



# Marijuana's Impact on Public Health

- ▶ Enclosed are data and information on the public health impact of possible legalization and commercialization of recreational marijuana in Illinois.



# Marijuana's Impact on Youth

- ▶ An American Journal of Psychiatry article reports that **marijuana may pose greater risk to teenagers' brains than alcohol**. Marijuana had significant, short and long-term impacts on four key cognitive areas: problem solving, long-term memory, short-term memory manipulation and the ability to stop a habitual behavior when needed. The study could not link alcohol to these negative effects.<sup>1</sup>
- ▶ This study also found **young people who used marijuana frequently did worse than non-users** on memory tests, learning and higher-level thinking involving problem solving and processing information.<sup>1</sup>
- ▶ Cannabis-derived hash oil with **tetrahydrocannabinol (THC)**, which produces marijuana's psychoactive effect, **can be consumed through vaping devices or e-cigarettes**. While smoking cigarettes has decreased among youth, **vaping has increased by 900%** between 2011 and 2015 according to the US Surgeon General.<sup>2</sup> Vaping in schools has become a challenge for educators, with a 2018 National Youth Tobacco Survey finding 1.5 million more students used e-cigarettes in 2018 than 2017.<sup>3</sup> **Vaping is an epidemic among youth.**<sup>4</sup>

## Youth with past-month marijuana use were:<sup>5</sup>

- ▶ **10 times more likely to report past-month use of other illicit drugs** (e.g., cocaine, hallucinogens, heroin, and inhalants and non-medical use of prescription pain relievers, sedatives, and stimulants)
- ▶ 6 times more likely to report past-month alcohol use
- ▶ 8 times more likely to report past-month binge drinking
- ▶ 16 times more likely to report past-month heavy drinking
- ▶ 9 times more likely to report past-month cigarette use

See  
Figure 1  
on back

## BOTTOM LINE:

**Youth who used marijuana in the past month were much more likely to use** cigarettes and alcohol, to binge drink, to drink heavily and use other illicit drugs compared to youth who did not use marijuana in the past month.<sup>5</sup>

*"As marijuana availability has risen with increasing legal and social acceptance, it becomes a public health imperative to examine factors that increase marijuana use including alcohol and tobacco (nicotine) as well as other illegal [drugs] for youth."*

– DuPont et al

**Youth who never used marijuana in their lifetime reported far lower lifetime rates of all non-medical drug use, including cigarette, non-marijuana illicit drug use (e.g., cocaine, hallucinogens, heroin, and inhalants and non-medical use of prescription pain relievers, sedatives, and stimulants), and alcohol.**<sup>5</sup>

See  
Figure 2  
on back

## BOTTOM LINE:

**Marijuana is a gateway drug to other drugs for American youth.**<sup>5</sup>

## References:

1. Jean-François G. Morin, Mohammad H. Afzali, Josiane Bourque, Sherry H. Stewart, Jean R. Séguin, Maeve O'Leary-Barrett, Patricia J. Conrod. **A Population-Based Analysis of the Relationship Between Substance Use and Adolescent Cognitive Development.** *American Journal of Psychiatry*, 2018; appi.ajp.2018.1 DOI: <http://ajp.psychiatryonline.org/doi/10.1176/appi.ajp.2018.18020202>
2. U.S. Department of Health and Human Services. **E-Cigarette Use Among Youth and Young Adults. A Report of the Surgeon General.** Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Office on Smoking and Health, 2016.
3. Cullen KA, Ambrose BK, Gentzke AS, Apelberg BJ, Jamal A. King BA. **Notes from the Field: Increase in use of electronic cigarettes and any tobacco product among middle and high school students—United States, 2011–2018.** *MMWR Morbid Mortal Wkly Rep.* 2018;67:1276–1277. DOI: <http://dx.doi.org/10.15585/mmwr.mm6745a5>
4. Statement from FDA Commissioner Scott Gottlieb, M.D., on new steps to address epidemic of youth e-cigarette use, US Food & Drug Administration, September 12, 2018. [www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm620185.htm](http://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm620185.htm)
5. DuPont, Robert L., et al. **"Drug use among youth: National survey data support a common liability of all drug use."** *Preventive Medicine*, vol. 113, 11 May 2018, pp. 68-73.



# Marijuana's Impact on Public Health

## Marijuana is addictive according to the National Institute on Drug Abuse.

About 9 percent of adult users are affected, but teenagers have nearly **double** the chance of becoming addicted—more than 17 percent if they start as adolescents.<sup>6</sup>

## Marijuana and the Opioid Crisis

Two studies indicate that marijuana may not be the solution to the opioid crisis:

*"Cannabis use was common in people with chronic non-cancer pain who had been prescribed opioids, but we found **no evidence that cannabis use improved patient outcomes.** People who used cannabis had greater pain and lower self-efficacy in managing pain, and there was no evidence that cannabis use reduced pain severity or interference or exerted an opioid-sparing effect."<sup>7</sup>*

*"The opioid crisis appears to be worsening where marijuana has been legalized, despite fewer opioid prescriptions... In any event, **before other states rush to legalize marijuana and risk worsening the opioid crisis, the marijuana-opioid interaction should be more definitively researched.**"<sup>8</sup>*

## Marijuana's Impact on Mental Health<sup>9</sup>

There is moderate to substantial evidence of a statistical association between cannabis use and:

- ▶ Development of schizophrenia
- ▶ Increased risk for the development of depressive disorders
- ▶ Increased incidence of suicide ideation and suicide attempts
- ▶ Increased incidence of suicide completion
- ▶ Increased incidence of social anxiety with regular cannabis use

## Marijuana's Impact on Maternal and Child Health

Given the concern for potential adverse effects on the fetus with maternal cannabis use, the American College of Obstetricians and Gynecologists **recommends against the use of cannabis products in pregnant women.**

Despite this recommendation, marijuana is being used by pregnant women, sometimes on the advice of marijuana dispensaries.

Adverse effects on the fetus can include: fetal growth restriction, low birth weight, greater need for intensive care for infants and long-term neurological consequences.<sup>10</sup>

In a study of 400 Colorado dispensaries, **69% incorrectly recommended treatment of morning sickness with cannabis products.** The majority (65%) based their recommendation for use in pregnancy on personal opinion and 36% incorrectly stated cannabis use is safe in pregnancy.<sup>10</sup>

## Marijuana's Track Record in Colorado

- ▶ Marijuana-related hospitalizations **increased by 236%** after retail marijuana sales were legalized in 2014.<sup>11</sup>
- ▶ Marijuana-related emergency room visits **increased by 24%** after retail marijuana sales were legalized in 2014.<sup>11</sup>
- ▶ **69% of marijuana users admit to driving after using marijuana.**<sup>12</sup>
- ▶ **Auto crashes are up by 13 percent since legalization,** compared with neighboring states that haven't legalized marijuana for recreational use.<sup>13</sup>
- ▶ Since recreational marijuana was legalized, **marijuana-related traffic deaths increased 151 percent (from 55 in 2013 to 138 people killed in 2017)** while all Colorado traffic deaths increased 35 percent.<sup>12</sup>
- ▶ **For every dollar in tax revenue Colorado gains from recreational marijuana purchases, an additional \$4.50 is being spent to combat public health and safety issues.**<sup>14</sup>

## Various Health Effects of Marijuana Use:<sup>15</sup>

- ▶ Difficulty thinking, making decisions, and solving problems
- ▶ Distorted perceptions
- ▶ Impaired balance and coordination
- ▶ Problems with learning and memory
- ▶ Irregular heart rhythms
- ▶ Respiratory problems and greater risk of lung infections
- ▶ Paranoia
- ▶ Acute psychosis, including hallucinations, delusions and loss of identity



## References (continued):

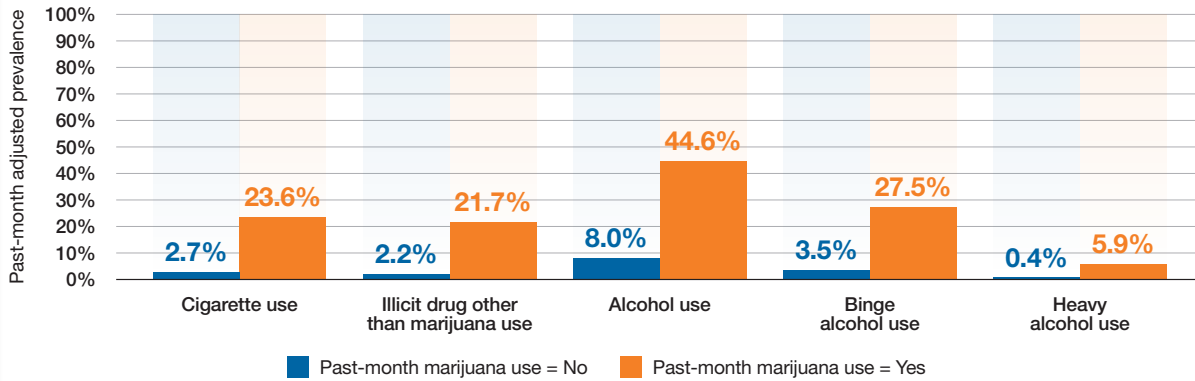
6. Volkow N., Baler R., Compton W., Weiss S, **Adverse Health Effects of Marijuana Use**, *New England Medical Journal*, June 5, 2014.
7. Campbell G., Hall W., Peacock A., Lintzeris N., Bruno R., Larance B., et al. **Effect of cannabis use in people with chronic non-cancer pain prescribed opioids: findings from a 4-year prospective cohort study**, *The Lancet Public Health*, Volume 3, Issue 7, PE 341-E350, July 1, 2018. [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(18\)30110-5/fulltext](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(18)30110-5/fulltext)
8. Bleyer A., Barnes B., **Opioid Death Rate Acceleration in Jurisdictions Legalizing Marijuana Use.**, *JAMA Internal Medicine*, September 2018, Vol. 178, Number 9, P. 1281.
9. **The Health Effects of Cannabis and Cannabinoids**, [www.nationalacademies.org/cannabishealtheffects](http://www.nationalacademies.org/cannabishealtheffects), January 2017.
10. Dickson B, Mansfield C., Guiahi M., Allshouse A., Borgelt L., Sheeder J., Silver R., Metz T. **Recommendations from Cannabis Dispensaries about First-Trimester Cannabis Use**, *Obstetrics & Gynecology*, Vol. 1231, No. 6, June 2018.
11. **Impacts of Marijuana Legalization in Colorado, A Report Pursuant to Senate Bill 13-283**, October 2018, Colorado Department of Public Safety, Division of Criminal Justice, Office of Research and Statistics.
12. **The Legalization of Marijuana in Colorado: The Impact Volume 5**, Rocky Mountain High Intensity Drug Trafficking Area, September 2018. <https://rmhidta.org/files/D2DF/FINAL-%20Volume%205%20UPDATE%202018.pdf>
13. Insurance Institute for Highway Safety Highway Loss Data Institute, October 2018. [www.iihs.org/iihs/sr/statusreport/article/53/6/1](http://www.iihs.org/iihs/sr/statusreport/article/53/6/1)
14. **Economic and Social Costs of Legalized Marijuana**, Centennial Institute, Colorado Christian University., November 15, 2018.
15. Centers for Disease Control and Prevention. **Marijuana and Public Health: Health Effects**. [www.cdc.gov/marijuana/health-effects.html](http://www.cdc.gov/marijuana/health-effects.html)



▶ Youth who used marijuana in the past month were much more likely to use other substances.†

Figure 1

Age, sex, and race/ethnicity adjusted past-month prevalence of cigarette, alcohol, and illicit drug other than marijuana use among youth aged 12-17 years, by marijuana use status (n = 17,000\*)



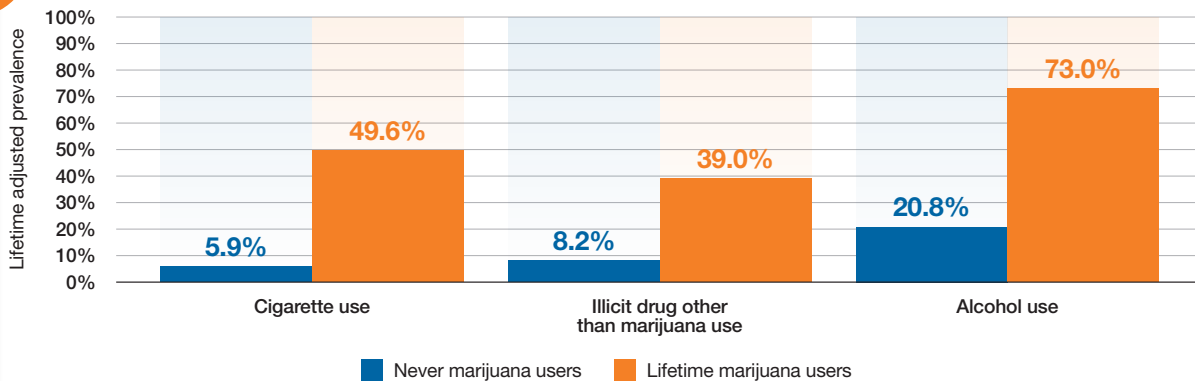
\* Substance Abuse and Mental Health Services Administration (SAMHSA) requires that any description of overall sample sizes based on the restricted-use data files has to be rounded to the nearest 100 to minimize potential disclosure risk.  
 † Source: DuPont, Robert L., et al. "Drug use among youth: National survey data support a common liability of all drug use." Preventive Medicine, vol. 113, 11 May 2018, pp. 68-73

PAST-MONTH USE:

▶ Marijuana is a gateway drug to other drugs for American youth.†

Figure 2

Age, sex, and race/ethnicity adjusted lifetime prevalence of cigarette, alcohol, and illicit drug other than marijuana use among youth aged 12-17 years, by marijuana use status (n = 17,000\*)



\* Substance Abuse and Mental Health Services Administration (SAMHSA) requires that any description of overall sample sizes based on the restricted-use data files has to be rounded to the nearest 100 to minimize potential disclosure risk.  
 † Source: DuPont, Robert L., et al. "Drug use among youth: National survey data support a common liability of all drug use." Preventive Medicine, vol. 113, 11 May 2018, pp. 68-73

LIFETIME USE:



For more information, please contact:

Dennis Brennan, JD, Legislative Affairs Manager  
 DuPage County Health Department  
 (630) 221-7551 or [dennis.brennan@dupagehealth.org](mailto:dennis.brennan@dupagehealth.org)