

Marijuana, Public Health, and Safety

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As more states pass laws legalizing the medical and/or adult use of marijuana, many members of the public, including media, parents, community members, and policy makers may have questions about how these policies impact public health and safety.

Although this is a growing field of research, and there is still much to learn as we track the impacts of legalization over time, preliminary data suggest that, in general, states are balancing public health and safety demands while responsibly regulating their marijuana markets.

Youth Marijuana Use in the United States

Marijuana use among youth has decreased in recent generations compared to historic high rates in the 1970s.

According to the 2019 National Survey on Drug Use and Health, marijuana use among youth aged 12-17 has remained stable since 2005,ⁱ and the 2020 Monitoring the Future study, which surveys 8th, 10th, and 12th graders across the country, has shown similar results.ⁱⁱ These national trends are reassuring, even as increasing numbers of states have expanded legal medical and adult access to marijuana over the past fifteen years.

Youth Marijuana Use in Legalized States

Youth use of marijuana is not legal in any states that have legalized adult recreational use, yet many are concerned about whether use increases after policy change. There is a growing body of research to suggest that youth use of marijuana has not increased in states after legalization.

- A study looking at trends in states with laws for legal adult use between 2008 and 2016 found no increases in marijuana use prevalence or

frequency of use post-legalization among youth aged 12-17.ⁱⁱⁱ

- A systematic review and meta analysis of states with legal medical marijuana laws found no increased use among youth after these were enacted.^{iv}

While we will continue to monitor trends, the preliminary evidence suggests that youth use has not increased. This is likely due to the fact that the regulated marijuana market has made it possible for states to create age restrictions and other barriers to access for young people that could not exist during prohibition.

Marijuana Potency under Prohibition

The marijuana available today is the same plant that has been used for thousands of years. However, due to the large number of marijuana varieties and product types (including waxes, tinctures, and extracts), the level of THC – the main psychoactive ingredient of marijuana – can vary broadly.

Marijuana and marijuana products that are high in THC are already available in the illicit market. In fact, the illicit market encourages stronger THC strains and potency. Because sellers and purchasers operating in the illicit market take on more risk, they have more incentive to cultivate and sell high potency marijuana. Unfortunately, that means that consumers purchasing from the illicit market are buying marijuana and products of unknown potency or higher potency than they may prefer.

Marijuana Potency and Legalization

When access to marijuana products is regulated, controlled, and clearly labeled in states where medical and/or adult use is legal, we see a wider variety of potencies, including marijuana with virtually no traces

of THC, but high in cannabidiol (CBD) – which is therapeutic, but not psychoactive. Giving consumers clearly labeled and regulated product options allows them to make informed choices.

Regulation also allows for greater public education for how to make safer choices in light of product potency, including to go slow, not to drive after using, and that different methods of ingestion can also impact marijuana effects. Marijuana-infused edibles, for example, can have a stronger intoxicating effect and last longer than smoking because they pass through the digestive system, but these effects can be delayed.

Marijuana Legalization and Impaired Driving

Driving under the influence of marijuana is illegal in every state in the United States, including states with legal marijuana access. However, small numbers of people drive under the influence of marijuana in all states regardless of legality.

Early studies on traffic fatalities in Colorado and Washington, where marijuana is legally available, have not found a statistically significant increase in traffic fatalities after medical or adult use legalization.^{v, vi} A study also found no increase in pedestrian-involved fatalities in either state after legalization.^{vii} We will continue to monitor this research as more data become available.

The effect of marijuana impairment on driving is a relatively new field of research. Experts concur that this is an evolving field:

“Consumption of marijuana has been shown to impair driving ability in some studies, while others have shown moderate to no effect during on-road driving and simulator studies. Levels of marijuana impairment will differ in individuals depending on route of administration (e.g., smoking, eating, dabbing), body mass index, absorption into the bloodstream, and marijuana use frequency.”^{viii}

While studies suggest that more drivers involved in traffic fatalities have tested positive for marijuana after legalization, current testing methods cannot differentiate between whether they were intoxicated or had used days or weeks before the accident.^{ix, x}

Research based on drug testing results is also confounded by the fact that marijuana use rates have increased among adults after legalization, which

means a larger portion of the population is likely to test positive for marijuana at any given time, whether or not they are impaired.^{xi}

Marijuana legalization can help ensure that drivers are receiving accurate and helpful public health information about the risks of impaired driving. In addition, it can support more research into how marijuana use might impact driving and the various factors which play a role in impairment.

Emergency Room Visits and Poison Control Calls

In the United States, marijuana-related emergency room visits and poison control calls are lower than those for other drugs like alcohol, and patients often have other co-occurring substance use disorders or mental health diagnoses.^{xii, xiii}

Preliminary research in states that have legalized medical and adult use of marijuana suggests that marijuana-related emergency room visits and poison control calls have increased after dispensaries are opened yet remain a small portion of total visits and calls.^{xiv, xv, xvi}

Researchers hypothesize that there are a number of potential reasons to explain this:

1. That legalization reduces the stigma and fear of legal repercussions for seeking emergency assistance after adverse effects so people are more willing to call;
2. Marijuana naïve users and those who are new to using different marijuana products may lack education about safer use strategies;
3. The increased prevalence of adult use may increase the likelihood of accidental exposure among household members if products are not safely stored or secured.

It is likely that these visits and calls will stabilize and decrease over time as communities get more public health education about safer use and storage after legalization. In fact, Rocky Mountain Poison and Drug Center found that marijuana exposure calls in Colorado increased after legalization but then stayed stable between 2014 and 2017.^{xvii}

Legalization can increase access to public health education about safer use practices, harm reduction, and safer storage practices.

Marijuana Legalization and Other Crime

Although research on the association between marijuana legalization and other crime is still a growing field of study, early research suggests that crime does not increase in these states and may, in some cases, decrease.

A study on crime rates in California communities with medical marijuana dispensaries found that they were not associated with increased violent crimes and were perhaps associated with a slight decrease in property crimes.^{xviii}

Similarly, another study examining Denver, Colorado crime rates found that adult use dispensaries were associated with the following changes in neighborhood crimes: 93% fewer nonviolent crimes and fewer simple and aggravated assaults, criminal trespassing and public order arrests.^{xix}

A study found that Colorado and Washington law enforcement were more effective at solving certain crimes after legalization, including violent crimes and property crimes (e.g., motor vehicle thefts and burglaries), compared to law enforcement in other states during the same time frame.^{xx}

A study that found reduced rapes and property crimes in Washington post-legalization and suggested four possible explanations for crime reductions and increased crime clearance rates:

1. Marijuana use is associated with relaxation and euphoria, reducing the likelihood of violent behavior;
2. When marijuana is more available, it may be used as a substitute for alcohol and other drugs more associated with violent behavior;
3. Police may be able to prioritize efforts towards addressing other types of crimes;
4. Legalization may reduce the concentration of gangs and other actors who may engage in crime in some neighborhoods.^{xxi}

Conclusion

Many of the public health harms associated with marijuana use are more likely to occur due to the unregulated drug supply and market, the lack of public education to reduce risky use and engage in safer practices, and the fear of criminalization which can deter help-seeking.

Although we are still in the early years of legally

regulated marijuana, preliminary research suggests that the public health and safety impacts are minor or positive after several years of implementation. We will continue to monitor these effects and promote policies aligned with the best available research and public health goals in mind.

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