in New Jersey. There are currently six medical marijuana dispensaries in the state. (51)

Once recreational marijuana is legalized in a state, it does not mean every municipality has to allow a dispensary. In New Jersey, 11% of its 565 municipalities (at least 60) have already banned marijuana businesses from opening within their borders if and when recreational marijuana is legalized. (52)

64% of Colorado jurisdictions have banned both medical and recreational marijuana. (54) Only 161 of California's 482 municipalities and 24 of the 58 counties have opted to allow commercial cannabis activity of any sort. (53) In Michigan, where citizens voted to legalize recreational marijuana in 2018, 1,393 out of 1,773 (80%) cities, towns, and townships opted out of the recreational marijuana retail market. (67) Even though Californians, Coloradans, and Michiganders wanted the legalization of recreational marijuana, it is evident most do not want it in their own backyard. New Jersey seems to be following the same suit. Consequently, economically disadvantaged cities and towns are housing the marijuana dispensaries.

There are 1,016 dispensaries in the state of Colorado. Medical and recreational marijuana locations outnumber all Starbucks and McDonalds in the state, combined. 52% of the state's dispensaries are concentrated within three counties. (54)

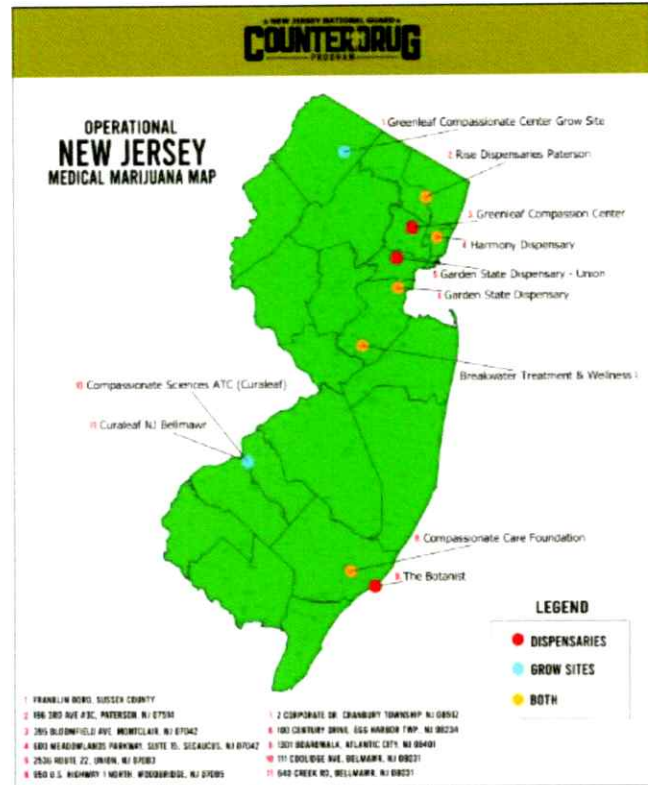


Figure 14 Source New Jersey National Guard

# Home Grows

In Colorado, home grows became legal for residents once legalization was passed in 2012. Residents 21 and over are allowed to grow marijuana in their homes for personal use. According to the state of Colorado, residents must abide by the following rules:

- Marijuana plants must be kept in an enclosed, locked area that can't be viewed openly meaning plants can't be outside.
- Up to six plants are allowed per Colorado resident over age 21, with as many as three plants flowering at one time.
- At homes with residents under 21, any marijuana grow area must be enclosed and locked in a separate space that minors can't access.
- At homes without residents under 21, extra precautions must be taken to make sure any visiting youth don't have access to marijuana plants.
- Home grown marijuana or marijuana products can't be sold to anyone. Only licensed grow establishments can sell marijuana products. (59)

Residents who grow marijuana in their homes oftentimes have mold issues due to the excessive heat and water requirements to successfully grow the plants. Also many times, home growers are illegally modifying housing structures in engineering areas such as electrical, plumbing, and physical configurations. Potential risks for current and future owners can include fire and explosions or health issues.



Figure 17 Indoor Home Grow in Colorado

Source: <https://www.denverpost.com/2016/12/07/colorado-lawmakers-crackdown-home-marijuana-growers/>

29. Radhakrishnan, R., Wilkinson, S. T., & D'Souza, D. C. (2014). Gone to pot—a review of the association between cannabis and psychosis. *Frontiers in psychiatry*, 5, 54.
30. Mammen, G., Rueda, S., Roerecke, M., Bonato, S., Lev-Ran, S., & Rehm, J. (2018). Association of Cannabis With Long-Term Clinical Symptoms in Anxiety and Mood Disorders: A Systematic Review of Prospective Studies. *The Journal of clinical psychiatry*, 79(4).
31. Colorado Department of Public Health and Environment (2017) [Monitoring Health Concerns Related to Marijuana in Colorado: 2016](#)
32. AP News (Jerome Adams quote)
33. (Jikomes, N., & Zoorob, M. (2018). The Cannabinoid Content of Legal Cannabis in Washington State Varies Systematically Across Testing Facilities and Popular Consumer Products. *Scientific reports*, 8(1), 4519. doi:10.1038/s41598-018-22755-2)
34. <https://www.drugrehab.com/addiction/drugs/marijuana/forms/>
35. <https://rmhidta.org/files/D2DF/FINAL-Volume6.pdf>
36. <https://today.duke.edu/2012/08/potiq>
37. Marijuana: Facts for Teens. National Institute on Drug Abuse, 2017.
38. <https://learnaboutsam.org/wp-content/uploads/2020/01/01-14TP.pdf>
39. <https://www.nih.gov/news-events/news-releases/vaping-marijuana-rise-among-teens>
40. NSDUH State Comparisons, 2019.
41. Colorado Violent Death Reporting System, 2019.
42. <https://www.marketwatch.com/story/1-in-3-us-adults-is-interested-in-using-legalized-cannabis-but-not-for-the-reason-you-d-think-2019-06-05>
43. <https://coloradosun.com/2019/06/12/where-does-colorados-marijuana-tax-money-go/>
44. <https://learnaboutsam.org/wp-content/uploads/2019/07/2019LessonsFinal.pdf>
45. <https://www.nsc.org/membership/training-tools/best-practices/marijuana-at-work>
46. <https://www.hhs.gov/surgeongeneral/reports-and-publications/addiction-and-substance-misuse/advisory-on-marijuana-use-and-developing-brain/index.html>
47. [https://www.cdc.gov/mmwr/volumes/69/wr/mm6902e2.htm?s\\_cid=mm6902e2\\_e](https://www.cdc.gov/mmwr/volumes/69/wr/mm6902e2.htm?s_cid=mm6902e2_e)
48. Ithaca College. "Marijuana farming hurts environment, new study finds." *ScienceDaily*, 31 October 2017. <[www.sciencedaily.com/releases/2017/10/171031202705.htm](http://www.sciencedaily.com/releases/2017/10/171031202705.htm)>.
49. <https://daily.jstor.org/the-environmental-downside-of-cannabis-cultivation/>
50. <https://www.ncsl.org/research/energy/electricity-use-in-marijuana-production.aspx>
51. <https://www.medicalmarijuana.com/law/new-jersey-medical-marijuana-laws/>
52. <https://www.nj.com/marijuana/2019/03/with-nj-legal-weed-vote-around-the-corner-60-towns-have-already-banned-pot-see-the-list.html>
53. <https://mjbizdaily.com/chart-most-of-california-municipalities-ban-commercial-cannabis-activity/>
54. <https://learnaboutsam.org/wp-content/uploads/2020/03/Colorado-One-Page-39pdf.pdf>
55. Insurance Institute for Highway Safety and Highway Loss Data Institute, April 2018
56. Colorado Department of Transportation, 2019
57. [https://www.cdc.gov/tobacco/basic\\_information/e-cigarettes/severe-lung-disease.html](https://www.cdc.gov/tobacco/basic_information/e-cigarettes/severe-lung-disease.html)
58. <https://www.nj.com/marijuana/2019/06/stop-arresting-people-for-weed-or-i-wont-vote-for-your-state-budget-state-senator-warns.html>
59. <https://www.colorado.gov/pacific/marijuana/home-grow-laws>
60. <https://www.washingtonpost.com/news/wonk/wp/2016/08/04/the-dea-warns-marijuana-grow-spots-are-the-new-meth-houses/>
61. <https://www.democratandchronicle.com/story/news/politics/albany/2019/05/22/why-drug-dogs-new-york-face-uncertainty-if-marijuana-legalized/1193045001/>
62. <https://whyy.org/articles/n-j-supreme-court-to-weigh-reliability-of-experts-on-drugged-driving/>
63. <https://www.npr.org/sections/health-shots/2019/05/15/723656629/highly-potent-weed-has-swept-the-market-raising-concerns-about-health-risks>
64. <https://www.healthline.com/health/vasoconstriction>
65. <https://khn.org/news/as-marijuana-laws-relax-doctors-say-pregnant-women-shouldnt-partake/>